



ABSTRACT BOOK

HSR UK CONFERENCE 2019

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The voice of UK
Health Services
Research

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P1.1 Leadership & Management Practices Abstract Session

02/07/2019
11:35-12:50

Longitudinal analysis of staff and patients' perceptions and experiences of openness in the NHS

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Background: The Francis Inquiry called for cultural change across the whole NHS, in terms of greater openness that cascades through all levels, to prevent mistakes and promote learning. The Government took action to operationalise these recommendations through the introduction of the Duty of Candour, changes to the reporting of Care Quality Commission inspections and the introduction of Freedom to Speak up Guardians. The impact of such initiatives remains unclear, accordingly this study aimed to explore if staff and patients' perceptions and experiences of openness in the NHS has changed in the build up to (2012) and since the publication of the Francis report (2013).

Methods: Organisational-level data was collated for all trusts from the NHS national staff survey (2007-2017), NHS acute inpatient survey (2004-2016) and NHS mental health survey (2007-2017). Survey items related to openness were identified by the research team. Longitudinal statistical analysis was conducted to determine any change.

Results: The results presented here assume a general pattern of growth in the direction of the trajectory stated unless specified otherwise.

NHS National Staff Survey: in general, change comes into effect from 2013 (in most cases there were no immediate changes in 2012). All changes were positive and indicative of an improvement in matters relating to: fairness and effectiveness of incident reporting procedures, opportunity to contribute towards improvements and communication between managers and staff.

NHS Acute Inpatient Survey: improvements increased at a higher rate after 2012 and 2013. Patients reported improved access to support services (someone they could talk to about their fears or worries), which recovered slightly after a general decline until 2012, and felt they were more involved in decisions about their care and treatment (from 2013).

NHS Mental Health Survey: change comes into effect from 2013 (no significant changes were identified in 2012). Whilst patients continued to report better access to progress consultations (as indicated by whether they had attended a meeting to discuss their care in the last year), though at a slower rate of increase after 2013, in the main, matters relating to openness deteriorated as patients felt less listened to, believed they were not given enough time to discuss their care and considered that they were treated with less respect and dignity compared to previous years.

Implications: All in all, the findings suggest a mixed picture over the period covered. For several variables, there are noticeable improvements, or increases in the rate of improvement, after 2012/2013, particularly in the acute sector. However, for mental health patients, a number of indicators deteriorate over time, sometimes at a greater rate post-2012/13, particularly in relation to having time in consultations to be listened to and being treated with respect and dignity. Such findings are interesting in view of recent commentary on the disparity between physical and mental health which includes an imbalance between perceptions, services, resources and funding in favour of physical health. Provision should be made to enable change.

02/07/2019

11:35-12:50

The NHS Well-Led Framework: work in progress on an evaluation of content, context, applications and outcomes

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Background: Variation in the quality of leadership in the NHS persists. Meanwhile, there is increasing evidence that effective leadership is closely connected with the performance of healthcare organisations, including the delivery of compassionate, safe and clinically effective patient care (Dixon-Woods et al, 2014; West, 2015).

The NHS National Improvement and Leadership and Development Board (NILDB), representing the collective leadership of the national bodies which govern the NHS in England, has commissioned a 12 month evaluation of the implementation and impact of the Health Care Services Well Led Framework (WLF), with an interim report due in April 2019 and a final report in December 2019.

The current Well Led Framework was introduced in June 2017 and was developed jointly by the Care Quality Commission (CQC) and NHS Improvement (NHSI). It provides a single structure to assess and review the leadership, management and governance of an organisation (including self-review) and support improvement of these areas. CQC uses the Well Led Framework in its inspections and regulatory activity, and NHSI uses it in its oversight and regulation, and to support improvements in Trusts. Trusts themselves use the framework to carry out developmental reviews as part of their efforts for continuous improvement.

The theory of change is set out in the descriptions of good practice of the WLF. It suggests that organisations with certain characteristics and practices will provide well-led services. This evaluation aims to test this theory of change (TOC) and study the effectiveness of the WLF, both in terms of the outcomes and also the way in which it is applied. Specifically, we need to understand the impact of the inspections on the trust; the quality of the inspection; the quality of the inspection team; the relevance of the key lines of enquiry (KLOE)s; the support provided following the review, and any additional information that may support these aspects.

Methods: We have adopted the Pettigrew and Whipp (1991) content-process-context model, because we view the Well Led Framework as potentially enacting strategic change in relation to the what, the how and the where. Realist evaluation (Pawson 2013) allows researchers to identify and understand the interaction of contexts, mechanisms and outcomes. A mixed methods approach, which uses multiple sources of data to test and refine the theory of change, has been chosen in order to meet the aims and objectives of this evaluation.

The first phase comprises:

- Circa 20 x 1:1 interviews with senior stakeholders from national bodies and long-serving NHS CEOs and chairs (January–March 2019)
- An online survey of executive and non-executive NHS board members of provider organisations (February – March 2019) and chairs and accountable officers of commissioning bodies.
- A facilitated workshop (March 2019) to interrogate preliminary findings and to shape areas for further investigation, and to inform the round of CQC well-led inspections starting in summer 2019

The second phase includes:

- Circa 40 x 1:1 phone interviews with NHS provider leaders (April – May 2019)
- Analysis of data including impacts on the wider NHS workforce, and on operational and financial performance (May – June 2019)
- A second facilitated workshop (July 2019) to propose how the Well Led Framework can be further developed in response to these findings

The third phase (August – October 2019) incorporates the ‘future facing’ work including scoping with sustainability and transformation partnerships (STPs), integrated care systems (ICS) and local authorities, with a final report due in December 2019. The construction of the interview topic guides, the design of the facilitated workshops and the development of the survey instrument draw from a number of sources, including information developed internally in CQC, the groundwork provided by the NILDB Evaluation Task and Finish Group, and the King’s Fund/ Alliance Manchester Business School’s research on impact of the Care Quality Commission on provider performance and specifically the eight regulatory impacts framework developed in that report (Smithson et al, 2018).

Results: Findings from the stakeholder interviews, the national survey of NHS board members, and follow-up interviews with NHS leaders will be shared and discussed at the HSRUK conference. It is envisaged that the presentation will be co-delivered with a representative from the commissioner of this evaluation i.e. from the Developing People – Improving Care Evaluation Task and Finish Group which is accountable to the NHS National Improvement and Leadership and Development Board (NILDB) for overseeing cross organisational evaluation activity.

Implications: We expect lessons for policy and practice in the construction and the implementation of the Care Quality Commission well-led inspections regime, and fresh insights for healthcare providers and NHS Improvement for maximising the learning potential. In addition, we anticipate making an academic contribution to a greater understanding of regulatory impact mechanisms, building on the work of the Kings Fund/Alliance Manchester Business School study on the impact of the Care Quality Commission on provider performance ((Smithson et al, 2018).

The Impact of Management Practices on NHS Hospital Trust Performance

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Background: There are material variations in the performance of hospital organisations. NHS trust data also shows this variation to be highly persistent over time [e.g. 1], and so it offers opportunities for improving health outcomes by understanding why some trusts consistently do better or worse than others.

It has long been acknowledged that management is a factor in this, but it has been hard to establish empirically. Bloom and Van Reenen extended their seminal World Management Survey work to measure management practices in hospital organisations in nine countries [2]. This data collection consists of a number of waves of telephone interviews with a small number of people in organisations. It is intensive, so only snapshot cross-sections of data exist. However they do show association between the quality of management practices and performance [2, 3, 4]. Other work in economics [5, 6] suggests management practices are likely to be complementary (i.e. groupings of practices are necessary and reinforce each other) and there are likely to be threshold levels for effects.

Method: We are undertaking a programme of work building on such efforts, including a survey for the Health Foundation in 2018. Our own empirical work focuses on management practice metrics derived from the NHS National Staff Survey and examines associations with hospital trust performance metrics. This allows longitudinal (panel) datasets to be constructed. Including potential confounds concerning trust characteristics, staffing, patient mix etcetera produces a 'wide' dataset. We are looking for complementarity 'baskets' of management practices, with threshold levels related to importance. The implications are i) that selection of subsets of variables is necessary in order to preserve power for statistical techniques, and ii) conventional techniques such as regression which apply a linear model across a whole dataset, are not suitable. We use exploration techniques from machine learning to suggest clusters of practices and thresholds, followed by econometric panel regression with dummy variables and interaction terms to test statistical robustness.

Results: Our analyses find evidence of possible impacts of clusters of complementary management practices on several outcome metrics. A first paper in print is [7] (other papers are currently in first and revised submission with journals). We are extending this work as we build more datasets to examine further aspects of NHS trust performance. The growing set of findings strengthen previous research on managerial determinants of hospital performance.

Implications: Our work contributes to a growing literature that associates variations in hospital performance with differences in management practices. That alignments of management practices matter in driving hospital trust performance has substantial policy implications, since any efforts at enhancing patient safety should involve putting in place alignments of management practices that optimise performance. The literature also contains some designed randomised controlled experiments to investigate causality of management practices in manufacturing [8]. This is something that should be considered in healthcare.

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P1.2 Patient Safety: Incidents & Concerns Abstract Session

02/07/2019

11:35-12:50

Advocates, coordinators or detectives? A qualitative study of a novel role to support staff who raise concerns about quality and safety in the English National Health Service

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Background: Those working at the sharp end of healthcare may have valuable insights into problems in service quality and patient safety. Experiences at Gosport and Stafford suggest that these insights may be important in anticipating and preventing disastrous consequences for patients. But in common with other healthcare systems—and indeed with other industries—the National Health Service (NHS) has faced challenges in enabling staff to speak up about concerns and in ensuring that that information about concerns reaches those well placed to act upon it. Indeed, a survey conducted for Sir Robert Francis's (2015) Freedom to Speak Up review suggested that large numbers of NHS staff are reluctant to raise concerns, seeing it as futile and fearing personal retribution. A key recommendation of the review (Francis, 2015) was the appointment of 'Freedom to Speak Up Guardians' by every NHS provider organisation. The government accepted this recommendation, and each NHS organisation must now fund at least a part-time Guardian role, with a view to offering support and signposting those who speak up about concerns, inculcating a culture in which employee voice is valued, and ensuring that 'whistleblowers' and others who raise concerns are protected. The Guardian is intended to be an individual "to whom staff can go, who is recognised as independent and impartial, has the authority to speak to anyone within or outside the trust, is expert in all aspects of raising and handling concerns, has the tenacity to ensure safety issues are addressed, and has dedicated time to perform this role" (Francis, 2015, p. 16). Detailed specification of the form and function of the role, however, was not provided, and to date, despite significant investment across the NHS, the role remains unevaluated. We aim to address this gap, and derive formative lessons for the NHS and other systems seeking to develop novel roles to foster voice.

Methods: We draw from an interview-based study covering the acute hospital, mental health, community care and ambulance sectors of the English NHS, as well as wider stakeholders and commentators, conducted as part of a wider evaluation of policy interventions to foster openness in the healthcare system. Our study involved a total of 51 interviews with individuals involved in developing, implementing and managing the Guardian role, including 10 who undertook the Freedom to Speak Up Guardian role themselves. Analysis was based on the constant comparative method, and sought to draw on sensitising concepts taken from the existing literature with emergent issues identified inductively in interview data.

Results: For organizations implementing the Guardian role, a key challenge was ensuring fit with the existing infrastructure of mechanisms for raising concerns that already existed. Managers sought to avoid duplication or overlap between the Guardian role and existing processes with the aiming of reducing complexity and confusion. To this end, they tended to envisage a role for Guardians that involved coordination and signposting, and was carefully demarcated from other routes to voice; a particular preoccupation was ensuring that the existence of an extra potential mechanism for speaking up did not interfere with or undermine functional managerial relationships where they existed, and that the focus of the role remained squarely upon quality and safety concerns. For Guardians themselves, maintaining such a clearly delineated position was challenging. The approaches they received, they reported, were varied, and often related to issues that appeared to be more concerned with interpersonal or 'human resources' issues than with service quality. They were reluctant, however, to direct such approaches elsewhere, and found that in many cases in practice, issues that appeared to be out of their remit could have deeper roots, with direct or indirect implications for quality and patient safety. Maintaining distance and neutrality in practice was challenging; the most valuable aspect of Guardians' role, some argued, was in helping those who approached them to make sense of the issues they had identified, and involving themselves in unearthing the roots of problems, rather than simply referring concerned individuals to the appropriate process.

Implications: Participants saw potential in the Freedom to Speak Up Guardian role, but important differences were evident in the way they felt it should be operationalised. In practice, Guardians found that colleagues rarely approached them with clear-cut, bounded concerns with evident implications for quality and safety and a correspondingly clear course of action: rather, the concerns they heard were more amorphous and inchoate. This, they felt, required them to involve themselves directly in at least preliminary 'investigation' work, and act more as a close, trusted confidante than an objective, independent coordinator of concerns. While potentially valuable, such a role to some extent deviates from the original function anticipated in the Freedom to Speak Up review, which focused particularly on the protection of 'whistleblowers' with much clearer, and perhaps graver, concerns.

Reference

Francis, R., 2015. Freedom to speak up. Department of Health, London.

02/07/2019
11:35-12:50

Identifying and managing concerns about general practitioners in England

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Background: Complaints and concerns about doctors in primary care in England are received and managed at national, regional and practice level. At a national level, the General Medical Council (GMC) reports that GPs are more likely to be the subject of a complaint than any other type of doctor. From 2012 to 2016 the GMC received almost 70,000 complaints, of which 42% were made against GPs. In total 17% of GPs were the subject of at least one complaint between 2012 and 2016; of these GPs, 5.3% were investigated and 0.7% received a sanction or warning. Much of the identification, management and resolution of concerns happens outside the national regulatory framework, either regionally by area teams in NHSE's five regions or locally by GP practices. Complaints about GPs can be made direct to their practice, and little is known about the numbers of these concerns, or how they are managed. Practices can escalate a concern to the NHSE area team. Similarly, area teams may further escalate a complaint to the GMC if need be, while the GMC will always inform area teams of any regulatory cases relating to doctors within their area. Though the formal policies for NHSE's management of concerns are clear, very little is known about how these are put into practice and how they work. In this paper we explore how concerns are identified, investigated and managed at this regional level.

Method: The study comprised of two main strands: in-depth interviews with NHSE staff; and the analysis of case file data. Data collection took place between 2015 and 2017. Thirty-six semi-structured interviews were conducted with clinical and non-clinical staff from eight NHSE teams spread across different regions. The first set of interviews took place in 2015. This consisted of 13 interviews within two area teams. A second interview schedule was developed to explore the management of concerns in more depth, and used in eight further interviews within these area teams during 2016. Fifteen staff from across six more area teams were interviewed in 2017. Data about individual cases of concern was collected from records held by five of the six area teams interviewed in 2017. A data extraction template was developed to standardise the data collected. Anonymised information for approximately 20 of the most recently closed cases from each team was extracted, giving data for 102 cases in total. Data collected included details about the source and nature of the concern, a timeline of the case's development, actions and outcomes.

Results: Through exploring how concerns about doctors are identified and managed in primary care in England key trends in regards to the identification, nature and outcomes of concerns in primary care by NHSE have been identified. The process for raising concerns was inconsistent and disparate, with potential weaknesses to address. Examples of new cases unearthing previously unreported concerns made apparent the possibility of missed and unaddressed concerns within primary care. The concerns process was flexible, enabling the application of informal discipline and remediation as well as formal sanctions, proving capacity for support as well as judgement. This helped to ensure the approach taken by NHSE was proportionate to the concern under investigation and best suited to individual doctors. However, flexibility did result in diverse approaches, perhaps meaning that doctors are inconsistently treated across organisations and nationally. A trade-off between adaptability and consistency was evident, but the correct balance of the two is difficult to establish. Practices remain the unexamined level in complaints and concerns handling, and a key route for patient complaints. Complaints made to practices were frequently dealt with in house, with no information being passed on to NHSE. Performance concerns were most common, followed by behaviour, and multifactorial cases were most likely to be a combination of these two. Conduct was the next most frequently raised concern, and finally a very small number of health cases were identified. Outcomes of cases appeared to be dependent on doctor engagement and response rather than necessarily the nature of a concern or the consequences of a doctors' actions.

Implications: The ad hoc nature of concerns identification suggests that some concerns, or indeed connections between cases, may be missed, pointing to the potential for targeting improvement initiatives to develop better, more reliable reporting mechanisms. A need for improved data collection and sharing of concerns information between NHSE and practices was identified. Clear criteria and routes for escalation to NHSE would help this, but are currently missing. Given that patient complaints are the most prominent route of identification to NHSE (45.5%) further research into how this relates to what is or is not reported at a practice level is needed. There may be trends in the types of issue arising and that therefore data about concerns might be a valuable source of information to support targeted CPD initiatives.

02/07/2019

11:35-12:50

Examining medication safety incidents in in-patient mental health settings: A 8-year analysis of incidents reported to the National Reporting and Learning System

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Background: Medication errors and adverse drug events are an important threat to patient safety in mental health hospitals.(1) A recent systematic review of 20 studies reported that the frequency of medication errors and adverse drug events ranged from 10.6 to 17.5 and 10.0 to 42.0 per 1000 patient-days, respectively.(2) However, little is known about the nature, severity and contributory factors relating to these safety incidents.

Aim: To conduct a mixed methods analysis of medication safety incidents reported to the National Reporting and Learning System (NRLS) from mental health hospitals across England and Wales between 2010 and 2017.

Method: A retrospective review of all anonymised medication safety incidents submitted to the NRLS between 2010 and 2017 was undertaken. Descriptive analysis was used to determine the number of medication incidents over time, and then to characterise the incidents according to their nature, location, severity and type of medication class involved. Medication incidents associated with moderate, severe and death outcomes were further analysed to identify contextual factors that contributed to medication incidents using the narrative descriptions using Primary Care Patient Safety (PISA) Classification System. The University of Manchester's Ethics Committee has exempted this study from formal ethical approval.

Result: A total of 94,159 medication incident reports were included, almost all of which were due to medication errors (93,722; 99.5%). Ninety percent of incidents (85,099; 90.3%) originated from in-patient mental health services, and commonly included mental health wards (71,993;76.5%) and secure units (11,149;11.8%). Medication incidents from mental health pharmacy services accounted for 6.4% (n=6,055) of the reports. Medication incidents occurred most frequently in the administration stage (50,310; 53.4 %), followed by the prescribing (15,549;16.5%) and dispensing (10,875; 11.5%) stages. Omitted medicine (17,210;18.2%), wrong frequency (11,860;12.6%) and wrong/unclear dose (10,251; 10.8%) were the types of medication errors most frequently reported. Medicines affecting the central nervous system were commonly reported (42,760; 44.3%) including antipsychotics (15,053; 35.17%), followed by anxiolytics/hypnotics (8,141; 19.0%) and antidepressant (5,791; 13.53%). 98.4% (n= 84,252) of incidents resulted in no harm, whereas the remaining incidents resulted in low harm (8,787;9.3%), moderate harm (1,076;1.1%), severe harm (41; 0.04%), or death (0.004%). Staff related factors (n=195), organisation related factors (n=108) and patient related factors (n=98) were identified to contribute to 468 medication incidents associated with moderate, severe and death outcomes.

Conclusion: Our findings suggest that a tenth of medication incidents reported in mental health hospitals resulted in harm to patients. Fifty percent of incidents occurred in the medication administration stage, with medication omission and antipsychotics being frequently implicated in incidents. Commonly occurring contributory factors to incidents included staff, patient and organisation related factors which were often unique and reflected the complexity of this setting. Future interventions need to target drugs and contributory factors that found to be associated with these incidents in order to improve patient safety in this setting.

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02/07/2019

11:35-12:50

A qualitative study of the medical examiner role in reviewing cause of death and identifying quality of care issues

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Background: The UK government has announced its intention to implement a national system of medical examiners in England and Wales from April 2019. Medical Examiners will be expected to review the cause of all deaths not referred to the coroner, taking into account the views of bereaved relatives. The medical examiner role was originally developed from recommendations in the 2003 Home Office Fundamental Review of Death Certification and to address concerns raised in the third report of the inquiry into murders committed by English general practitioner Harold Shipman.

The medical examiner role involves three key aspects: first, ensuring that death certification is as accurate as possible; second, where appropriate, coroner referrals are undertaken as quickly as possible; and third, detecting and reporting any clinical governance concerns as soon as possible. As part of a broader evaluation of medical examiner assessments in identifying problems in care for hospital deaths, the research presented here explores how medical examiners operate, to identify common themes and variations in practice.

Method: The research entails conducting semi-structured interviews with up to 20 medical examiners within NHS Hospitals in England. The interviews seek to increase understanding of the medical examiner role by identifying how key components of the role are undertaken; how medical examiners perceive their role; how assessments are carried out; how information arising from assessments is used to facilitate learning and how the role could be developed. The interview topic guide has been informed by available documentation, along with medical examiner and PPI input. Interviews are digitally recorded and transcribed verbatim. Data analysis involves a framework approach using NVIVO qualitative data analysis software.

Eleven interviews have been completed to date and preliminary analysis conducted. Further interviews and analysis are ongoing.

Results: Preliminary findings address key aspects of the medical examiner role and issues to consider for hospitals implementing this service. As well as focusing on improving death certification, governance issues have become an increasingly prominent aspect of the medical examiner role. Medical examiners also view their role as having an important educational aspect in training junior doctors to deliver improved death certification. The review process is not a forensic assessment; it identifies 'red flags' or concerns for coroner referral or more detailed scrutiny via case note review within the hospital. However, the medical examiners receive minimal or no feedback on referrals for detailed review. Speaking to relatives is highly valued and delays in making contact (e.g. due to the time taken to access patient notes) are undesirable. There is variation in the medical examiner processes and systems at different hospitals. All are delivering key aspects of the role but there is local variation in how this is achieved, including recording and communication (e.g. who speaks to relatives). Experience, seniority, communication skills and confidence are regarded as important to deal with challenging questions and decisions, as well as sensitive conversations with relatives. As the number of medical examiners increase they are increasingly drawn from a range of clinical specialities and therefore may bring different perspectives to the role. A relationship of trust between the medical examiner and local coroner is important as the coroner needs to trust that appropriate referrals are being made; this necessitates a good understanding the coroner's role and requirements. Support from medical examiner officers or administrative staff and bereavement staff is important to ensure that examiners can focus on key aspects of the roles where their expertise is required and provides continuity where the function is rotated across different people. An oversight role is needed to ensure a degree of consistency across different medical examiners. The physical space required was identified as a key consideration, this included a dedicated office space located near the bereavement office that is quiet, with appropriate IT and phone access. Access to patient records is critical for timely reviews and can be problematic if medical examiners are covering more than one site and there are paper records. Concerns were identified regarding the funding of medical examiners (e.g. reliance on cremation fees). Examples were identified of service impact at a local level (e.g. reductions in complaints, coroner referrals and autopsies; service improvement), however, it is unclear how the impact and success of the medical examiner role should or will be evaluated more consistently.

Implications: The medical examiner role represents an excellent opportunity to improve patient safety by developing a national system to identify quality of care issues following deaths in hospital, which involves families and carers. The findings from this study will inform the implementation of this role in new sites where it does not currently operate as well as identifying issues for further consideration by policy makers and researchers.

P1.3 Workforce 1: Staffing Levels, Shifts & Workload Abstract Session

02/07/2019
11:35-12:50

12-h shifts in nursing: do they remove unproductive time and harmful patient handovers or do they reduce education and discussion opportunities? A cross-sectional study in 12 European countries

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Background: The introduction of long nursing shifts of 12 or more hours remains controversial. While there are claims of efficiency and staff preferences for long shifts, studies have shown long shifts to be associated with adverse effects on quality of care. A key claim for the efficiency of the 12-h shift system is the reduction of overlaps between shifts on the basis that these overlaps are unproductive and dangerous. However, there are potentially valuable information and communication activities that occur during these overlap periods.

Aims and Objectives: To determine the association between nurses' ≥12-h shifts and presence of continuing educational programmes; ability to discuss patient care with other nurses; tasks that foster continuity of care; and patient care information being lost during handovers.

Design: Cross-sectional survey of 31,627 registered nurses within 487 hospitals in 12 European countries.

Methods: The associations were measured through generalised linear mixed models.

Results: Nurses working shifts of ≥12-h were less likely than nurses working shorter hours (≤8) to have continuing educational programmes; and to have time to discuss patient care with other nurses. Nurses working shifts of ≥12 h were less likely to report assignments that foster continuity of care, albeit the association was not statistically significant. Similarly, working long shifts was associated with patient care information being lost during handovers, although the association was not statistically significant.

Conclusion: The reduction in handovers and overlaps between shifts is associated with reduced educational activities and fewer opportunities to discuss patient care, with no evidence of benefits for patients. Reduced opportunity to discuss care or participate in educational activities may reduce the quality and safety of care for patients.

02/07/2019

11:35-12:50

Implementation & impact of policies for safe staffing in acute hospitals: a mixed methods study

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Background: The Francis inquiries highlighted that decisions about nurse staffing had been made without fully considering the risks to patient safety. Responding to the Inquiry, four strands of policy were developed to create safe nurse staffing levels in the NHS:

- 1) National Institute for Health and Care Excellence (NICE) guidelines for safe staffing.
- 2) The Safer Nursing Care Tool (SNCT) was endorsed by NICE to help hospitals plan nurse staffing.
- 3) National Quality Board report outlined the principles Trusts were expected to apply in relation to planning staffing (refreshed in 2016).
- 4) NHS Trusts required to monitor and report (through NHS Choices) differences between planned and achieved nurse staffing levels ('fill-rates').

This study examined the implementation of safe staffing policies in NHS general acute Trusts in England looking at costs and consequences, and identifying factors that influenced implementation

Methods: A mix of qualitative and quantitative methods were used to examine the impact of policies nationally, and explore commonality and variation in local responses to safe staffing policies. An analysis of NHS national workforce was undertaken to explore changes since 2010. A national survey of Directors of Nursing in acute NHS hospital Trusts (n=147). Four NHS Trusts providing acute hospital care (included in a related study) were selected as case study sites for a realist informed evaluation plus a descriptive and economic assessment of the impact of policy implementation.

Results: Safe staffing policy implementation impacted on case study Trusts in terms of: changes in the language used to refer to staffing, increased visibility of safe staffing within the organisation, use of data to support investment in nurse staffing, data providing a rationale for difficult decisions, policy as a driver for accelerated action around safe staffing, tools changing the nature of management practice, and policies enabling workforce redesign. 86% Trusts reported nursing establishments are reviewed at least 6 monthly (in line with NQB guidance). The NICE-endorsed Safer Nursing Care Tool (SNCT) or related tool was used to set establishments by almost all Trusts surveyed. Case study Trusts conducted daily site wide, multidisciplinary staffing reviews and 24 hour escalation at matron level or higher. New approaches to staff planning, rostering and board awareness were viewed as the most helpful changes.

Workforce changes: Following a period of no growth between 2009-2013, the whole time equivalent number of nursing staff employed in the NHS acute sector increased since 2013 by 10% for registered nurses (RNs) and 30% for support staff (HCAs). However increases of 'RNs per bed' were lower than growth of nursing staff WTE. Growth in nursing workforce was not uniformly distributed: increases in acute hospital services where policy (where policy attention focussed) were not seen in community, learning disability and maternity. 25% of Trusts reported the RN per number of patients exceeded 1:8 > 65% of shifts over 12 months. Growth in RN staffing has been constrained by Trusts' inability to fill posts. The survey found that the average RN vacancy rate in 2017 was 10%. At a shift level, Trusts had increasing difficulty filling planned registered nurse hours (as gauged through 'fill-rate' data). Nursing staff are reported as working a larger number of additional hours.

Assessment of costs: Nationally estimated nurse staff costs for NHS acute care increased by 15% between 2012 and 2017. RN costs increased by 12%, HCA costs increased by 30%. Roles of existing staff expanded with a small number newly created to implement safe staffing policy.

Factors influencing implementation: the clarity of the safe staffing policy message, degree of learning and innovation, use of tools and technologies, and credibility/reliability of data. Trusts adopted strategies to cope with and mitigate against staffing shortfalls, but in all 4 case studies senior nurses reported imbalances which led to times when wards were not operating with safe nurse staffing levels. Policy implementation worked best when there is a 'whole-systems' approach with good alignment across organisational strategies and data systems related to safe staffing including workforce, finance, quality, safety, and professional practice. Clearly defined

leadership, a shared sense of accountability, consideration wider workforce issues such as recruitment and retention, engagement with external stakeholders and a high degree of goodwill, were all factors associated with success. A lack of transparency and equity around staffing within organisations risked the goodwill needed for success.

Implications: Policies provided leverage and raised profile of nursing workforce issues at board level, contributing to willingness to invest in increasing nursing numbers. However, a lack of assessment of the likely scale of investment (and human resources) required nationally to achieve 'safe staffing', led to financial considerations becoming a barrier to achieving the policy vision. External pressures such as lack of workforce supply and reduced access to temporary staffing, have constrained Trusts abilities to fully implement policies aimed at ensuring safe staffing on acute wards.

02/07/2019

11:35-12:50

The impact of extended shift hours on Acute Mental Health Wards for employee and organisational outcomes as employees adapt and respond to change.

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Background:

Mental Health staff work in a dynamic and stressful environment and, with an emphasis on developing community care, the ward environment has intensified. As demand for mental health services and severe financial pressures (UNISON, 2017) increase, service providers have been testing new models of delivering care to reduce costs, with shift patterns and workforce planning a key focus. However, NHS employers have concerns over how the introduction of new working patterns may affect employees in this already demanding environment (NHS Employers, 2018).

Existing evidence on the impact of extending working hours (e.g. increase from 8 to 12 hour shifts) is mixed and focuses on potential negative consequences e.g. increased accidents, fatigue, adverse effects on health and wellbeing, and absenteeism (Dall'Ora et al., 2015; 2016; Knauth, 2007). Research currently highlights potential benefits to employers (fewer handovers, less overtime) and to workers (less travel time and longer periods between shift patterns) (e.g. Knauth, 2007).

Methods: We combine case study analysis with interrupted time series (ITS) modelling to explore the impact on employee wellbeing and organisational outcomes. We conducted 35 in-depth semi structured interviews with 5 layers of participants (modern matrons, ward managers, clinical leads, registered nurses and healthcare assistants) to evaluate employee experiences as they adapt and respond to the change in shift pattern. Interviews took place 6 months after the shift change with 34 follow up interviews 6 months later. ITS modelling looked to identify any impact over time on staff sickness absences, additional duties for enhanced observation and number of incidents on the ward.

Results: Our findings indicated that changes to working hours are accompanied by unforeseen and unintended consequences for employees and for the organisation. These included reduced opportunities for reflection on patient care and stressful incidences, limits to employee voice, increased use of agency staff, isolation from colleagues, lower quality handovers, and disruption to patient routines and continuity of care. Our ITS model shows that on average sickness leave per week increased after the implementation of the policy from 1.2% to 2.4%. Interview analysis revealed a mixed view of 12 hour shifts by staff. How an individual adapts and responds to the unintended consequences depended on a range of factors including experience, colleague support, external family commitments and whether they had a preference for 12 hour shifts before the implementation. Where staff adapted and responded negatively there were reports of stress, burnout, frustration, exhaustion, loneliness and disengagement. Both the unintended consequences of the shift change and staff wellbeing may feed into a number of organisational outcomes such as quality of patient care, work intensification, teamwork, recruitment and retention, absence, increased agency staff and retirees not returning to bank.

Implications: Our study raises a wide range of practical implications around managing and implementing changes to working patterns. For an organisation with a large geographical spread of workplace units, blanket policies and ways of working may be problematic. 12 hour shifts may operate well in some contexts and where staffing is higher, but HR policies need to allow for variation. We argue that in a context of tight labour markets and an aging workforce 12 hour shifts are another barrier to recruitment and retention. As such employers need to offer some degree of flexibility and control to units and individuals over the organisation of work. Issues of control and flexibility are also important concepts for the mental wellbeing of the workforce. Social support is seen as a buffer to job strain and so changing the organisation of work patterns needs to observe any disruption to colleague and leader support which may be encompassed in routine work practices such as teamwork, supervision, training and voice. Employers need to consider these downstream effects for the longer-term sustainability of the workforce.

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Is it appropriate to use the average workload to set nurse staffing levels? A computer simulation study

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Background: Tools for determining nurse staffing requirements on hospital wards typically match staffing levels to the average (mean) workload associated with a particular patient group, factor or aspect of care. However the variability and shapes of workload distributions, and thus the suitability of using the mean, have rarely been reported. This research focuses on the Safer Nursing Care Tool, which has been endorsed by NICE and is widely used to set ward establishments (the number of nursing staff to employ) in England.

Methods: We developed a computer simulation to experiment with alternative ways of using the Safer Nursing Care Tool to set ward establishments. We populated the simulation with a year's worth of data from four NHS hospital trusts. We compared an "average", "low" and "high" staffing policy in terms of the proportion of critically understaffed patient shifts and the costs of both permanent and temporary staff.

Results: A range of shapes of workload distribution were seen at the four hospitals, and some wards had highly variable workload from day to day. The simulation results show that the high staffing policy would reduce the proportion of critically understaffed shifts compared to the average policy. On the other hand, the low staffing policy would lead to more understaffed shifts because temporary staff are not always available to cover at short notice.

Implications: It is not necessarily appropriate to use the average workload when planning the ward establishment; the costs and consequences of alternatives should be considered. Simulation is a flexible, fast and safe method for comparing staffing strategies.

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P1.4 Integrated Care Abstract Session

02/07/2019

11:35-12:50

Cost, Experience and Health Effects of Re-Orienting a Health System with Integrated Care for Patients with Multimorbidity

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Background: Health systems globally face rising demand, an ageing population with increasing multimorbidity, combined with economic uncertainty and restrained spending. This has spawned a policy movement towards 'integrated care' which aims to achieve a concurrent rise across the 'triple aim' of the health system: patient experience, health, and reducing costs of care. The most recent integrated care models aim to change the whole (geographically defined) system, 'population health management models', implementing multiple synergistic interventions across the system simultaneously aiming to improve outcomes for the entire population. Current literature reflects previous smaller-scale implementation of integrated care (e.g. targeting high-risk groups only), but the effects of these broader implementations at the population level are unknown.

Methods: We select two population health management 'Vanguard' models in the UK (both with similar aims but implementing different sets of interventions) to evaluate separately and compare findings. We use two nationally representative sources of data, 1) GP Patient Survey (GPPS), administered by post to a sample of patients from all GP practices in England annually (biannually until 2016) to measure patient experience (inter-organisational support with chronic condition management) and health (EQ-5D); 2) Hospital Episode Statistics (HES) data, administrative data recording all patient contacts with NHS hospitals to measure total costs of secondary care. For both datasets, we have data at the individual-level which we collapse by GP practice, multimorbidity status, over 65 status, gender and time. We analyse the data using a quasi-experimental design, difference-in-differences. We compare intervention practices to control ('usual care') practices from the rest of England. Our pre-period is from the start of financial year 2012/13 to end of financial year 2014/15 (i.e. three years) and we have 1-2 years of post-data dependent on outcome measure. Multimorbid patients theoretically have the most to gain from integration of care, so we focus on this group of patients for subgroup analysis.

Results: We find differing effects depending on site. In one site, for the total population we find no significant change for experience and health outcomes, but a decrease in costs of secondary care (-£40 per registered patient); for multimorbid patients, however, we find a small increase in patient experience (+2%) but a slight decrease in health (-0.1%) together with the decrease in costs of secondary care (-£59). For the second site, we find decreased experience (-0.4%) and health (-1%) combined with increased costs overall (+£13), and similarly for the multimorbid patients (-3%; -1%; and +£18, respectively).

Implications: Findings indicate that the mix of population health management interventions implemented will determine outcomes achieved. There are indications of trade-offs between the triple aim outcomes. Baseline outcome levels may also be a determinant of success, in both sites post-intervention outcomes tended to shift towards the national mean on each measure (perhaps suggesting previous over/under-utilisation of services). We will discuss findings in the context of our previous qualitative analysis across each site and implications for developing models of care moving forward.

02/07/2019

11:35-12:50

Integrated care at the frontline: a participatory evaluation of locality level multi-professional teams in East London

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Background: Health and social care systems in the UK are facing unprecedented pressures to manage rising demand from an ageing population with an urgent need to alleviate burden on services whilst providing cost savings. NHS England's new models of care (NCM) offer a platform for local partnerships between health and social care providers to reduce fragmentation of services and to support an integrated approach to care provision that is patient-centred and coordinated. The rationale behind these partnerships is to promote multi-professional working and integrated care at the 'neighbourhood level' e.g. through locality level multi-professional teams. These teams provide care coordination and case management for patients whose needs are most appropriately met by different health and social care professionals. A key enabler for service integration is effective partnership working among frontline professionals within healthcare and between health and social care. Some models of partnership working have been centred upon 'placement schemes' e.g. a social worker located in a GP surgery. Other models have gone further, co-locating entire multi-professional teams of health and social care workers. The aim of this study was to assess the role of partnership working in improving services delivered by multi-professional teams in East London.

Methods: The model of care presented here was evaluated using a participatory approach to research: the Researcher in Residence (RiR). The RiR model places the researcher as a key member of the delivery team and enables co-creation of knowledge between researchers and practitioners, with the aim to increase opportunities for evidence to influence programme development. The researchers were embedded at the locality level and used a formative approach employing primarily qualitative methods to gather data including participant observation, interviews, focus groups and documentary analysis. A range of relevant stakeholders (n= 125) from across the health and social care system including senior and middle managers, service leads and frontline professionals were purposively selected for interview. A thematic framework approach was employed to analyse the data. Furthermore, a service user partner was recruited to the research team to co-design the study, undertake interviews with patients/service users in receipt of services provided by the locality multi-professional teams and co-interpret findings. Findings were organised using a framework proposed by Cameron et al (Cameron, Lart et al. 2014) that considers the key barriers and enablers for partnership working between health and social care organisations and professionals categorised as organisational, cultural/professional and contextual factors.

Results: Preliminary findings revealed that a series of system enablers to promote integrated working have been introduced including significant restructuring of community health services models and efforts to co-locate health and social care staff. Restructuring of service models which has involved redesigning of job roles and responsibilities and streamlining of specific services has caused uncertainty and anxiety among frontline staff with a reductive effect on partnership working and the emergence of previously dissolved professional boundaries. Moreover, whereas co-location might contribute to team building as evidenced by effective working between health professionals, it is not a panacea. Among the teams, organisational development needs were evident due to different management lines and organisational pressures and issues related to professional identity, trust, and accountability. These issues were compounded by problems with staff recruitment and retention as well as high numbers of locum staff. Indeed, locums were viewed as more likely to deliver task orientated care and to communicate less effectively with permanent staff members and patients alike. In turn, this has created a 'them and us' culture between agency and permanent staff resulting in a regression in partnership working. The study has also identified local level service or team leaders among the multi-professional teams that act as enablers for partnership working. These individuals have fostered culture change among their teams, creating a harmonious working environment while encouraging staff to trial new initiatives and approaches using quality improvement methodology so as to enact change and improve the quality of care.

Implications: The findings from this study have identified some of the key relational aspects of integrated care at a neighbourhood level including the need for organisational development and the role of local level leadership in cultivating a collaborative team culture. While instituting system enablers for service integration such as co-location are important, future service developments in community care must focus on addressing some of the cultural and professional barriers presented above so as to facilitate partnership working. In turn this will reduce care fragmentation and duplication and improve the experience of patients and service users. The formation of effective partnerships upon which service integration can be developed will require sustainable culture change that fosters a collaborative ethos and creates a permissive environment that supports local leaders to enact change.

Using reimbursement reform to drive healthcare integration: making the case for bundled payments. A positive deviance study of stratified participants in the first year of the mandatory national US Medicare Comprehensive Joint Replacement (CJR) bundle payment program.

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Background: Healthcare costs continue to rise in the US, a concerning trend given that healthcare currently represents 17.9% of GDP. Because the federal Centres for Medicare and Medicaid Services (CMS) accounts for 20% of healthcare costs as the insurer for elderly Americans, it has recently begun large scale experimentation with new models to pay healthcare providers as a means to reduce cost growth. One prominent such model that Medicare is expanding is bundled payments, a model already used in a few global health systems including the NHS. Bundled payments constitute a single payment for a complete cycle of care involving all fees from participating sites, services and professionals over a predetermined period of time (commonly 30-90 days). The rationale is that financial accountability will drive savings through reduced numbers of services and better care integration. CMS is currently running two federal level experiments with this methodology, the voluntary Bundle Payments for Care Improvement Advanced and the mandatory Comprehensive joint Replacement program (CJR). CJR has been implemented in 25% of urban areas across the US and covers all qualifying elective hip and knee arthroplasty surgery. While preliminary results suggest that both programs are reducing costs while maintaining quality for Medicare patients, there is a lack of data around what practices hospitals and physicians are employing to generate these savings. This study qualitatively examines how CJR is driving the movement towards integrated working practices at the provider level and how provider characteristics as well as culture and behaviours are influencing healthcare provider's ability to adapt.

Method: All CJR participants were stratified on the basis of whether they received reconciliatory payments under the first year of the program or not (high or low performing respectively), and on the basis of specific market and geographic considerations. A group of 15 high and 15 low performing providers were identified to allow for provider heterogeneity (i.e. bed numbers, rural or urban status, etc). These providers were then invited to be involved in the study but were not informed of the positive deviance approach. Semi structured interviews were conducted either face to face or over the telephone with the clinical and administrative leads and their teams for the CJR program within each provider. There was purposive sampling within the two groups until thematic saturation was reached (14 sites and 30 interviews). The interview protocol focused specifically on what had changed within the elective perioperative patient pathway and how provider characteristics, culture and behaviour had influenced their ability to adapt and integrate services. Interviews were transcribed by a professional transcription service. Data analysis followed a constant comparison method, targeted analyses were then performed to identify differences between high and low performing sites.

Results: There were substantial differences between high and low performing providers under the domains of: Hospital practices to improve under CJR; Organizational values and goals; Hospital characteristics; Clinical and Administrative leadership; Communication and Coordination. For instance high performers were far more likely to be committed to change as an organization and more commonly had dedicated formal bundle payment leadership teams, 7 of 9 high performing sites versus 2 of the 5 low performing, allowing high performers to more easily achieve what was seen as an important strategic goal for the organization. Experience of previous population health management was also more common in high performers, 8 of 9 high performing sites versus 1 of the 5 low performing, and meant that robust patient coordination practices predated the introduction of the bundle. 'Hospital practices to improve under CJR' was divided into three subdomains: Assessing and preparing patients; Standardizing perioperative care; and Developing post-acute care services. High performers characteristically took steps to systematically redesign elements of patient management under all three subdomains. They were also more likely to strategically consider how the different elements linked together to allow for improved care integration. For example in the subdomain of 'Assessing and Preparing patients' all high performers made improvements in patients clinical evaluation, social risk assessment and standardized patient education in preparation for their subsequent care, less than half of low performers successfully addressed all of these elements.

Implications: Bundled payments are useful in driving healthcare integration for elective procedural care; however, this study demonstrates that healthcare provider performance under bundled payments is associated with identifiable organisational and cultural characteristics. From a healthcare planning perspective, optimising provider outcomes under bundled payments is likely to require supported evaluation of internal cultures and values, guided development of strategic plans for the management of patient care and an emphasis to be placed on communication and coordinating care, as well as investment and additional resources. Bundled payments could be adopted more widely across other global health economies such as the NHS to help drive healthcare integration. Other countries should be mindful of the evidence of provider level effects from federal US bundled payment experiments.

P1.5 Methods, Models & Tools for HSR

02/07/2019

11:35-12:50

How do health system factors impact on cancer survival? A systematic approach using a system-level logic model.

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¹London School of Hygiene and Tropical Medicine, ²LSHTM, ³Cancer Research UK ICBP team, ⁴Royal Marsden Hospital, Cancer Research UK ICBP team

Background: Cancer survival varies widely among countries. Evidence suggests that a number of health system-, service delivery- and patient-related factors play important roles in determining cancer outcomes nationally and internationally. However, it is difficult to attribute observations from mostly ecological studies to specific system features, given the diverse contexts within which cancer care systems are embedded. System functions ('factors') such as governance, financing, resource generation and delivery are typically assessed in isolation, neglecting their interrelated nature at the different tiers of the system. There is need for a systematic assessment of the direct and indirect pathways by which health system features might impact on cancer outcomes such as survival.

This paper sets out the development and potential uses of a conceptual ('logic') model that visualises the range of causal pathways linking health system factors and cancer survival. It builds on work carried out within the International Cancer Benchmarking Partnership (ICBP), taking advantage of its wide network of policy makers, academics and clinicians researching cancer survival in different countries with similar health systems. The model provides a first step in the identification of key factors that might be amenable to system-level interventions to enhance cancer outcomes.

Methods: We conducted a rapid review of the literature on the relationships between broad health system factors (e.g. organisation, governance and financing) and cancer survival in different settings. We supplemented this review with data from a 2015 survey of ICBP stakeholders (n=128), including researchers, clinicians, service providers, patients and NGOs, which explored perceptions of how system factors might impact cancer survival in seven countries. We used these data to develop a detailed logic model depicting the likely causal pathways along which organisation, governance and financing of health system factors, at macro and meso levels, might influence cancer survival at the different stages of the cancer patient journey, from primary prevention to palliative/end of life care. The draft logic model was reviewed and received input from members of the ICBP programme, a range of clinicians and researchers through a workshop in the UK and individual conversations, to test its possible uses and inform the further development of the model.

Results: The logic model illustrates where different aspects of the health system are likely to impact directly or indirectly on different stages of the cancer patient pathway, from recognition of symptoms in pre-diagnostic stages to survivorship. The full model is shown in Figure 1a, with an extract allowing 'magnification' of the diagnosis and treatment parts of the patient journey in Figure 1b. The model depicts the complex interactions between the principal structures (e.g. availability of resources such as diagnostic testing equipment); information systems; the various health professionals involved, (such as: general practitioners, radiologists, pathologists, oncologists, surgeons, clinical nurse specialists); the processes involved (e.g. referral from general practitioner to a specialist; diagnostic testing), and the outputs (e.g. waiting times for an appointment), all acting in often non-linear and cyclical ways that will influence outcomes. The logic model draws particular attention to the many possible 'break points' along the cancer patient journey, where, without effective co-ordination, vulnerable patients risk falling between the cracks, with adverse impacts on outcomes. For example, it highlights the importance of meso-level factors, such as the training and retention of the diverse cancer (and non-cancer) workforce, and how they interact at different stages of the cancer patient journey. It further illustrates how bottlenecks in certain areas of the system, such as availability of critical care beds or operating theatre time, are likely to have profound consequences.

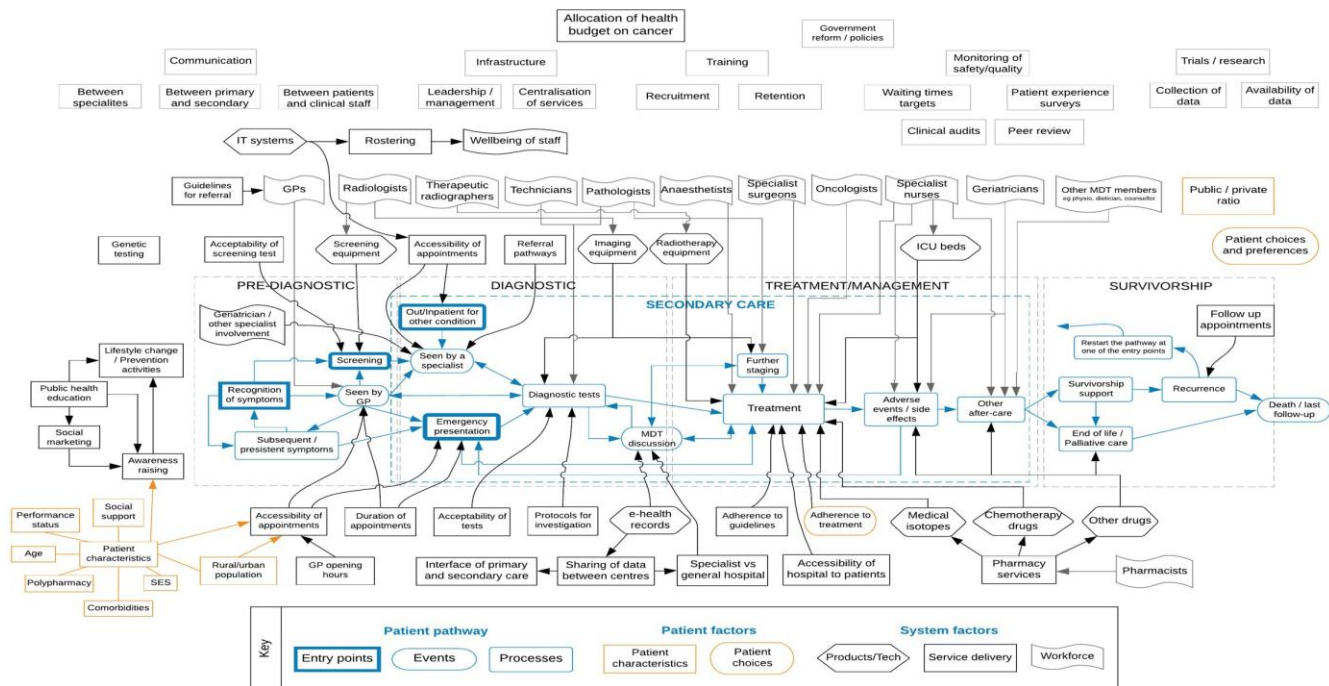


Figure 1a. Logic model illustrating the cancer patient journey and its interaction with health system factors

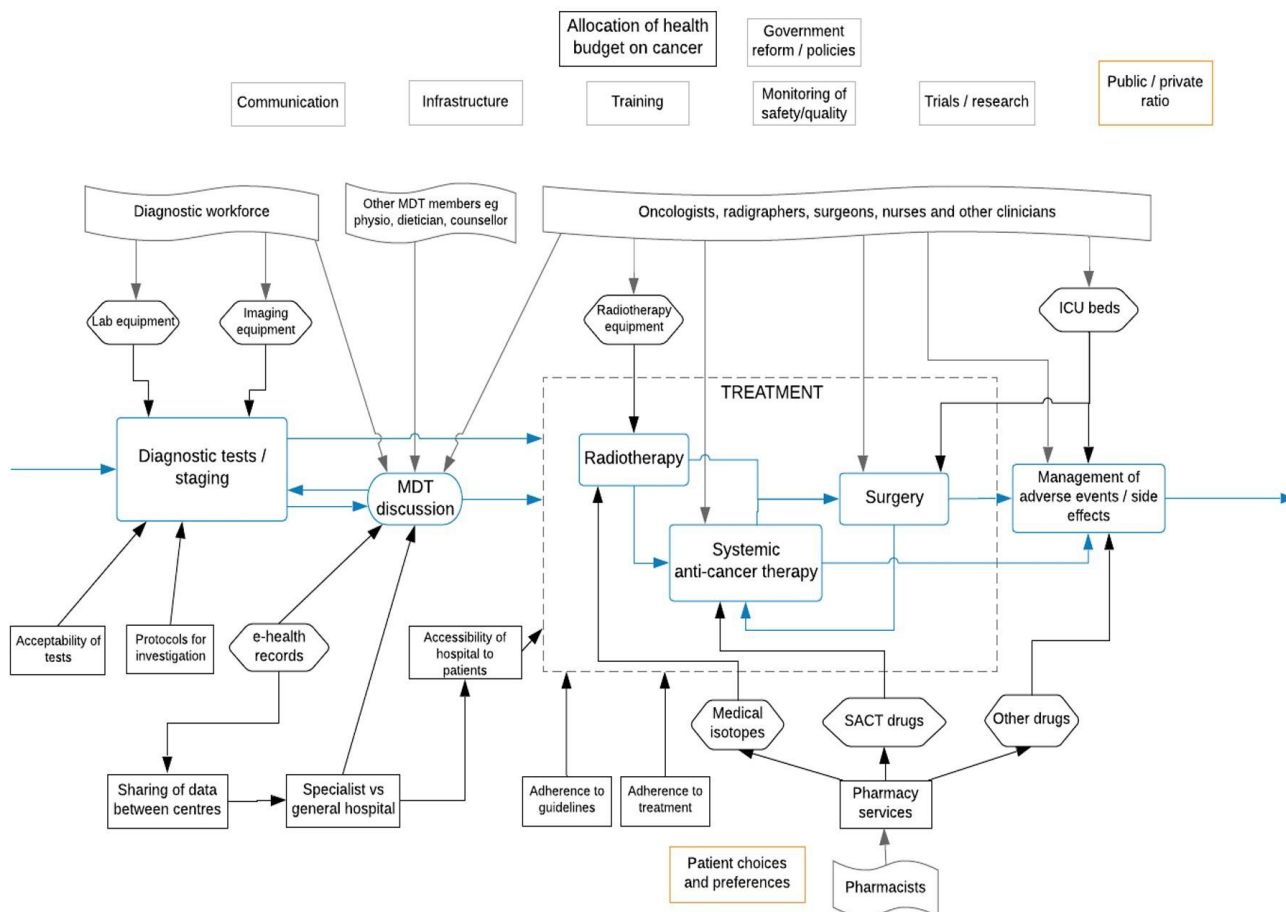


Figure 1b. Logic model extract, focusing on the cancer patient journey from diagnosis to treatment

Implications: This logic model provides a novel way to move beyond existing descriptions of differences in cancer survival to understand and address the complex relationships between elements acting at different levels of health services and systems that contribute to inequalities in survival. It offers a means to convene individuals from different disciplines, professions and sectors to identify key points where health services, and the wider systems within which they are embedded, are likely to increase (or indeed, reduce) variation in outcomes.

02/07/2019
11:35-12:50

Have I (only) got good news for you? A multi-method investigation of publication and outcome reporting biases in health services delivery research (HSDR)

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Background: Selective publication and reporting of research findings based on the direction and/or strength of the results is an important threat to the validity of evidence synthesis and evidence-informed decision making. These biases have been well documented in clinical research, but relatively little is known about whether and to what extent they exist in HSDR. As these biases may be anticipated on theoretical grounds and HSDR could influence service delivery decisions which have substantial health and cost implications, we carried out a multi-method research to collect empirical evidence on this issue.

Methods: Funded by the NIHR HS&DR Programme, our project included five components: (1) a systematic review of methodological and empirical literature; (2) a survey of 200 systematic reviews (of which 100 focused on intervention effectiveness and 100 explored associations between different variables in health service delivery) to explore current practices concerning examination of publication and outcome reporting biases; (3) five case studies to assess the applicability of statistical methods for detecting these biases in HSDR; (4) follow-up of three cohorts of HSDR studies to explore whether their publication status was associated with statistical significance or perceived positivity of the findings; (5) key informant interviews with health services researchers, systematic reviewers, journal editors, research funders and service managers and a focus group discussion with service users.

Results: Our systematic review identified only four methodological studies investigating publication bias in HSDR, three of which focused on health informatics research. All found some evidence of publication bias but all had methodological weaknesses in terms of adopted approaches to verifying publication bias and representativeness of study samples. Three systematic reviews of substantive HSDR topics compared findings from published literature with those reported in grey literature or unpublished studies, and found that they sometimes, but not always, differ significantly in the estimated intervention effectiveness or strength of association. The volume, quality and nature of information and coverage in terms of geographical location and timeliness was also found to be different in some instances. The survey of HSDR systematic reviews found a low prevalence of examining these biases, particularly for outcome reporting bias among reviews of associations. Case studies highlight important limitations in current statistical methods for detecting publication and outcome reporting biases. The follow-up of cohorts of HSDR studies did not identify an association between statistical significance of findings or perceived positivity and publication status. Key informant interviews uncovered diverse perceptions about the presence of these biases among stakeholders, and identified features of HSDR that might have contributed to or mitigated their occurrence and impact.

Implication: Publication and outcome reporting biases can and do exist in HSDR. However, there is a paucity of systematic investigation of their prevalence and impact. Our initial findings suggest that the diversity of methodological approaches and heterogeneous nature of HSDR pose particular challenges for detecting and preventing these biases, but these features of HSDR might to some extent also mitigate their occurrence and impact. Further consideration and debate on broader issues concerning limited use of research evidence in health service decision making, the ambiguous boundary between practice improvement and research, and requirement for compulsory research registration and reporting are required to ensure that service delivery decisions are supported by unbiased evidence.

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Decision-making in systematic reviews: exploring evidence synthesis as a social process

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Background: The design and conduct of systematic reviews is determined by adherence to a pre-specified protocol and supported by reporting guidelines such as PRISMA (CRD, 2009) and the ENTREQ statement (Tong, 2012). This enables the transparent, rigorous methods required to evaluate a target body of literature and is intended to ensure the review process can be replicated and confidence placed in the findings. However, when faced with unanticipated challenges that arise during the course of the review, particularly in the context of making sense of complex, multi-component interventions, it can be necessary to re-visit the protocol in order to retain the initial focus of the project. Decisions made whilst overcoming such challenges are crucial to producing relevant and useable findings. We reflect on the narrative behind a recent systematic review which evaluated the effectiveness and cost-effectiveness of multi-component organisational interventions at reducing the length of stay (LOS) of older adults admitted to hospital for planned procedures.

Method: We met weekly throughout the eleven month project. These regular meetings provided the opportunity to discuss and resolve challenges as they arose. Furthermore, we drew upon the experience and knowledge of clinical and patient stakeholders on multiple occasions. This combination of academic, clinical and patient knowledge was necessary to ensure that we could make best use of the available evidence in order to produce relevant and useable findings within a reasonable time-frame. Each decision influencing the direction of the review, and the rationale behind it, was documented. Changes and/ or additions to the protocol were clearly recorded and the PROSPERO record updated. After submitting the review, we reflected upon the key decisions which shaped the final report.

Results:

We encountered two key challenges:

- How to define interventions which aimed to reduce LOS for older adults admitted to hospital for planned procedures.
- How to synthesise a large body of complex evidence within an acceptable timeframe whilst delivering a useful product for service managers, the NHS and policy makers.

Decision 1: To seek studies explicitly stating an aim to reduce LOS or look for those which could be expected to have an effect on LOS, regardless of stated aims?

We opted for the latter approach, drawing on our scoping which suggested that clearly stated aims were often lacking, and improved recovery and reduced LOS were often closely linked objectives of included interventions. On reflection, we felt that this was the correct decision as it led to the identification and inclusion of more relevant evidence, despite significantly increasing the duration and burden of screening.

Decision 2: To restrict eligible study designs to RCTs or include any comparative study design?

Our scoping identified relatively few RCTs of interest and a number of non-RCTs, particularly uncontrolled before-and-after designs. We therefore, decided to include any comparative study design, for fear of missing large portions of the relevant evidence. As with Decision 1, this improved the relevance of our review, but significantly increased workload. We eventually included 218 articles, across a range of surgical specialties, evaluating a variety of multi-component interventions.

Decision 3: To include all eligible studies in the full synthesis or to prioritise the most robust and relevant evidence?

Having widened the eligibility criteria to capture a greater volume of relevant evidence, we were then unable to include all identified studies in the full synthesis within the time and resources available. We therefore decided to prioritise two batches of studies: 1) RCTs, representing the most robust 'effectiveness' evidence internationally and 2) UK-based studies of any comparative design, representing the most relevant evidence for the commissioning body.

Decision 4: To conduct a single synthesis incorporating all evidence or to analyse evidence from the UK separately?

We agreed the literature from the UK should be analysed separately from studies conducted in other healthcare systems. Whilst it was not possible to incorporate data from non-RCTs conducted outside of the UK into our analysis, this decision meant that we were able to focus on both the best-quality evidence **and** the evidence most relevant to the health system in the UK.

Decision 5: To group evidence by type of procedure? Or type of intervention? Or intervention component?

Following consultation with our stakeholders, we grouped studies by the type of procedure and then, by the type of intervention enabling practitioners and commissioners to consider the efficacy of interventions relevant to specific types of procedure.

Implications

Our methods represent a pragmatic response that was necessary to address the aims of the review within the timeframe available. It is important to acknowledge that evidence synthesis in complex policy and service areas often involves post-hoc decisions that impact on the selection of eligible evidence and the analysis and presentation of findings. Transparency and rigour in justifying, conducting and reporting protocol amendments should be a standard feature of systematic review reporting.

VICTOR (Visible ImpaCT Of Research) a tool for NHS organisations. Uncovering the impacts of undertaking research in the NHS.

Judith Holliday, Jo Cooke, Natalie Jones
NIHR CLAHRC YH

Background: There continues to be a strong drive to grow health research activity in the NHS and across the healthcare system. It is an integral part of the NHS constitution (UK Gov., 2015) which supports the patient's right to access research; by its commitment to innovation, and the promotion, conduct, and use of research to improve the current and future health and care of the population. Alongside contributing to the knowledge base and giving access to treatments that ordinarily would not be available to patients, there is evidence that research activity can influence the process of care and have an impact on the organisation hosting the research. The RAND published report on Enabling NHS Staff to Engage in Research (2018) noted that there are potential benefits of undertaking research which include an impact on the quality and relevance of research studies, on attracting research funding for important healthcare issues, and the opportunity to influence clinical practice however evidence on the impact of engaging NHS staff in research is relatively scarce. Academics have described this as a 'bi-product' of research (Boaz et al., 2015), however such outcomes are wholly relevant and impactful for NHS organisations, but are often not recognised nor acknowledged by them.

Method: VICTOR was developed through a series of iterations and prototyping with a community of practice of 12 NHS organisations in Yorkshire and the Humber, in partnership with CLAHRC YH and YH CRN. VICTOR includes both a tool and method for uncovering the impact of conducting research within each organisation. The tool is used to capture data around a project or a programme of research, and includes six domains of impact on NHS organisations: Service and workforce, participant health, research capacity, knowledge, networks and influence. The process includes collecting information from a range of stakeholders including practitioners, researchers, support staff and research participants and their families. VICTOR was tested out across 12 NHS organisations: three teaching hospitals; five mental health trusts; and four acute trusts. 24 cases studies were collected as part using VICTOR.

Results: The case studies highlighted a range of impacts across all domains. In particular they showed the difference that conducting research can make in developing the clinical and research skills of staff involved in research and the workforce. Service changes have been implemented following involvement in research activity, including better working practices between departments and sectors, and patients have enjoyed better access to care, improvements in the quality of care and health outcomes. The voices of research participants were important in recognising hidden benefits of conducting research to themselves and their families. Fewer examples were uncovered around cost savings in care.

Implications: VICTOR is a tool that can be used by NHS organisations to capture the impact of the research activity being undertaken. The outputs can be shared to raise the profile of the benefits of taking part in research activity as well as providing information about where impact makes a difference in NHS organisations. The outputs from VICTOR can provide examples for CQC requirements, to case studies for the CRN. They may also contribute to the REF for academic collaborators by demonstrating attribution of benefit. In addition, VICTOR can operate as an actionable tool to help organisation plan, capture and share the impact of conducting research.

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P1.6 Transitions in Care Abstract Session

02/07/2019
11:35-12:50

Content Analysis of Patient Safety Incident Reports for Older Adult Patient Transfers, Handovers and Discharges: Do they Serve Organisations, Staff or Patients?

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Background: Analyses of incident reports have focused on single incident classifications, clinical areas or patient outcomes. There are few analyses of incident reports relating specifically to patient transitions. Our aim was to analyse the content of patient safety incident reports of events during transitions in the context of care of older people, cardiology, orthopaedics and stroke. Specifically, our objective was to identify issues within transitions and theoretical constructs of safety models (active failures and latent conditions) that could inform changes to practice. Issues included individual and organisational learning, the degree of patient and family member involvement, and the extent that reported harm was congruent with established reporting criteria for categorisation of harm.

Method: A structured search strategy identified incident reports involving patient transitions, defined as movement of a patient from one location to another, which also included patient self-discharge. Incident reports were obtained covering the periods March 2014 – August 2014 and January 2015 – June 2015) within two National Health Service Hospital Trusts in England in care of older people, cardiology, orthopaedics and stroke wards. A data extraction form and accompanying coding manual were developed to enhance the reliability of the data extraction and analysis process. Content analysis identified: incident classifications; active failures; latent conditions; patients'/relatives' involvement; and evidence of individual or organisational learning. Reported harm was interpreted with reference to the English National Reporting and Learning System criteria: no harm, low harm, moderate harm, severe harm and death. The final section of the data extraction form invited the coder to provide reflections on the incident.

Results: 278 incident reports were analysed: care of older people (37%); cardiology (24%); orthopaedics (23%); and stroke (16%). Half of all incident reports were inter-unit/department/team transfers (n=139, 50%), followed by (in descending frequency) out of hospital; intra-unit/department/team; and hospital to hospital. Fourteen incident classifications were identified across the dataset. A pressure ulcer was the dominant incident classification across all four clinical areas, followed by medication (care of older people and cardiology), documentation (orthopaedics) and falls (stroke). Incidents related to medication had the greatest number of unique active failures (n=11; 4%). Latent conditions were explicit in 33 (12%) reports; most frequently these involved inadequate resources/staff and concomitant time pressures (n=13). Patient/family involvement was explicit in 22% of reports. Patient well-being was identified in 9% of reports. Individual and organisational learning was evident in 3% and 7% of reports respectively, with only one report containing evidence of double-loop learning. There was a statistically significant difference ($p < 0.0001$) between levels of reported harm and coder interpreted harm, with over-reporting of no harm, and under-reporting of low and moderate harm. Overall, 116/278 (42%) cases of reported harm were re-graded by the coder, with 114/116 (98%) up-graded. Content analysis of coder reflections on incident reports identified eight mutually exclusive categories: (1) poor presentation of incident reports (such as use of non-standard / local acronyms and poor grammar/spelling obfuscated their interpretation); (2) the need to apply a parity of esteem to psychological and physical harm; (3) attribution of blame to other teams/units, or to patient characteristics or behaviour (for example 'patients' legs giving way' with no reference to contributory factors); (4) negative affirmations on grade of harm (in particular no harm); (5) potential value of seeking the patient's or family member's view on the incident; (6) a need to follow-up with other staff to obtain important information on active failures and contributory factors; (7) difficulty in establishing the precise nature of the active failure(s); and (8) patient self-transition as a preference-values based decision as opposed to patient recalcitrance implied by 'patient self-discharged against medical advice'.

Implications: Incident reports related to patient transitions were primarily used as a defence mechanism to apportion blame to other teams or units, or even to patients. The quality of patient transition incident reports was sub-optimal for individual and organisational learning. There is a need to improve the process of incident reporting to reduce cultural barriers, and to improve the quality of incident reports. For incidents relating to transitions, a co-produced incident report between the sending and receiving team, including the patient and/or relatives, may improve capacity for learning.

02/07/2019

11:35-12:50

Improving Hospital Discharge Arrangements for People who are Homeless: Findings from a Realist Evaluation

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Background: In England, 70% of people who were homeless on admission to hospital were discharged back to the street without having their care and support needs addressed (Department of Health, 2013). Furthermore, they experienced high hospital readmission rates and often resorted to inappropriate use of the Emergency Department. Following these data, Department of Health and Social Care (DHSC) funding was provided to enable hospitals to work with local partners to develop specialist integrated homeless hospital discharge schemes, including intermediate or step-up/step-down care. In this paper we report preliminary findings from a realist evaluation which explored the effectiveness of the different schemes established (n=52). Schemes took many different formats, and tended to be either uniprofessional, comprising housing workers, or multi-professional, comprising: GPs; occupational therapists; nurses; social workers; housing workers; and peer navigators.

Methods: The study was carried out in England between September 2015 and March 2019. It was funded by the National Institute of Health Research (NIHR). It employs a realist evaluation methodology, comparing sites with specialist integrated care (n=4) to those with standard care (n=2). Realist evaluation is designed to explore the relationship between the local context, the mechanisms and resources deployed and the outcomes. The overall aim is to generate hypotheses about 'what works for whom, in what circumstances and why'. Across the six study sites in-depth observational fieldwork was undertaken. This encompassed interviews with 77 practitioners and stakeholders, and 7- people who were homeless on admission to hospital. People who were homeless were interviewed shortly after discharge and again three months later. An economic evaluation and 'data linkage' (covering 61,492 episodes of care across a total of 17 NHS sites) were also undertaken to interrogate the emerging realist hypotheses.

Preliminary Results: Findings indicate that improving hospital discharge arrangements for people who are homeless requires action on many different fronts to weave together a range of potentially effective 'Mechanism-Resources [R-Ms]'. These include clear protocols for the discharge of people who are homeless (including implementation of the 'duty to refer' embodied in the Homeless Reduction Act, 2017), specialist discharge co-ordination roles and intermediate care. We will present a 'conceptual road map' or 'checklist' to show how these M-Rs can be configured in different local systems of care, from smaller towns and cities serving rural areas to inner-city areas with high numbers of people sleeping rough. We will also explore how 'context' impacts on outcomes such as delayed transfers of care (DTOCs) and patient safety. We will pinpoint a number of key attributes of highly effective systems, including the role of integration as the glue that binds the different system components. Finally, we show how our initial realist hypothesis was challenged as the qualitative data was triangulated through economic evaluation findings and 'data linkage'. The main limitations of the research are that it is geographically specific to England, and not all Homeless Hospital Discharge Schemes were covered in the study. Implications: The main implications of the research are captured in a 'checklist' that is designed to be used by commissioners and clinical leaders to design robust and effective pathways that deliver consistently safe, timely transfers of care for people who are homeless. In terms of broader learning it is acknowledged that, 'If the NHS can work well for homeless people, then it will certainly work well for the rest of us' (Hewett, Halligan and Boyce 2012, p3).

Key Words: Homelessness, Hospital Discharge, Delayed Transfers of Care, Integration, Realist Evaluation

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DISCLAIMER: This paper presents independent research funded by the National Institute for Health Research (NIHR). The views expressed are those of the author(s) and not necessarily those of the NHS, the NIHR or the Department of Health.

Developing a core set of outcomes for research into mental health discharge interventions

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Background: Discharge from an acute mental health ward is considered as a time which could either increase or decrease the likelihood of patient safety incidents occurring. Around 10% of incidents reported on the NHS National Reporting and Learning system happen at the time of care transition. Researchers globally have developed and tested unique and innovative interventions that aim to improve this particularly challenging period of the care pathway. However, the outcomes reported in international research are heterogeneous, making it difficult to directly compare the effectiveness of these interventions, as they each report different things. Research in other service areas has sought homogeneity by developing core outcome sets. This is a set of outcomes that are agreed upon by all stakeholders (researchers, health professionals, policy makers, healthcare management) and most importantly service users and carers.

Method: We conducted a systematic review of literature to determine interventions to support mental health discharge, extracting information about the methods, intervention, results, and outcomes measured. We searched PsycInfo, MEDLINE, EMBASE, HMIC, CINAHL, IBSS, Cochrane Library and Scopus. Synonyms around discharge, interventions and mental health were searched. Databases were searched from 2000 onwards, no exclusions were made based on location. Through extraction a preliminary set of outcomes were identified and thematically summarised. We then developed an online panel of international experts that included mental health researchers, mental health professionals, past service users, family members and carers of service users and end-users of research (policy makers, commissioners etc.). Panel members were first asked open ended questions about what they consider important outcomes to measure in future research. This reported data, and the data from the review, were synthesised into distinct outcome categories. We presented these outcomes back to the stakeholders group, employing a Delphi method to reach consensus about which were 'core' and therefore important to measure in all future research.

Results: We found 1599 unique papers, 173 full texts were assessed for eligibility. Sixty unique papers were included in the review; which measured 70 different outcomes. The most frequent outcomes reported included readmission, symptoms of mental health and treatment/appointment adherence. Qualitative responses were received from 113 participants, 20 were removed as they did not meet quality criteria. The participants were split relatively evenly between the stakeholder groups: service user and family members (28%), mental health professionals (27%), researchers (26%), end-users of research/other (18%), many participants were associated with multiple groups. The qualitative responses were largely in line with the outcomes extracted from the review, however new outcome themes emerged that were not reported in the literature, including, staff understanding of safe and effective discharge, anxiety about/readiness for discharge and service availability at discharge.

Implications: This research outlines the heterogeneity in current outcome reporting in mental health discharge interventions and therefore evidence generation and advancement in this under-researched field is more difficult. As the process has included multiple stakeholders and is driven from both the evidence base and the expert knowledge, we expect considerable levels of buy-in for future research. We anticipate that as more researchers chose to use the core outcome set in research going forward, direct comparisons of innovative global discharge interventions would be possible. Meaning quicker advancement in the field and ultimately, an improvement in service-user safety, outcomes and satisfaction globally. The core outcome set provides a set of standardised outcomes that, if reported in future research would provide a direct comparison of mental health discharge interventions. The core outcome set does not aim to replace any researchers chosen outcomes, but to provide a set of outcomes to be reported as a minimum. There is a disparity between outcomes suggested by stakeholders in the qualitative work and those used in past research, research may be failing to consider a) outcomes that allow for patient safety improvements and b) outcomes that are most important to service users, families and carers and staff. The most commonly reported outcome in past research is readmission, whilst this is important in providing an objective, somewhat comparable quantification of complex situations, current research may be failing to report on outcomes that matter to service-users, such as readiness to leave, shared decision making and effective discharge planning.

P2.1 Quality of Care Abstract Session

02/07/2019 15:45-17:00

Process evaluation of the Perioperative Quality Improvement Programme (PQIP): can a national programme support the use of data for local quality improvement?

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Background: There is increasing hope that data from National Clinical Audits (NCAs) could be used for supporting local quality improvement (QI).¹ However, using Audit & Feedback (A&F) effectively for improvement remains difficult. Barriers include the collection, analysis and feedback of data, as well as the capability, capacity, or motivation of local teams expected to use them for improvement.² Examining impacts of feedback programmes using aggregated data may miss the nuances of local contexts which influence their success.³ The Perioperative Quality Improvement Programme (PQIP) was launched in 2016 to measure complications after major elective surgery and improve these through feedback of data to local teams. PQIP is led by the Royal College of Anaesthetists (RCoA) with backing from other multidisciplinary professional bodies. The perioperative setting extends from the time of contemplation of surgery through the operative period to full recovery. Much current emphasis is focused on reducing the burden of perioperative complications. Improving perioperative care is particularly challenging because of the complex multidisciplinary interactions involved in surgical pathways. This study aims to carry out a formative process evaluation of PQIP by focussing on programme theories and impact(s) as interpreted by both implementers and users.

Methods: A baseline wave of qualitative data has been collected from the central PQIP Project Team, comprising six interviews (with the Lead, RCoA staff, consultant anaesthetists and PQIP Fellows), observations at monthly Project Team meetings and analysis of relevant documents. Baseline data has also been collected from two NHS Trusts participating in PQIP with contrasting sizes, locations and teaching status. 31 Interviewees were sampled to represent a vertical slice of clinical and non-clinical staff involved in perioperative care of patients having lower gastrointestinal surgery (participating in PQIP) and/or orthopaedic surgery (not in PQIP). Relevant documents have been collected and fourteen observations and were conducted at fora where perioperative data and/or QI were discussed. Going forward, a follow-up wave of data collection in early 2019 will explore any changes to perceptions of the Programme Theory, and data will be collected in three other NHS Trusts participating in PQIP, and one not, in order to further test how varying local contexts implement PQIP. Team-based framework analysis is ongoing using codes identified from relevant literature and those emerging inductively from the data. Three members of our research team are also members of the central PQIP Project Team and so are actively reflecting on how their positionality is affecting data collection and/or analysis. Interim updates are being regularly reported to the Project Team and to NHS sites after each wave of data collection. Approvals were obtained from the University College London Research Ethics Committee and the Health Research Authority.

Results: A baseline Programme Theory has been discussed with the PQIP Project Team and subsequently updated. Early findings suggest a lack of local access to useful data and limited capacity of over-stretched clinical staff to perform QI. The multidisciplinary nature of perioperative care distributes responsibility for data and QI amongst multiple clinical and managerial teams. Central and local teams agree over the following PQIP mechanisms to facilitate local QI: the provision of multimodal, frequent and timely feedback; engagement of multidisciplinary clinical and managerial teams; making data locally accessible and customizable; and sharing examples of best practice between Trusts. There is local variation as to whether PQIP feedback should be kept confidential or made public. Adjustments to PQIP following formative feedback include: appointment of surgical members of the Project Team; emphasis on the link between complications and length of stay; and preparation of better patient-facing communication.

Implications: This study will add further insights into the effects of contextual influences on the local effectiveness of a national Audit & Feedback programme. Examples of these influences we have already identified at the micro level (individuals, teams or departments) include the degree to which clinicians have adequate time and managerial support clearly affects whether/how engage in QI. At the meso level (hospitals or Trusts), our data suggest that accessible data and coherent QI strategies are supportive. At the macro level, synergies with other national initiatives such as financial incentives or quality assurance by the CQC appears to increase engagement with QI. Differing engagement between clinical groups might be explained by their previous familiarity with national data programmes. We plan to further elucidate these factors, and PQIP's interactions with them, to further understanding of how/whether quality information can be translated into effective organisational improvements.

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How can ethnography contribute to healthcare improvement? Lessons from a scoping review

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Background: The current NHS funding crisis has created a mandate for healthcare research that provides evidence of how to overcome barriers to the implementation of effective, cost-saving interventions (Tatsioni and Lionis 2016). Advances in ethnographic methods support its use in health services research for improvement. Multi-site and collaborative modalities of ethnography have evolved that suit the networked nature of modern healthcare (Marcus 1995). Similarly, rapid ethnographic approaches (e.g. Vindrola-Padros and Vindrola-Padros 2018) meet the needs of improvement activities to produce findings within short timeframes (Dixon-Woods and Martin 2016) in consort with the current academic frame of impact (Baim-Lance and Vindrola-Padros 2015). Ethnographic methods are increasing in health services research, and have produced generalisable, influential results (e.g. Dixon-Woods 2010). However, some authors have debated whether use of ethnographic methods have yet been optimally conceptualised for research for improvement (Leslie, Paradis et al. 2014). Critics question whether the subject(s) of ethnographic inquiry produce useful findings for improvement (Baim-Lance and Vindrola-Padros 2015, Waring, Allen et al. 2016, Waring and Jones 2016), or if the ethnographer themselves should be making recommendations for improvement at all (Latour 2004, Zuiderent-Jerak, Strating et al. 2009, Kitto, Sargeant et al. 2012, Leslie, Paradis et al. 2014).

Aim: To 'map' and understand the emerging field of ethnographic research for healthcare improvement, clarify methodological debates in this area and present exemplars of effective methodological strategies.

Methods: Scoping review following the methods outlined by Arksey & O'Malley and later refined by Levac et al. (Arksey and O'Malley 2005, Levac, Colquhoun et al. 2010), including the following phases:

- Phase I: survey of literature to gather review and discussion papers on the subject and produce a summary of the debates in ethnography to help structure the systematic review - 27 papers identified
- Phase II: systematic search of the databases Medline, Embase, CINAHL and PsychINFO for papers using ethnography in healthcare improvement - 257 papers identified
- Phase III: numerical charting
- Phase VI: thematic analysis, synthesis, and discussion
- Phase V: exemplar identification

Results:

The synthesis resulted in three main 'modes' of ethnography in relation to healthcare improvement.

1. Indirect improvement through exploration of theoretical phenomena within healthcare settings (e.g. ordering, masculine discourse, adaptive expertise, compassion), with or without generating explicit recommendations; improvements may derive from shifts in perspective or observed barriers to quality. E.g. Hales et al. (2016) recommended that healthcare institutions address the stigma surrounding obesity as a means to improve inequalities in healthcare outcomes.
2. Indirect improvement of practice by researching everyday clinical or organisational practices, and/or wider social factors (e.g. nursing culture, interprofessional practice). Outputs can include frameworks or logic models for intervention success, guidance. E.g. Patton et al. (2018) studied medication reviews in community practice and discovered that health policy should adopt a more nuanced view of this practice that takes into account complex expectations by pharmacy, provider and client.
3. Direct improvement through ethnography alone or in mixed methods studies to evaluate new interventions, sometimes including politics, power and social theory in the field of inquiry. E.g. Armstrong et al. (2018) investigated the NHS Safety Thermometer and found that the programme theory was not enough to replace cultures of blame with neutral accountability.

The studies in the review displayed two particular qualities of ethnography which give it unique power to make meaningful improvements in healthcare in relation to other methodologies:

1. Supporting a more ethical, expansive, inclusive, and participatory mode of healthcare. For example, a study of nursing workforce suggested that senior nurse leaders should use their positions to advocate for better working conditions (Batch and Windsor 2015). These types of studies challenge traditional cultural assumptions that are invisible to other methods of inquiry, and restrict improvement in health services.
2. Unsettling the taken-for-granted making room for alternatives, removing the 'blinkers' of improvement research (Cribb 2018). This can 'dissolve' previously intractable implementation problems. E.g. Zuiderent-Jerak et al. (2009) examined the effectiveness of quality collaboratives, but concluded that their outcome

measures were reported according to social desirability and organisational drivers, so measured 'effectiveness' was irrelevant.

Findings on the tensions of ethnography in healthcare improvement:

Tensions remain, particularly on the continuum of critical to collaborative engagement. Many articles were uncritical and descriptive in their findings, whereas others explicitly avoided making recommendations in their outputs, avoiding the role of 'change agent'. Methodological difficulties were also noted such as the use of practitioner researchers which improves access to the field, but has limited critical distance. Other authors felt unable to complete fieldwork and analysis within a useful timeframe.

Implications: Ethnographic researchers can maximise their impact by reporting perspective-shifting conclusions and highlighting findings that point to opportunities for healthcare improvement. Practitioners should look to research teams to help disrupt the taken-for-granted nature of healthcare problems, and support more inclusive and expansive approaches.

02/07/2019
15:45-17:00

Problems with composite indicators of healthcare quality and safety

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Background: Combining individual quality measures into composite indicators is now a widespread practice. Here, we explore problems with current practice to inform strategies for improvement.

Method: We assessed a purposive sample of twelve current UK and US composite indicators of healthcare quality which

- Were produced by governmental bodies, non-profit organisations, and commercial organisations
- Were aimed at a range of end-users (eg. commissioners, the general public)
- Had various scopes, some aiming to give an overview of entire organisations and others assessing very specific clinical areas.

We searched the academic literature for critiques of these indicators, and explored previous discussions of composite indicators in healthcare, for example from the first wave of national performance measures for the NHS in the UK in the late 1990s and early 2000s. We reviewed the presentation and published methodology of each indicator in detail across to identify issues affecting the design and reporting of composite indicators.

Results: Six dimensions covered common issues with the design and reporting of composite indicators:

1. Transparency
2. Choice of individual measures
3. Design of individual measures (handling of missing data, use of case-mix adjustment etc.)
4. Standardisation of individual measures
5. Weighting of individual measures to combine into the composite
6. Uncertainty of composite measure ratings

Each of the indicators we reviewed had issues on at least one of these dimensions.

The core problem across all dimensions was lack of transparency in reporting. The technical details of some indicators were not reported, making it impossible to assess their design. Even where technical details were reported, the reasons for the design choices were frequently not discussed. It was often unclear who had been involved in the decision-making process.

The methodological approaches used in producing composite indicators were often flawed. For example, a composite might rate hospitals on a variety of clinical services including cardiac surgery, but a substantial proportion of hospitals do not provide cardiac surgery. Naïve handling of this missing data leads to different hospitals being rated on different baskets of measures. Organisations with identical performance on the measures they had in common might therefore end up with different ratings on the final composite indicator.

The standardisation and combination of individual measures was another problem area. Approaches to standardising performance typically ignored the real-world meaning of component measures. Some schemes used categorical bands to standardise measures, an approach that is known to introduce unnecessary instability to performance measures as well as distorting performance comparisons. Often, there was no explicit theoretical justification of the weights used in combining measures. It was rare for schemes to assess the impact of the choice of weights.

The presentation of most of the composite indicators we reviewed failed to describe the statistical uncertainty in their scores or rankings. It was impossible to understand whether differences in score on these indicators were real and deserving of concern, or were simply statistical noise.

Implications: Approaches used to design composite indicators in current use vary widely, yet each of the composite indicators we reviewed had at least one potential issue. The design and reporting of composite indicators needs to improve so users may be confident that composite ratings are meaningful and relevant. Some of the challenges in the design of indicators require further methodological research to address. Choice of individual indicators is a further complex area, where both data-driven approaches (such as factor analysis) and formal consensus methods might help. It is not clear how to approach situations where, for example, performance measures for a specific service are missing for a hospital because it does not provide that service. Describing uncertainty in composite ratings requires an assessment of the uncertainty in the standardisation and combination of individual measures as well as the final score. Research is also needed into the best way of presenting uncertainty in 'star ratings' or labels such as 'requires improvement' for different audiences. Improving the transparency of reporting of indicators is more straightforward. We propose the six dimensions we identify in this paper as an initial guide to help support the methodological

reporting of composite indicators in enough detail to allow quality assurance. Comprehensive reporting guidelines require additional empirical work, and we intend to carry out a consensus study among a wider group of experts to develop CONSORT-style reporting guidelines.

The implementation and impact of 'continuity of midwifery care' on women at higher risk of preterm birth

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The implementation and impact of 'continuity of midwifery care' on women at higher risk of preterm birth

Background: Increasing continuity of midwife care has been identified as a key priority for maternity services in the UK in the NHS 10 year plan. A Cochrane review found that women who receive care by one named midwife or a small group of midwives throughout pregnancy, birth and postnatal periods are 24% less likely to experience a preterm birth, and 19% less likely to experience fetal loss before 24 weeks gestation. Women were more likely to have better maternal and infant outcomes, and more positive experiences of care (Sandall et al 2016). This is particularly important considering increasing rates of preterm births worldwide and their adverse infant outcomes in terms of survival, quality of life, psycho-social impact on the family and costs to society.

There is potential to focus the use of a continuity of care model on women with social and medical risk factors, but there needs to be further evidence generated to support this approach. The core organisational and delivery elements of implementing the model need to be defined and adapted to meet the needs of this population of women and the midwifery workforce. There is a need for research on quality of care, women's experiences of care and psycho-social influences to provide insight into the mechanisms of action on maternal physical, psycho-social, neonatal health. The POPPIE trial (ISRCTN37733900) aimed to implement and test the impact of a wraparound care pathway which combined midwife continuity of care with rapid referral to a specialist obstetric clinic as identified in the saving babies lives care bundle throughout pregnancy through to the postpartum period for women who are at higher risk of preterm birth.

Methods: A two arm non-blinded randomised pilot trial of x pregnant women at risk of preterm birth over x months. Primary outcome: initiation of interventions related to the prevention and/or management of preterm labour and birth. Secondary outcomes: maternal and neonatal, outcomes, women's experiences of care. A process evaluation of the intervention implementation was carried out to understand variations in the impact of the intervention and to contextualise findings. Implementation outcomes: fidelity, staff acceptability, organisational impact, resource use, and mechanisms of effect.

Results: We present main findings and implementation outcome findings. We describe logistical issues around developing collaborative complex organisational interventions in the current NHS context, and how we are exploring potential theories of mechanisms of action, and the methodological design measurement issues involved. This includes key factors in the development and implementation of the POPPIE team. Including collaboration with key stakeholders and PPI groups, co-design of model and trial, use of logic model to conceptualise structure, process, outcomes and hypothesised mechanism of effect and discussion of implementation strategies and measures.

Implications: This project allowed us to reflect and evaluate the feasibility, outcomes and quality of implementation of a midwifery continuity of care model which is currently challenging the NHS. It helps us to understand mechanisms of impact on maternal physical, psychosocial, neonatal health, and women's experiences of care, quality of care and resource use. There is a keenness use this model of care for women with complex medical and social risk factors. However, there is a paucity of evidence for the most effective model of care for these groups of women accessing services from multi-disciplinary teams. We will discuss the issues in translating findings from the POPPIE trial to this new population of women. In terms of core elements of the model and what may need to be adapted to meet the needs of this population of women.

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P2.2 Workforce 2 Staffing & Changing Roles Abstract Session

02/07/2019
15:45-17:00

Clinical pharmacists in general practice: negotiating the role and balancing needs

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Background: Pharmacists have worked in general practices for over a decade providing a variety of medicines management related functions.¹ Initially, these roles tended to be non-patient-facing, conducting prescribing audits and providing medicines information to clinicians, for example. More recently, the role has expanded in scope, with greater focus on medicines optimisation and patient-centred care, as well as in scale, as a result of the introduction of a number of national and local initiatives. The potential for the general practice pharmacist's role is wide and varied, but lack of role definition has been identified as an issue, along with concerns about inappropriate utilisation.^{2,3} This paper examines the experiences of practice pharmacists, GPs and other stakeholders as they attempt to negotiate and define the practice pharmacist role under two different workforce initiatives and employment models – 1) NHS England's (NHSE) clinical pharmacists in general practice scheme, which provided practices with funding to directly employ pharmacists and 2) a local Clinical Commissioning Group (CCG)-funded scheme which organised pharmacists into neighbourhood teams, employed by a separate provider organisation, to deliver sessional work to general practices.

Methods: This paper draws on qualitative interview data (n=41) from two discrete studies: 1) an evaluation of the Phase 1 (pilot) national training programme for the NHSE clinical pharmacists in general practice scheme, which included Phase 1 pharmacists (n=13) and GP clinical supervisors (n=12), and, 2) a process evaluation of the introduction of 'new' non-medical role initiatives in Greater Manchester, which including Neighbourhood scheme pharmacists (n=4), directly employed practice pharmacists (n=2), practice managers (n=4), GPs (n=3) and service leads (n=3). For both studies sampling was purposive to ensure maximum variation. Interviews were audio-recorded, transcribed verbatim, organised in NVivo 11 and analysed thematically using Template Analysis.

Results: Defining the role, planning work and balancing different needs and priorities was viewed as challenging by stakeholders in both schemes. NHSE scheme GP clinical supervisors described defining the role and planning the pharmacist's work as a difficult process, involving trial and error and re-negotiation; several were surprised by the limited guidance and support available for this process. Some GPs were clear that the greatest need within their practices, that the pharmacist could fill, related to clinical administration (e.g. medication queries and prescription processing). They found themselves torn between the decision to assign the pharmacist this type of work, which would relieve their own workload, or to provide the pharmacist with less mundane, more professionally satisfying and role developing activities, such as patient-facing care. NHSE scheme pharmacists also described being 'pulled in two directions', wanting to be adaptable to their practice's needs and relieve GP workload, but also conscious that they 'should' be patient-facing in line with NHSE's vision for the role and their educational pathway requirements. Some pharmacists expressed concern that a failure to balance these expectations might result in termination of employment. Parallels were seen in the local neighbourhood pharmacist scheme. These pharmacists described the pressure they felt trying to meet three different agendas – the provider organisation's (standardise and improve quality of care), the local CCG's (reduce cost) and the general practice's (ease workload). Balancing these agendas needed to be handled 'sensitively', showing willingness to the practice in order to embed themselves whilst also still working to the aims of the service. Unlike the directly employed pharmacist model, GPs and practice managers hosting the neighbourhood pharmacists described a feeling of detachment from the service; some expressed frustration over the rigidity of the service and the lack of control or influence they had over the direction of the pharmacist's work.

Implications: In light of the recent increase in new role initiatives in primary care, these findings have implications for those involved in workforce re-design. They highlight the importance of needs assessments being conducted prior to workforce re-design to ensure that the skills of the new professional are an appropriate fit for these gaps, to prevent inappropriate utilisation. These findings also reveal the inherent tension between the dual aims of many workforce re-design initiatives to improve and standardise the quality of care as well as address GP workforce shortages. With regard to pharmacists working in general practice, whilst there is clearly a case for greater role definition and further guidance for general practices planning their work, these findings do demonstrate that flexibility and adaptability is highly valued by practice staff and could be fundamental to the longevity of the role.

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02/07/2019
15:45-17:00

Changing skill mix in primary care: an analysis of the employment of a wider range of practitioners in GP practices.

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Background: Increased pressure on GP practices caused by a combination of increasing workloads (Hobbs et al., 2016) and difficulties with clinician recruitment (Lambert et al., 2017, Lane, 2014) have contributed to development of a mitigating strategy involving the introduction of wider practitioner diversity in the GP workforce. Proposed in General Practice Forward View (2014) and confirmed with publication of the NHS Long Term Plan (2019) processes are now in place to train and recruit additional practitioners for direct patient care; including pharmacists, advanced practitioners, paramedics and physician associates. Citing the success of the GP Access Fund scheme, General Practice Forward View published ambitious plans for workforce expansion which were to be achieved by two routes; recruitment of an additional 5000 doctors in GP workforce and at least 5000 other staff working in general practice by 2020. Plans included the addition of 3000 mental health therapists, 1500 (additional) clinical pharmacists, 1000 PAs, alongside setting up multi-disciplinary training hubs to support the development of a wider workforce. Although the concept of health care delivery using skill mix employment is well recognised, until now, it has not been feasible to formally evaluate the extent or patterns of skill mix change within GP practices. This paper will report findings from our analysis of the most comprehensive national data about practitioner employment, to establish baseline levels of employment of different practitioner types and to identify early trends of the scale and location of reported skill mix.

Method: Workforce data is currently reported quarterly to NHS Digital by individual GP Practice managers. As employment patterns have begun to change, the number of roles or practitioner types that can be reported has altered with time. Details now include the headcount (HC) and workforce participation (FTE) details of a wide range of practitioner types. National GP practice-level data for England has been extracted from successive data sets produced by NHS Digital. The datasets support analysis of HC and FTE of the employment of selected practitioner types at national, regional and CCG levels. Deeper analyses facilitate identification of patterns of practitioner employment and workforce participation per thousand registered patients and detection of how employment patterns may be associated with predictors of demand for health care – e.g. disease prevalence, social deprivation etc.

Results: Our initial analyses and direct engagement with NHS Digital have confirmed that well-populated datasets are accessible. Additional data will be extracted as it is released in order to optimise our understanding using the most up-to-date information. To date we have identified clear variations in patterns of practitioner employment across different geographical regions and CCGs. Further analyses will explore background factors which may be associated with these differences including, for example; the location of practitioner training hubs, local socio-demographic differences, levels of population health care need, local incentives to support skill mix implementation etc.

Implications: It has been recognised that there is limited evidence about what happens when skill mix changes are implemented or about the overall consequences linked to the work done by different practitioners (Nelson et al, 2018). Our motivation for understanding the changing scale and patterns of skill mix employment in primary care is to find out how closely the constitution of GP practice teams reflect the proposed shift in health policy towards increased skill mix employment at this stage. It is therefore important to examine trends for each practitioner type and look for regions or pockets of particular skill mix patterns or changes which could have deeper significance. This will provide evidence of how the practitioner profile of primary care is (or is not) progressing towards health policy objectives. We are also conducting a comprehensive investigation of the ways in which changes in the scale, scope and impact of skill mix employment are associated with additional data about the quality of health care delivered in practices and the use of hospital services by patients registered at each GP practice. Clear understanding of skill mix employment is vital preparation for these deeper analyses in which we will look for associations between characteristics of the workforce and a wide range of health care outcomes (e.g. quality markers, prescribing activity, referrals and hospital care) as well as overall costs.

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02/07/2019
15:45-17:00

Physician assistants/associates and doctors in training providing emergency medicine consultations in England: a pragmatic mixed methods comparison

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Background: Non-physician clinicians, including physician associates (PAs), are employed in growing numbers in emergency departments (EDs) in the many countries to address increasing patient demand, shortages of doctors and financial stringency. PAs are trained in the medical model to diagnose illness, develop and manage treatment plans and prescribe medications as agreed with their supervising physician. Pilot projects of PAs employed in EDs have provided descriptive quantitative and anecdotal accounts of positive contributions they make to the team and patient care. While the growth of PAs in EDs in the US suggests they are viewed as acceptable and effective in substituting for doctors, there are still gaps in the research evidence, in particular little quantitative evidence on outcomes from outside of the US and no qualitative evidence of how PAs deliver their care in the ED. We aimed to investigate the contribution of PAs to the processes and outcomes of emergency medicine consultations, specifically compared to that of junior doctors in training in English EDs (FY2 doctors). The primary outcome measure was the rate of re-consultation within seven days at the same ED; the secondary outcome was description of the context, processes of care and their delivery.

Methods: We conducted a pragmatic, mixed methods study using a retrospective chart and clinical review, observations of PAs and semi structured interviews with the staff team. The retrospective record review study used electronic, anonymised clinical record data from a stratified random sample of patients (n=613) and a clinical review with a subsample of 40 full clinical records attended by PAs and doctors over a 16 week national trainee doctor rotation period in 2016, at three EDs in England. We calculated sample size for the primary outcome. For clinical review four ED clinicians recorded a judgement as to the clinical adequacy of care for each record, blinded to the type of professional and to each other's assessment, using a proforma. The likelihood -ratio χ^2 test was used to assess whether the outcomes differed between PA and FY2 doctors and logistic regression for the primary outcome was conducted, adjusting for confounders such as age, sex and acuity. We undertook observations of five PAs in practice, and 20 semi structured interviews with 14 clinical or managerial staff members and six patients and/or relatives. Each PA was observed for two or three pre-arranged sessions. Researchers followed PAs, taking notes on context, relationships and activities. Analysis of observation notes involved reflection, reading and extracting ethnographic vignettes considered most relevant to the research question. The same researchers conducted interviews using tailored topic guides and digitally recorded the interviews. Recordings were transcribed verbatim and anonymised, and analysed thematically.

Results: In the 16 week period studied, 8,816 patients attended by PAs or FY2 doctors were identified by the hospitals of which we selected 613 selected records; 305 had been attended by six PAs and 308 by 22 FY2 doctors. PAs attended a higher proportion of patients categorised as standard and immediate priority on triage, a greater proportion of paediatric patients than the FY2 doctors. Re-attendance within seven days of the index ED visit was found following eight percent (n=48) of the 610 visits, with no statistically significant difference found in the rate of re-attendance between PAs and doctors in training after adjustment. PA patients were statistically significantly more likely to receive an X-ray and be within the ED for a shorter period (31 minutes less) than patients of the doctors in training. The clinical reviewers found the majority of both PA and doctors in training consultation records appropriate. PAs were observed and described to be assessing patients in a similar way to doctors in training as well as providing consistency in the team, valued for its efficiency and sense of safety by senior medical, nursing and managerial colleagues alike.

Conclusions: Use of PAs can help to relieve staffing pressures in EDs and improve efficiency in the delivery of care. They are able to safely treat patients with a range of conditions, enabling FY2s, and more senior colleagues, to cover more complex cases, and for FY2 doctors to thereby gain experience that is consistent with the objectives of the junior doctor training programme. They were acceptable to patients. We recommend that further investigation is warranted using either matched comparisons of emergency medicine teams with and without PAs such as used in a recent Dutch study of in-patient wards or a 'step-wedge' design where the change is introduced sequentially in all sites so that all 'participants' get the intervention, but not simultaneously in emergency medicine settings.

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02/07/2019
15:45-17:00

“I think the challenge has been still not knowing where I fit”: the experience, impact and integration of physician associates in training and beyond

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Introduction: The development of new professional roles has been declared as one of the ways we may be able to ensure that the NHS has a flexible workforce, able to deliver high quality care. Physician associates (PAs) are one of a number of new professions designed to meet changing workforce needs, and are growing in number due to the proliferation of postgraduate courses. However, little evidence is available to guide how best to engage and support this new professional group whilst training, or how their presence will impact postgraduate medical education. Further, little is known about how to facilitate integration post-qualification, into the diverse range of healthcare settings across which PAs are beginning to practice. This paper presents a synthesis of data, drawn from two studies investigating the experience of PA students and qualified practitioners, in order to help address these gaps.

Method:

We present here data drawn from two studies:

1. A quantitative 10-year longitudinal cohort study of PAs within the Yorkshire & Humber region, through training and beyond into practice. This study reports on a cross-sectional analysis of the first year of this cohort survey data. An electronic survey was distributed to all students commencing the PA studies course across five higher education institutions in 2017. The survey contained items on demographic information, wellbeing, burnout and engagement, personality, expectations, placement experience, funding, performance and caring responsibilities (n=89). Data were explored using correlational and regression analyses, to understand what predicted engagement of PA students in their first year of the post-graduate course.
2. A mixed-methods study conducted between 2017-2018 using surveys, focus groups and semi-structured interviews. Survey 1 was distributed to newly qualified PAs (NQPA), and their medical colleagues, two to four weeks prior to the NQPAs starting work and contained questions on expectations around the PA role and its impact (n=36). Survey 2 was distributed 6 months after and focused on experiences working with NQPAs and the perceived impact on training opportunities (n=68). Additionally, six focus-groups and eight semi-structured interviews were conducted with PAs and their colleagues (consultants, junior doctors and senior nurses) two to four months after NQPAs started work, exploring integration, role boundaries and impact on postgraduate medical training.

Results: The experience of PA students during training was found to be largely positive, as 78.7% and 88.1% of PA students respectively felt that there were staff on placement that they could go to for support and that they had a good relationship with their supervisor. However, role clarity for the students was felt to be an issue, with 44.8% of PA students reporting that staff did not know about the role, and 61.3% staff did not know what clinical work they should undertake. Regression analysis found that PA student engagement was predicted by their perceived career satisfaction, their overall well-being, and significantly, their caring responsibilities. For PAs working in practice, we found their experience, impact and integration was mixed. A number of factors seemed to facilitate the integration of PAs, including: i) adequately informing the existing workforce of the new role; ii) clarifying arrangements for clinical supervision; iii) planning continuing professional development; and, iv) having clear leadership and vision for the role. With respect to the perceived impact of this new profession on postgraduate medical education, half of junior doctors reported no overall impact on their training, and a third felt that their training was enhanced by the presence of physician associates.

Implications: These findings have a number of implications for PAs, workforce planners, educators and healthcare practitioners. Whilst a lack of understanding by existing healthcare professions when integrating a new professional role is, to some extent, to be expected, its presence in the findings of both our studies implies that countering this issue is problematic, and likely to be of particular importance. Careful planning is required by educators and workforce planners to ensure that this does not impact on learning or role integration. The potential for a positive impact of this new profession on existing arrangements for postgraduate medical education, is however, encouraging.

P2.3 New Models of Care Abstract Session

02/07/2019
15:45-17:00

Effects on patient outcomes and experience of a health coaching intervention in primary care in England: a difference-in-differences analysis

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Background: The main challenge facing health systems worldwide is rising demand from the burden of chronic disease. Increasing multimorbidity has prompted a shift in policy towards integration, prevention and patient-focussed care. Recent integrated care initiatives have been based in primary care to promote a population-health management approach to care provision. This paper evaluates the 'Enhanced Primary Care' (EPC) component of an integrated care model implemented in a 'Vanguard' site; the South Somerset Symphony Programme. The EPC offers health coaching to provide additional prevention and education support to the traditional primary care team for multimorbid patients.

Methods: We estimate the programme's effects on health status (EQ-5D-5L, physical functioning, psychological wellbeing and resilience), health behaviour (smoking habit), experience of care (person-centeredness and continuity of care) and health (primary) care utilisation using data from 3.5 million respondents to the national GP Patient Surveys (GPPS) between 2013 and 2017. The GPPS is a questionnaire administered by post to randomly selected patients from all GP practices in England. We use difference-in-differences to compare changes in outcomes over time between the intervention practices in South Somerset and control practices in the rest of England. Since EPC was implemented in three waves, we adapt the difference-in-differences design to allow for staged adoption. We use propensity scores to ensure comparability of respondents in intervention and control practices. We perform robustness checks using alternative study designs to confirm the results. These include 1) a tailored control group of Somerset CCG's NHS RightCare peers, 2) medium-term effects, and 3) a simplified two-group/two-time analysis. Since EPC is directed at multimorbid patients, we conduct our main analysis on this group. We conduct additional analysis on all patients to assess population-level effects.

Results: We report results as absolute and relative changes from baseline means in the treated group. For multimorbid patients, we find reductions in primary care utilisation of -0.0190 (95% confidence interval -0.0247 to -0.0134), relative difference -13%; psychological wellbeing of -0.0204 (95% confidence interval -0.0304 to -0.0104), -2%; and person-centeredness of -0.0352 (95% confidence interval -0.0514 to -0.0191), -4%. For the total population, we find reductions in non-smoking behaviour of -0.0100 (95% confidence interval -0.0179 to -0.0021), -1%, in the short-term. The robustness checks confirm these results when we use a tailored control group of NHS RightCare peers, and we find a similar decline in multimorbid patients' psychological wellbeing of -0.0514 (95% confidence interval -0.0705 to -0.0324), -6%, in the medium-term.

Implications: The results show that the EPC did not improve patient outcomes in the short-term, although it might relieve some demand on GPs. This work adds a quantitative element to previously reported qualitative evidence on health coaching, and aims to produce robust evidence of the policy impact on self-reported patient outcomes. Our previously analysed qualitative findings suggest patients seem to face difficulties with the substitution in chronic disease management away from medical- to non-medical practitioners, perhaps increasing anxiety. Further, there are indications that prevention-based strategies might not fulfil expectations of improved patient experience and health behaviours, at least in the short-term. However, some of the deterioration in health status, particularly mental health, post-intervention might actually represent effects of increased diagnoses of previously unmet needs identified by the health coaching service. These findings offer relevant contributions to the evidence on workforce diversification and prevention-based care pursued in the NHS Long Term Plan.

02/07/2019
15:45-17:00

“Localism and intimacy, and... other rather imponderable reasons of that sort”: a new model of understanding and valuing patient experience in community hospitals

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Background: The community hospital is a longstanding feature of the health and care landscape, both in the UK and internationally. However, recent emphasis on the centralisation of specialist services, economies of scale and hospital mergers, has been accompanied by proposed closure or downgrading of local hospital services. The claims made for the efficiency and effectiveness of such changes often rest on inconclusive evidence, and/or a narrow focus on the functional and technical aspects of care. Against this background, this paper explores patient and family experience in community hospitals in England.

Method: This paper reports from a UK study into the profile, characteristics, patient experience and community value of community hospitals. The focus here is on patient experience. Data are drawn from case studies of nine English community hospitals. Data collection included discovery interviews with patients (n = 60), as well as semi-structured interviews with carers (n = 28) and staff (n = 89). Interviews were recorded and transcribed before being imported into NVivo11 software (QSR International, Warrington, UK) and analysed thematically.

Results: Patients and family carers were overwhelmingly positive when rating and describing their experiences of community hospital care, support and treatment. Three distinctive over-arching factors were perceived to be key to this experience.

1. Closeness to home

When compared to care in other settings, patients and carers talked about community hospitals as being more convenient, more homely and relaxed, less stressful or daunting and more reassuring. Taken together, these different aspects contributed to community hospitals feeling ‘closer to home’. This encompassed many different functional, interpersonal, social and psychological dimensions. This ‘known-ness’ was fundamental to many people’s experiences of community hospital inpatient care, because it was experienced as less anonymous, more understood, more personalised and connected.

2. Personalised and holistic

While acute hospitals were seen as treating the presenting ‘problem’, community hospitals were seen as providing more individualized, holistic care. This was facilitated through community hospitals’ range of co-located services; fostering of multi-disciplinary team working; and, an ethos which encouraged the time and space to work with people as individuals. This holistic, ‘generalist’ approach, was thought to be an important feature of patients’ experiences of community hospital.

3. Supporting difficult transitions

For many older people, the accident or illness leading to their admission to a community hospital often triggered a major life event, which was emotionally traumatic and a major psychological undertaking, requiring time to come to terms with such profound life changes. However, given the number of people interviewed who were experiencing life transitions and appeared shaken by those events or who were anxious about an unknown future, there was relatively little explicit evidence of mental health needs being integral to inpatient care practice. One transition that our respondents discussed was the process of returning home following an inpatient stay. Home visits supported this, and were seen as a feature of community hospital care.

Implications: Cutting across these accounts are four key dimensions to patient and carer experiences of community hospitals – functional, interpersonal, social and psychological. Functional, particularly environmental, features of community hospitals were fundamental to patient and family carer experiences, resonating with the findings of earlier studies. Interpersonal aspects of care also featured strongly in patients’ and carers’ narrative accounts: relationships between staff, patients and family carers were central to experiences of using community hospitals, and so too were relationships between patients and the wider community. Social aspects of patient experience were also highlighted, particularly the importance of having family and friends close by so they could be visited often – keeping families and communities together. Psychological aspects of patient experience were often wrapped up in their accounts of feeling less anonymous and frightened within their community hospital than they would in an acute setting, and feeling more confident and hopeful, while also coming to terms with loss and change. When considered together, these four elements point to community hospitals as providing a relational (more human, caring, attentive) - rather than transactional - model of care. Personal, reciprocal, relationships between not just staff and patients, but between staff, patients, their families, and the wider community were intrinsic factors in patients’ and carers’ experiences.

However, this model of care was seen as vulnerable. A number of our case study sites were facing challenges as facilities became dated; services were cut back; or inpatients were drawn from an increasingly wide geographical area, meaning that community hospitals were no longer always local, convenient or easily accessible to all. The widening of geographical boundaries, and associated shifts towards greater provision of step-down care for increasingly elderly and acute patients, also had implications in some hospitals for the maintenance of the social and interpersonal aspects of care. In others, the interpersonal aspects were challenged by pressures on staff, exacerbated by recruitment challenges, and a withdrawal of GPs from community hospital medical provision.

02/07/2019
15:45-17:00

Reflections on NHS England's approach to evaluating complex change in the health system: The New Care Models (NCM) Programme

Samantha Hinks
NHS England

Background: The 'New Care Models' programme was a large NHS transformation project aiming to improve the health and wellbeing of patients, and the efficiency of the NHS. 50 'vanguards' (or experimental sites) were established across England to implement the new ways of working across the health system spanning primary care, secondary care, nursing homes and social care. Vanguards were diverse in terms of both the care models being implemented to meet patient needs, and their local approaches to evaluation.

Method: NHS England's approach to evaluation was multi-faceted, mixed-methods, rapid-cycle; and involved a range of evaluation providers. The presentation would briefly introduce the different methods to answer the key evaluation questions, including: logic models; an impact dashboard; a matrix to assess implementation; local metrics; collaboration with the Heath Foundation to establish robust counterfactuals for impact analysis; an independent evaluation; and deep dive studies of particular interventions. The process for synthesising the evidence from these various sources would be covered.

Results: NHSE would share their reflections on how well the evaluation worked in practice, identifying key challenges and lessons learnt. Results on the following topics would be presented:

Evaluation design and useful tools e.g.

- Maximising the use of theory of change approaches to capture the diversity of programmes e.g. through logic models.
- Measuring impact – the practicalities of establishing a good evaluation design, including identifying appropriate counterfactuals.

Managing/commissioning evaluations through collaboration e.g.

- Having central influence over evaluation design when evaluations were commissioned locally.
- Engaging with a wide and diverse network of evaluation providers.
- Setting up evaluation 'Communities of Practice' to share learning.

'Seeing the wood through the trees' – identifying the key findings

- Synthesising large amounts of diverse data and evidence from different local sites.

Responding to a dynamic policy environment e.g.

- Managing the pressure to provide positive signs of impact, at the expense of learning.
- Dealing with the need to 'provide results yesterday'.
- Maintaining flexibility as the policy context shifts.
- Ensuring results influence future policy making.

Implications: Implications would be discussed in terms of:

- National policy-makers
- Service commissioners
- Evaluators

02/07/2019

15:45-17:00

Evidence synthesis and qualitative exploration of the locally commissioned evaluations of the NHS vanguard programme

Paul Wilson¹, Jenny Billings², Anna Coleman¹, Rasa Mikelyte², Julie MacInnes², Kath Checkland¹, Paul Wilson¹, Paul Wilson¹, Paul Wilson¹, Paul Wilson¹, Paul Wilson¹, Paul Wilson¹, Paul Wilson¹, Paul Wilson¹

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Background: In England, the 2012 Health and Social Care Act made innovation in the provision of health services a statutory duty with further impetus for major system change set out in the Five Year Forward View in 2014. With innovation in service delivery increasingly viewed as crucial to the long term sustainability of health systems, NHS England launched the Vanguard programme in 2015. Fifty Vanguard sites were to act as pilots for multicomponent innovations in service delivery, supported by a £200 million transformation fund from NHS England.

As part of the national evaluation of the New Models of Care Vanguard Programme in England led by researchers at the University of Manchester, we have conducted an evidence synthesis to assess the nature and quality of locally commissioned evaluations relating to three vanguard types, namely enhanced health in care homes, the primary and acute care systems (PACS) and the Multispecialty community providers (MCPs).

Methods: The FutureNHS collaboration platform (Kahootz) is a secure, online hub used by the Vanguard and other integrated care initiatives. The repository was designated as the means by which vanguards could store, share and access key documents in one central hub. Two researchers accessed Kahootz every month from June 2017 to September 2018 to search for documents relevant to the synthesis. In addition, to Kahootz, we also searched for eligible evaluation reports on vanguard and named evaluator websites. Any report or slide set from a locally commissioned evaluation of a vanguard was eligible for inclusion. All identified documents were downloaded logged and details of the evaluators, questions, methodological approaches and limitations in design and/or reporting were extracted. As the included evaluations were largely mixed methods with variation in the nature and type of quantitative, qualitative and cost components, we performed a narrative synthesis of the evidence. Consistent with an integrative approach to synthesising evidence the narrative synthesis aimed to present a descriptive summary of the nature, type and general quality of evaluations within, and then to generate across vanguard types, a number of themes relevant to the aims of this review. This synthesis is supplemented with semi structured interviews with local evaluation leads from a purposive sample of Vanguard sites.

Results: We identified a total of 108 separate reports relating to the local commissioned evaluations. This presentation will focus on describing evaluation questions and characteristics as well as challenges encountered and limitations in approach. We will reflect on the role and use of logic models; the vanguards were all supported to develop logic models as a requirement of their funding. We will reflect on the extent to which anticipated inputs, outputs and impacts of each new care model are reflected in the local evaluations.

Conclusions: A significant investment was made in independent local evaluations of the vanguard programme by NHS England. This review represents the first attempt to systematically assess the nature and quality of the evaluations commissioned and to capture methodological learning to inform future endeavours of this type. As the synthesis summarises a significant grey literature not all of which is publicly available, this review represents the only comprehensive mapping of this knowledge base and may serve as a key resource for researchers and policy makers, both within the NHS and internationally.

P2.4 Care Homes & Nursing Homes Abstract Session

02/07/2019
15:45-17:00

Conceptualising approaches to providing personalisation in care homes for older people

Stefanie Ettelt¹, Lorraine Williams², Jacqueline Damant³, Raphael Wittenberg³, Margaret Perkins³, Nicholas Mays²

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Background: Personalisation – broadly the idea to put the person at the centre of care provision - has been a buzzword in English health and social care policy for over a decade (Needham, 2011; SCIE 2017; NHS 2019). In adult social care, 'personalisation' policy has tended to focus on service provision in the community, with direct payments being its primary tool. In residential care, 'person-centred care' has developed as a separate, perhaps more practice-oriented discourse, particularly, although not exclusively, focusing on improving the quality of care for older people with advanced dementia. Meanwhile, 'person-centred planning' has evolved to transcend both social care and health care.

Methods: Twenty-four interviews with managers of residential and nursing homes for older people in England were undertaken for this part of the study. A topic guide was developed to structure the conversations, using the three domains of personalising care promoted by the Social Care Institute for Excellence (SCIE): sharing decision-making, maintaining identity, and creating community. Interviews were conducted in person or over the phone and lasted about 45 minutes on average. Interviews were analysed thematically, with themes derived from the research literature and practitioner guidance, as well as emerging from close reading of the interviews by two of the authors (SE and LW). We also carried out a comprehensive review of the international research literature on personalisation (which we will report on separately). It informed our topic guide for our interviews and the development of our framework for analysing personalisation in residential care.

Results: The framework identifies four different ideal-types of personalisation in care homes, mapped against two axes, denoting the nature of the user-carer relationship (distant/close) and the process of decision-making (individual/collective). The four models (or 'ideal-types') resulting from this framework conceptualise care homes as hotels in which care decisions are taken by the user with a customer service orientation; institutions in which care decisions are taken by professionals on behalf of residents; flat-shares in which decisions are made by users individually and which are individualistic in their orientation; and family homes in which decisions are made jointly by users and carers and have a predominantly communal focus. In our data, we demonstrate that each of these categories represents different approaches to personalising care, as managers have to make choices and sometimes face complicated trade-offs when delivering personalised care in care homes.

Implications: Our analysis suggests that, while none of the practices of personalisation of care reported by care home managers falls into any one category entirely, the use of the framework as an analytical tool can help uncover some of the tensions between different current practices intended to personalise care in care homes and care provision more widely. For care homes specifically, it raises important questions about trade-offs involved in different ways of promoting personalised care.

References:

Needham C (2011): Personalising public services: Understanding the personalisation narrative. Bristol, Policy Press.
NHS (2019): The NHS long term plan. London, NHS England.
SCIE (2017): Person-centred care for older people in care homes. London, Social Care Institute for Excellence.

02/07/2019
15:45-17:00

A mixed method multi-component study to co-design a care bundle intervention for nursing homes

Jacqueline Lavalley, Trish Gray, Jo Dumville, Nicky Cullum
University of Manchester

Background: Many nursing home residents are at risk of developing a pressure ulcer, which is an area of localised damage to the skin and/or underlying tissue due to immobility, increasing age and co-morbidities. Whilst guidelines for the prevention of pressure ulcers exist, their implementation can be sub-optimal¹. Care bundles are a set of three to five evidence-informed practices performed collectively and reliably to improve the quality of care². Care bundles are used to facilitate the implementation of evidence into practice but understanding the influences on professional behaviour within the context in which they occur is vital for changing behaviour. Thus, incorporating behaviour change theory within the development of care bundles may enhance their effectiveness. Behaviour change theory can be used to assist the interpretation and prediction of behaviours, enabling targeted interventions to be developed and evaluated. The Theoretical Domains Framework³ provides a comprehensive and theory-informed approach to the identification of the determinants of professional behaviour. The framework contains 14 domains that have been identified as influencing professional behaviour change (e.g., knowledge, skills, beliefs about consequences). Thus, we aimed to co-design and assess the feasibility of implementing a theory and evidence-informed pressure ulcer prevention care bundle in a nursing home setting.

Method: This project comprised three separate studies as part of an overall mixed methods research design. Firstly, we conducted theory-informed qualitative, semi-structured interviews with nursing home care staff and NHS community-based nurses to explore the context of, and the barriers and facilitators to, pressure ulcer prevention in nursing homes. The Theoretical Domains Framework³ informed both data collection and analysis. Next we co-designed a pressure ulcer prevention care bundle with 13 healthcare workers during a four-hour workshop and supplemental email consultation with specialist community-based tissue viability nurses. Using the Nominal Group Technique⁴, which is a highly structured approach consisting of multiple rounds where items or questions are rated, discussed and re-rated by the expert panellists (e.g., nurses), we reached a consensus about the content of the care bundle. We finalised the implementation plan for the care bundle using the steps of the Behaviour Change Wheel⁵, which facilitates the integration of target behaviours, behaviour change theory and intervention development through a series of three key stages. The final study involved a before-after study feasibility design where one nursing home implemented the care bundle. We collected and analysed quantitative and qualitative data to gain a more holistic understanding of the feasibility issues related to the implementation of the care bundle.

Results: The qualitative data informed by the Theoretical Domains Framework suggested there were four barriers and six facilitators to the prevention of pressure ulcers in nursing homes, which our final care bundle addressed. The co-designed care bundle comprised three evidence-informed elements: support surfaces, skin inspection and repositioning; alongside three intervention functions and seven behaviour change techniques. In the final feasibility study, during the baseline period, there were 462 resident bed days and five new pressure ulcers recorded; and during the intervention phase there were 1,181 resident bed days and no new pressure ulcers. The care bundle appeared to be acceptable to the nursing home care staff and we identified specific issues relating to the feasibility of implementing the care bundle.

Implications: Using a linked series of methodological approaches we were able to co-design and implement a pressure ulcer prevention care bundle for a nursing home setting. Further feasibility research is necessary before we can assess whether the care bundle is effective in preventing pressure ulcers in nursing homes.

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² Resar, R., Griffin, F., Haraden, C., & Nolan, T. (2012). Using care bundles to improve health care quality. IHI Innovation Series white paper. Cambridge, Massachusetts: Institute for Healthcare Improvement.

³ Cane, J., O'Connor, D., & Michie, S. (2012). Validation of the theoretical domains framework for use in behaviour change and implementation research. *Implementation Science*, 7, 37-54. doi: 10.1186/1748-5908-7-37

⁴ Van de Ven, A. H., & Delbecq, A. L. (1972). The nominal group as a research instrument for exploratory health studies. *American Journal of Public Health*, 62,337-342

⁵ Michie, S., Atkins, L., & West, R. (2014). The behaviour change wheel: a guide to designing interventions. Silverback Publishing.

02/07/2019
15:45-17:00

Emergency admissions to hospital from care homes: how often and what for?

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Background: In January 2019, the NHS published their 10-year Long Term Plan, which included a commitment to improve NHS support in care homes, rolling out the Enhanced Health in Care Homes (EHCH) Vanguard model across England. As NHS England and local teams look to implement the EHCH model in care homes, more information is needed on how this initiative should be implemented, including different contextual factors to consider. There is little good quality comparative evidence of interventions that improve patient outcomes in care homes, in particular in reducing emergency admissions. The Improvement Analytics Unit has to date conducted quantitative evaluations of four care home improvement programmes that were either EHCH vanguards or similar initiatives. This provided an opportunity to compare these interventions and their outcomes to draw learnings. There are differences between residential and nursing homes, both in the care they provide (with nursing homes providing 24-hour nursing care and residential care homes providing personal care only) and in the characteristics of the residents, with nursing home residents more often nearing their end-of-life. There is, to our knowledge, no research into understanding how these differences may affect hospital use or the outcomes of improvement programmes such as EHCH. This paper brings together evidence from a national descriptive analysis on residential and nursing home residents' emergency admissions and four case studies of enhanced care programmes aiming to improve care in residential and nursing homes.

Method: The national descriptive analysis relied on accessing data on addresses which were collected by general practices in England. These were cross-referenced with a list of care home addresses from the Care Quality Commission. Once, with help from the data controller, care home residents were identified in this way, we linked this information to pseudonymised data on hospital admissions. Based on the linked datasets, we calculated rates of emergency admissions from residential and nursing homes, respectively, for 2016/17. We also describe residents' average length of stay following emergency admission and the proportion of admissions resulting in death. Outcomes are also presented broken down by age, reason for admission and level of deprivation (IMD quintile). We conducted a review to identify key themes and learning from the evaluation reports related to four initiatives designed to improve health in care homes. These included initiatives run by Principia in Rushcliffe (August 2014 to August 2016), Sutton Homes of Care (January 2016 to April 2017), Wakefield CCG (February 2016 to March 2017) and Nottingham City CCG (September 2014 to April 2017). We included other local evaluations of these sites to assess to what extent the elements of the EHCH framework were implemented, using a thematic analysis approach. By contrasting the different elements and context of these four programmes, we explore which factors may be most influential in reducing hospital admissions.

Results: During 2016/17, there were an estimated 192,000 emergency admissions from 274,000 care homes residents. This equates to an average of 0.7 emergency admissions per resident per year. 41% of these admissions relate to conditions that might be preventable, treatable or manageable outside of hospital but are not, at the time of admission, necessarily avoidable. Once admitted, care home residents spend 8.2 days in hospital. Residential care home residents had on average 0.77 emergency admissions per year, compared to 0.63 for nursing home residents. They spent on average 8.9 days in hospital following an emergency admission, compared to 7.4 days for nursing home residents. Of the four care home initiatives evaluated by the Improvement Analytics Unit, two sites showed statistically significantly lower rates of emergency admissions than their matched control group. A review of the four case studies suggests that the factors that most closely related with the interventions that showed lower rates of emergency admissions are having an aligned general practice for each care home and a consistent named GP; and the co-production of service specifications between care home staff and health care professionals. However, there were also differences in the length of the study period, with sites with lower emergency rates having notably longer study periods (23 and 31 months, respectively) compared to two sites where no evidence of a difference in emergency admissions was found (15 and 13 months, respectively). The initiatives showed more positive results in residential care homes than nursing homes.

Implications: The national analysis of emergency admission shows that residential care home residents have higher rates of emergency admissions compared to nursing home residents, even though we would expect them to be less ill given that they do not live in care homes providing 24-hour nursing care. The case study review shows that the impact of improvement programmes in care homes were stronger in residential care homes than in nursing care homes. This suggests that there is greater scope to reduce emergency admissions from residential care homes compared with nursing homes.

02/07/2019
15:45-17:00

Identifying care home residents in routine NHS datasets in England

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¹NHS England, ²The Health Foundation

Background: Care home residents are often complex patients with varying health and social care needs. The NHS Long Term Plan suggests ramping up NHS support for people living in care homes. Having access to data about this important patient group is vital in delivering this support. However, it is not straightforward to identify care home residents in NHS data. Methods to identify care home residents typically rely on address information. Lack of standardisation in the recording of addresses (one address may be recorded in different ways, or misspelled) makes the comparison of addresses difficult.

This paper presents two novel data linkage approaches using administrative data that can be used to identify care home residents in NHS datasets. This subsequently allowed us to describe the national care home population in England for the first time.

Methods: This paper relies on data linkage of two national administrative datasets using address information in the national register of patient data as recorded by GP practices and the Care Quality Commission's register of care homes. The "3+" algorithm is a two-step algorithm, first identifying all patient ages 65 and over living at an address with the same postcode as that of one of the care homes in the CQC register. Secondly, looking at the address details, identifying a patient as a care home resident if the unique spelling of their address is shared with at least 2 other patients aged 65 and over. The "UPRN" algorithm relies on assigning the Unique Property Reference Number (UPRN) to addresses in both the patient registration data and the CQC register. Each address is allocated a UPRN by local government. Patients are identified as a care home resident when their UPRN matches that of a care home. In this paper, we applied commercially available address cleaning software from Experian® to assign the UPRN to addresses. To assess their accuracy, we compared both algorithms with identifying care home residents by manually comparing the patients and care home addresses. We randomly selected 80 care homes, stratifying by nursing and residential care homes, rural and urban areas, and care home size. The validation sample was created by selecting all addresses with the same postcode as these care homes. After applying the algorithms, we assess the positive predictive value (PPV) and sensitivity. The PPV is the proportion of positive results (i.e. a patient being identified as a care home resident by our algorithm) that are true positives (i.e. a patient that is a care home resident according to our manual review). Sensitivity is the proportion of true positives that have a positive result based on the algorithm.

Results: Our validation sample included 5,836 patients aged 65 or over. Then assessing the accuracy of the 3+ algorithm we found the PPV was 88% with a sensitivity of 80%. For the UPRN algorithm the PPV was 100% with a sensitivity of 57%. The address cleaning software only managed to assign a UPRN to 4,894 (84%) of all patients' addresses. Of the 16% of patients' addresses without a UPRN, 635 (67%) patients' addresses are of patient resident are living in a care home.

Discussion: The results show that the UPRN algorithm does not identify any false positives, this means that all patients identified as a care home resident truly are care home residents. However, the algorithm's sensitivity is low, resulting in a very conservative estimate of the number of care home residents. This is in part due to the fact that for a large number of patients' addresses (16%) no UPRN can be assigned by the address cleaning software. Alternatively, the 3+ algorithm has a much better sensitivity, but introduces some false positives. Although the 3+ algorithm provides a better estimate of the total care home population, in specific applications (e.g. causal inference) the inclusion of false positives may provide its own challenges. These findings show that although promising, the UPRN algorithm needs further work to improve the identification of a patients' UPRN. Especially, as care home addresses are over-represented in those addresses that do not currently have a UPRN assigned. When applying the 3+ algorithm to the patients' addresses where no UPRN can be found, a combined UPRN/3+ algorithm has a PPV of 96% and a sensitivity of 78%.

Implications: The algorithms presented in this paper provide a method to identify care home residents in NHS datasets. Use of these algorithms can provide commissioners, providers and policy makers valuable insights in health care use by an important population at a national level for the first time.

P2.5 Patient Experience Abstract Session

02/07/2019

15:45-17:00

Using animation to capture the secondary healthcare experiences of people in prison – an engagement tool

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Background: People in prison tend to have poorer health, poorer access to health services and poorer health outcomes than the wider population. By their very nature prisons are a closed environment which leads to a reduced ability to access community secondary care services. In addition, attending hospital as a 'prisoner' can be a discriminatory experience, leading to refusal to attend for subsequent appointments. To address these inequalities community hospitals need to be aware of the issues offenders face in accessing their services and subsequently design them to include patients in prison. This research aims to create a film based on the experiences of people in prison that can influence community health professionals to design improved services for them.

Methods: This project will develop a short animated film (5 mins) which uses the real voices of people in prison to describe in their own words the problems they experience in accessing secondary healthcare whilst in prison. Qualitative data to inform the film content is being collected through focus groups (n=5) and 1:1 interviews (n=15) with current offenders from a range of prisons including men, women and foreign nationals. Focus groups and interviews have been audio recorded, transcribed and analysed to identify themes for inclusion in the animation. Research activities are led by people with lived experience of prison and ex-offenders are involved in co-producing the research throughout via community forums.

The expressed themes will be developed into a cohesive storyboard by an award winning animation team. Trained researchers will conduct broadcast interviews (n=5) to collect audio from people in prison to narrate the final film.

Results: Film production is anticipated to be completed by May 2019 and we would expect to show the resulting animation at the HSRUK conference. Our research has found that prisoners experience inequalities in many areas of healthcare, for example: lack of information about the timetabling of their appointments, delays incurred by prison transport deficiencies and internal prison processes, lack of support during appointments, handcuffing during medical examinations, and difficulties obtaining their own medical letters and records.

We will also provide an explanation of the process and challenges of undertaking this type of research within closed prison environments including the consideration of ethical issues and the importance of collaboration with prison and wider health system partners. For example HMPPS and Integrated Care Systems.

Implications: If secondary care services can be informed and engaged with the problems offenders face in accessing healthcare, they may be inspired to drive change to ensure their services are accessible and understanding to people in prison. This in turn will improve the experience and outcomes of care for people in prison, ensure they do not disengage from secondary care and ultimately reduce inequalities in this under-served population.

Approvals and Funding: This project is funded by the Wellcome Trust and Surrey Heartlands Health and Care Partnership. Ethical approvals have been granted by London Camberwell St Giles NHS REC (18/LO/0643) and HMPPS NRC (2018-212)

02/07/2019
15:45-17:00

Paediatric Intensive Care Retrieval - engaging parents to give feedback on their experience

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Background: Since centralisation of UK paediatric intensive care approximately 20 years ago specialist paediatric intensive care retrieval teams (PICRTs) have been established to travel to district general hospitals to assist in stabilising and then transferring critically ill children to regional paediatric intensive care units (PICUs). Our previous research showed that the use of PICRTs (rather than non-specialist teams) for the inter-hospital transport of these children improves the odds of their survival by 42% (Ramnarayan P, Thiru K, Parslow RC, Harrison DA, Draper ES, Rowan KM. Effect of specialist retrieval teams on outcomes in children admitted to paediatric intensive care units in England and Wales: a retrospective cohort study. *Lancet*. 2010; 376(9742):698-704). There are currently nine PICRTs operating in England and Wales with national variation in terms of how quickly they reach the patient's bedside and in the care provided during transport (Paediatric Intensive Care Audit Network: Annual Report 2015. Universities of Leeds and Leicester, 2015). The impact of these variations on clinical outcomes and the experience of stakeholders (including patients and their parents/ families) is unknown. PICRT-user feedback is a valued element of service evaluation and could aid future development of the transport service but historically this feedback has proved difficult to obtain. To date feedback has been sought via team-specific paper questionnaires, given directly by PICRTs to families, and return rates have been low (~10% for one example PICRT, personal communication). The specific reasons for low response rates in this context are unknown. The NIHR funded DEPICT study (Differences in Emergency Intensive Care Transport) is the first national evaluation of variations in how PICRTs operate, and includes user experience studies. Here we report on our methods to increase user engagement – in this case parents of patients transferred.

Method: Parents of transported children and young people (CYP) were approached within the first 48 hours of their PICU admission by research nurses or PICU clinicians. Interested families were given a pack of information which included all that they would need to give feedback on their experience: a pen; freepost reply envelope; information leaflet about the study; and a paper copy of an 8 page questionnaire and this also detailed how to access a REDCAP-powered electronic version (which was smart phone enabled and had speak aloud functionality). Alternative questionnaires and information leaflets in 5 other languages were produced for families where English was not the first language. A separate procedure was organised for approaching bereaved families. A site initiation visit was completed at each participating PICU where procedures/ guidance was given for: identifying eligible families, approaching families and for encouraging families to complete the questionnaire and return while on PICU. A 'DEPICT post box' was provided to each PICU to act as a visual cue for return of the questionnaire. Parents were supplied the Freepost envelope so that they could personally enclose and seal their questionnaire increasing the sense of anonymity, and to give them the opportunity to post back directly if they preferred. The Freepost envelope also provided an efficient method for quick return of the questionnaires by PICU staff. Eligible families were detailed, and their consent decision noted, on a screening log held at PICUs.

Results: 24 UK paediatric intensive care units located in 21 NHS Trusts participated in the experience feedback study and this ensured that transports carried out by all nine PICRTs were included. Around 4,000 families were identified as eligible for participation over a recruitment period of 12 consecutive months; over 2500 consented and approximately 2,000 completed questionnaires were received back (consent rate of 63% and questionnaire return rate of 80%). A small number of these were from bereaved families (< 1%) and families who elected to use the alternative language versions (<1%). A small number gave feedback via Redcap (<1%). Reasons for non-participation included parent declining participation, staff decision that it was not appropriate to approach, patients discharged before approach and language barriers (i.e. alternative language other than the five selected to offer translated materials).

Implications for Practice: This study demonstrates that in a highly stressful medical emergency many families are prepared to provide valuable feedback, with most preferring to fill in the paper questionnaire handed to them. However there were still groups of families under-represented and further work is needed to explore how we can cost effectively increase engagement with these groups. Our high response rate may be attributed to how the study was set up – using a research infrastructure to support identifying and engaging families. The challenge now is to translate this approach into a method that could be employed routinely so that services can regularly receive feedback.

02/07/2019
15:45-17:00

Developing, implementing and evaluating the Yorkshire Patient Experience Toolkit (PET): How process evaluation can strengthen action research

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¹Bradford Institute of Health Research, ²Bradford Institute for Health Research

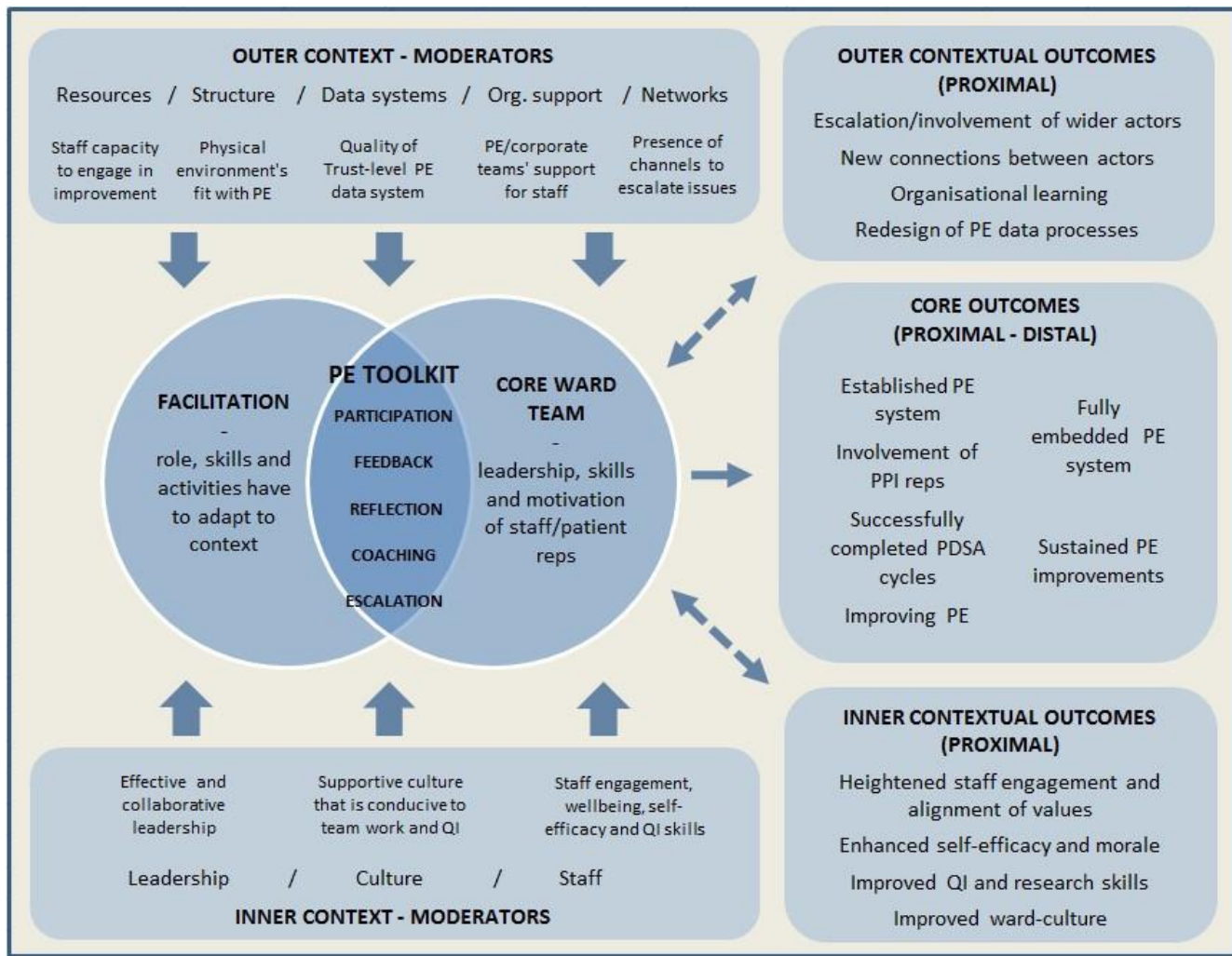
Background: Formative and participatory research and improvement methodologies are increasingly advocated in the field of intervention research, in recognition of the complexity of both healthcare problems and the interventions required to solve them (Andersson, 2018). One such approach is action research, which is said to be uniquely capable of developing solutions for complex problems through relational working and the utilisation of locally-situated knowledge (Moch et al, 2016). However, this participatory shift poses the question of how research findings can be scaled-up for transfer into actual healthcare practice. In the case of action research, for example, successful “action” within a healthcare setting can come at the expense of rigorous research (Hammersley, 2004). Here, we report on an innovative study which sought to grapple with this problem of generalisation, combining action research and process evaluation methods to develop and evaluate a toolkit for improving patient experience in the secondary care sector.

Methods: An independent process evaluation was carried out of a HS&DR funded action research project in which a Patient Experience Toolkit (PET) was developed and implemented across six hospital wards in 3 NHS Trusts. Initially developed through co-design, the action research aimed to implement and refine the process contained within PET through collaborative working between the action researchers (2x) and the six ward teams involved in the study. The aim of the process evaluation was to generate generalisable research findings about the PET’s effectiveness that would aid its future scale-up. To that end, process evaluation methods (Moore et al, 2015) were adapted to make them suitable for interventions being developed on implementation through participatory research. A primarily inductive approach to data collection and analysis was adopted. A large qualitative dataset consisting of multiple sources was thematically analysed alongside the iterative development of a logic model, as is common in process evaluations. Research findings were fed back to the action researchers at the halfway stage and at the end-point to optimise the development and delivery of the intervention.

Results: A process evaluation is a useful complement to action research, yielding important insights that may go ignored without one. In the study, PET’s role in the intervention was revised after it was found that the ward teams did not use the toolkit documentation and progress was only possible because of the facilitation provided by the action researchers. PET was therefore redesigned at the end of the project to serve as a guide for facilitators, who will use it while working with frontline staff on patient experience. While the action researchers realised this through their practical experience of working with the ward teams, the insights gleaned from the process evaluation were deemed useful because it provided ward teams with an independent channel to voice their opinions of the intervention. Furthermore, the process evaluation was able to track the facilitation in a way that the action researchers could not. The process evaluation paid careful attention to interactions between the facilitation, each ward setting and study outcomes. The action researchers were found to adopt a range of strategies beyond the core activities contained within PET, in response to barriers and enablers present in each ward setting. These included, at the micro-level, flexible meetings dubbed “pop ins” for particularly busy environments and coaching strategies if staff lacked the belief that positive changes could be enacted. At the meso-level, escalation strategies could be pursued if improvements required buy-in from a different organisational actor or department. However, the effects of pressures on staff perceived as emanating from the macro-level could not always be modified on the wards, implying certain limits to the facilitation role and thus that wards may have to be pre-selected to provide a receptive context for the intervention. The final version of the logic model sought to capture these findings, displaying the fundamental importance of an adaptive facilitation role to the intervention and a list of barriers and enablers that have to be taken into account to successfully deliver PET. It is envisioned that the logic model will be used by future users of the PET to help them develop context-sensitive facilitation strategies or in the selection of wards for its delivery.

Implications: While formative and participatory methodologies may be increasingly suitable as the complexity of healthcare problems and solutions increases, there remains a role for process evaluation in this emerging research paradigm. In particular, logic models can be used to display the insights of inductive, qualitative research in a way that may enhance the scale-up of interventions developed through participatory research. Process evaluators should use their independence and detachment to explore the interaction between participatory researchers (and the facilitation they provide) with delivery settings and study outcomes.

Logic model for the Yorkshire Patient Experience Toolkit:



P3.1 Digital Innovations Abstract Session

03/07/2019
11:35-12:50

Automation and the future of primary care

Matthew Willis
University of Oxford

Background: The National Health Service (NHS) in England is under remarkable pressure to improve services, cut costs, and address poor staff morale. Specifically, in primary care there are staff shortages, increased workloads, increased demand for services, low funding, shortages in skills, increases in referrals to other parts of the health system outside of primary care, and decreased time for patient consultation¹²³. One path toward meeting these challenges is the use of automation as a force multiplier for primary care staff, i.e. getting more done with less effort.

Method: We employ qualitative and quantitative methodologies to thoroughly understand work practices in primary care, then develop a machine learning framework to understand what tasks can and cannot currently be automated in primary care. Ethnographic fieldwork, interviews, focus groups, and document collection were carried out at six primary care practices located in Oxfordshire, Yorkshire, Berkshire, Surrey, and West-Midlands. These detailed data were then used to formulate a dataset of tasks, augmented by skills, knowledge, and ability data from the O*Net Dataset⁴. In the second stage a survey of machine learning and AI experts was used to determine the probability of automating these tasks based on different task characteristics. Using an Independent Bayesian Classifier Combination we classify survey respondents' ratings of tasks to create a linear scale of automatability⁵. We then combine the primary care observation data set, task automation scores, and O*Net data using a machine learning framework to create a functional mapping between the skills, knowledge and ability characteristics of work activities, and the ground truth of automatability elicited from the expert survey. For further details of our method, see⁶.

Results: A Kernel Density Estimation showed that over 40% of all administrative tasks undertaken in NHS primary care practices are mostly or completely automatable today. However, although a significant portion of administrative tasks are at risk of either part or complete automation, we must take into account the context and situated practices of these tasks. Fieldwork and qualitative analysis show that just because something can be automated, doesn't mean it should be automated, at least without proper support. Clinical documentation in particular represents a social challenge to automation due to the cognitive and critical thinking support such documentation enables. Similarly, we found no incentive for staff to support predicting patient "did not attend" (DNA) rates to prevent DNA's. Tasks and workflows which have a high automation score and are socially amiable to automation include phone calls, stock and inventory management, writing letters, and scheduling staff and clinics. There also appear to be substantial differences between the way practices operate if they are a single-site independent practice or a multi-site super practice, suggesting a difference in how automation technologies would be implemented and used in practice.

Implications: Another way to think about this is that over 40% of the current administrative task workload presents an opportunity to alter or reduce current staff workloads. This affords a significant opportunity to rethink how NHS practices operate, how work is performed, and how occupations are designed and scoped in the future. The insights we have learned through our work may certainly be of benefit to organisations considering applying automation solutions and other digitisation strategies. In doing so, we should ask direct questions that inform the use of the technologies: Which types of tasks would most benefit the practice by their automation? If this resulted in a change in people's tasks, who would it affect most? If tasks were removed from a staff member's workload, what kind of work (if any) would replace them? Who will be responsible for supporting and maintaining the automated tasks while new ways of working are being developed? Further details and research results from this project can be found at: <https://healthautomation.oii.ox.ac.uk/>

Acknowledgement: This work is supported by The Health Foundation, award #7559.

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03/07/2019
11:35-12:50

Mixed methods rapid-cycle evaluation of Digital Minor Illness Referral Service pilot in North-East England

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Background: The Digital Minor Illness Referral Service (DMIRS) is a pilot scheme set up in North East (NE) England that offers people who contact National Health Service (NHS) 111 with specific minor illnesses the opportunity to consult with a community pharmacist across 388 designated community pharmacies as an alternative to General Practitioners (GPs).

Ethics Approval: not required (service evaluation)

Method: A mixed-method approach was used. Routinely reported service activity data from the DMIRS Electronic Health Record (EHR) database (3 December 2016 – 11 June 2018), NHS 111 Directory of Service (DoS), and service user survey data were analysed using descriptive statistics. Service providers' experience with DMIRS and the process of DMIRS were collected from semi-structured interviews of pharmacists providing DMIRS. Semi-structured interviews were conducted to understand the broader perspectives of DMIRS and reasons for not registering for DMIRS among non-DMIRS pharmacists were conducted to DMIRS activity. and user survey data were analysed using descriptive statistics and. A thematic analysis of qualitative data was undertaken, based on grounded theory.

Results: A total of 24,576 referrals were made in the NE for minor illnesses that could potentially have been referred to DMIRS. Of these, 7,404 calls were referred from NHS 111 to DMIRS pharmacies. Furthermore, DMIRS accounted for approximately 1.7% of all NHS 111 referrals to primary care.

A detailed breakdown of NHS 111 referral pattern for the conditions covered by DMIRS in the NE is shown in (Figure 1a). The data shows that the combined activity matches the patterns for all NHS 111 activity.

Figure 1a NHS 111 referral pattern for the conditions covered by DMIRS in the NE

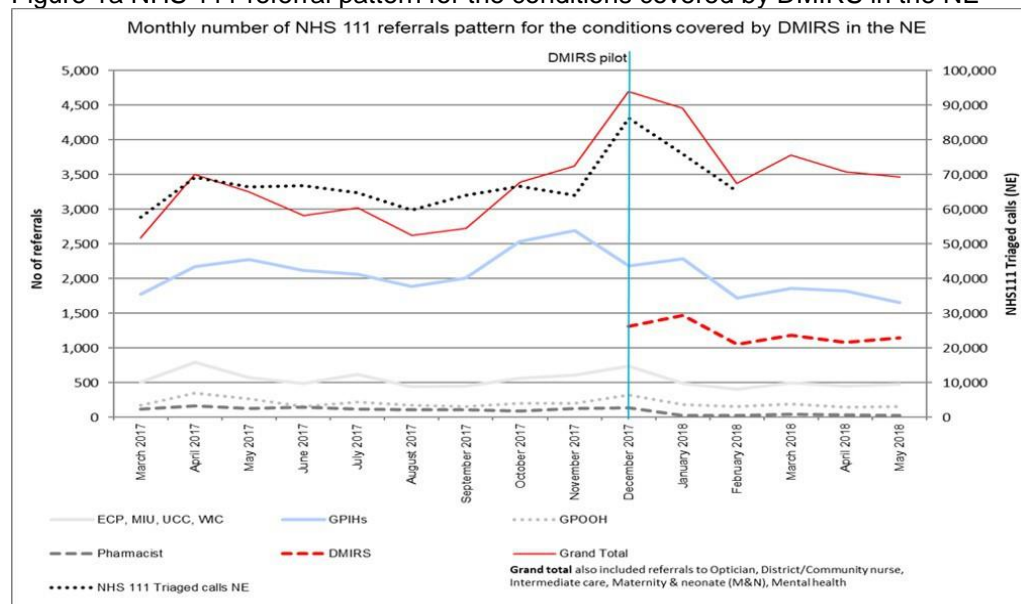
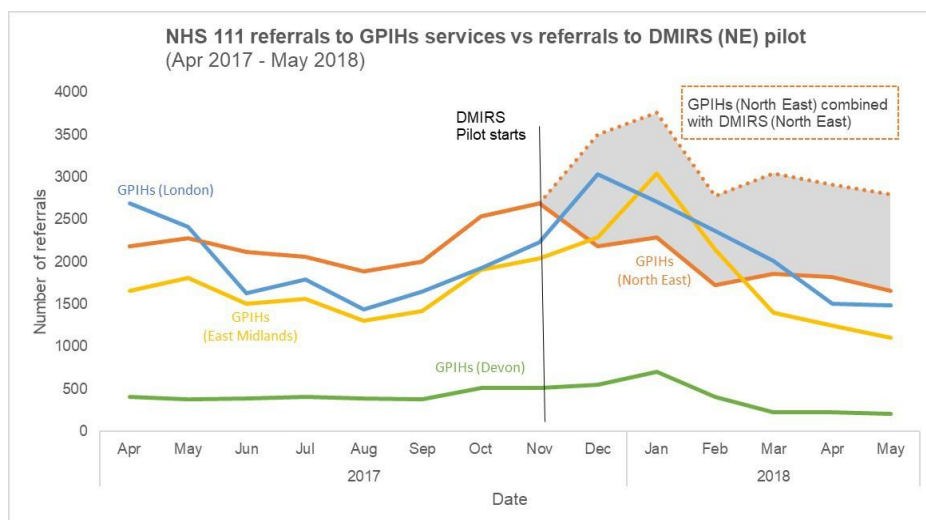
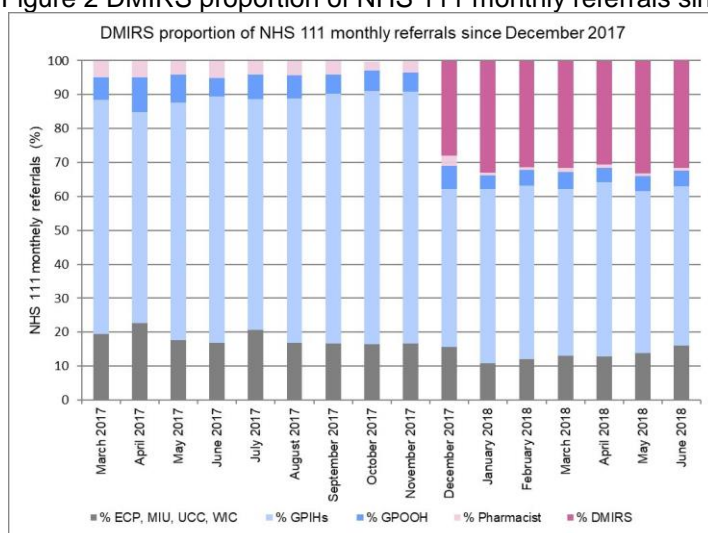


Figure 1b shows the percentage of referrals sent to each service. This shows that in the 6 months prior to DMIRS being introduced, referrals to GPIHs accounted for 72.6%, and signposting to community pharmacy represented 5%. In the 6 months after the introduction these figures were 47% and 0.6%, respectively, with the DMIRS now accounting for 31.7%. This non-comparative result would suggest that referrals are being shifted from GPIH to DMIRS, but assumes that the referral pattern for conditions covered by DMIRS matches that of all NHS 111 referrals. Figure 1b NHS 111 referrals to GPIHs services vs referrals to DMIRS in NE DMIRS pilot



To address the above assumption, the GPIHs activity for the NE was compared with that of the three areas that will be testing the DMIRS scheme in September 2018 (Figure 2). The data shows that referrals to GPIHs increased outside the NE region during December/January, matching the pattern seen for NHS 111 in general; whereas, GPIHs activity decreased in the NE during December/January. The most likely explanation for this would appear to be referrals being directed to DMIRS instead of GPIHs.

Figure 2 DMIRS proportion of NHS 111 monthly referrals since December 2017



Of the 7,404 total DMIRS referrals, approximately 50% of referrals were completed by pharmacists, 22% were sign-posted to GPs or other care locations, 28% did not attend or were uncontactable. There was a reduction of the monthly number of people referred by NHS 111 to GPs during December period. The service user survey showed that 82.6% thought their health problem was resolved. Overall satisfaction with the service was very high with more than 82% of respondents indicating positive feedback. Pharmacists who were interviewed were satisfied with DMIRS and perceived it to be good for community pharmacy and good for the community. The perceived challenges experienced by pharmacists were inappropriate referrals from NHS 111, additional time taken for an escalation or a referral after DMIRS consultation, lack of communication with GPs to close the loop and understanding the outcomes of escalated cases.

Conclusion: Pharmacists can provide consultations to people for specific minor illnesses in their communities. Findings suggest that DMIRS meet the stated aim of channel-shifting from GPIHs to community pharmacies. DMIRS users are reported to be satisfied with received service. Pharmacists reported their overall satisfaction with the administrative, technical and operational elements of the service. Future studies on DMIRS user's journey after DMIRS consultations (e.g. re-consultation and resolution) and cost-effectiveness of DMIRS are warranted.

03/07/2019

11:35-12:50

Understanding the characteristics and healthcare utilisation of patients registered with the Babylon GP at Hand digital practice

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Background: Babylon GP at Hand (GPAH) is an innovative approach to offering digital-first primary care based within a Hammersmith & Fulham GP practice, but offering care to patients across London primarily through use of a mobile app and video consultations. The app enables patients to access GP services 24/7, at short notice, via a virtual appointment using video conferencing and voice calls on a smartphone. Patients can also access symptom-checker services (driven by Babylon's Artificial Intelligence tool) and health monitoring software. If patients need a face-to-face appointment they can access in-person services in one of GP at Hand's five London-based sites. All patients accessing the service de-register from their previous NHS practice, and register with Babylon GPAH. As a service that claims unparalleled access to primary care, Babylon GPAH has the potential to transform the way primary care is delivered in England. However, the digital practice has also courted controversy with accusations that the service undermines traditional GP practices as it appeals predominately to younger healthier patients. To shed light on the debate, NHS England's Operational Research & Evaluation Team undertook a rapid cycle evaluation of the GPAH service to understand the demographic and health characteristics of those registering with the practice and their use of NHS 111, A&E and inpatient services before and after joining GPAH.

Method: Analysis included those registering with the GPAH service between July 2017 and November 2018. Over the study period the GPAH list size grew rapidly from 2,500 to 38,000 patients.

Analysis made use of a range of routinely available health datasets. Hammersmith & Fulham (H&F) CCG SystemOne data was used to describe the characteristics of the GPAH registered population, including Quality and Outcomes (QOF) disease register prevalence rates which were compared with age and sex standardised QOF prevalence rates for H&F CCG. Secondary Uses Service (SUS) data and call level NHS 111 data held by NHS England were used to understand GPAH patients' utilisation of other health services. A cohort approach, based on month of registration with GPAH, was used to understand patterns of NHS 111 call rates and A&E attendance rates compared with London averages in the nine months before and after registering with GPAH.

Age and sex standardised comparisons between GPAH and London were also made for outpatient appointments and emergency and elective admissions.

Results: The GPAH practice list grew rapidly from 2,500 patients to 38,000 by November 2018. Compared to London and England averages, the GPAH list is very young, with nearly 90% of patients aged 20-40. Over half (56%) of patients are male. The largest disease registers for GPAH patients are depression, asthma and obesity. As would be expected, given the younger demographic of GPAH patients, the percentage of patients on each of these registers was lower than London, England and H&F CCG averages. After adjusting for age and sex, QOF prevalence rates were still below expected rates - except for asthma which is broadly as expected. This suggests that GPAH patients have fewer long-term conditions than their peers in H&F. Longitudinal analysis of GPAH patients' use of NHS 111 and A&E before and after registering with the practice highlights that patients register with the practice at a time of health need as both NHS 111 and A&E use increase just prior to registration. This pattern is not unique to GPAH, as other newly registered patients in London display a similar pattern.

GPAH patients had higher NHS 111 call rates than the London average prior to joining the digital practice, but post-registration call rates reduced to around the London average. This suggests that GPAH may, to some extent, be substituting for NHS 111. There was no evidence that GPAH is reducing use of A&E as GPAH patients had A&E attendance rates near the London average both before and after registering with the practice.

GPAH hospital outpatient and admission rates were below age and sex standardised expected rates pre and post GPAH registration. Admission rates for GPAH patients remained unchanged before and after registration, but outpatient appointment rates did increase relative to rates prior to registration.

Implications: Babylon GPAH, along and other digital primary providers, has the potential to transform the way primary care is delivered in England. This analysis provides an early insight on the population groups most likely to make use of these new digital services and the potential impact digital primary care may have on wider health economies. As such, the results of this analysis have direct relevance to policy decisions on the future role of digital primary care services in England.

Video consultations as business-as-usual: fantasy or reality?

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Background: There has been a significant policy push to develop video consultations, using applications like Skype or FaceTime to connect clinicians and patients by video link. The NHS Long Term Plan promises to redesign services so that, by 2024, up to a third of hospital outpatient consultations will be undertaken by video link. The idea is that this will increase convenience, reduce costs and free up staff time. However, whilst randomized controlled trials have shown video consultations to be acceptable, safe, and effective in selected conditions and circumstances, the service model has rarely been mainstreamed and sustained in real-world settings. The online environment is also known to produce subtle alterations in the dynamics of human interaction, with a potential risk that clinical clues might be missed or the clinician-patient dynamic altered.

Methods: We draw on two qualitative studies undertaken over the past six years, one completed and one on-going. VOCAL (Virtual Online Consultations: Advantages and Limitations), was a mixed-method study of Skype video consultations, embedded in an organizational case study, taking account of national context, that sought to (1) define good practice and inform implementation of video outpatient consultations, and (2) generate transferable knowledge about challenges to scaling up and routinizing this service model. The study followed the introduction of video outpatient consultations in an NHS trust (covering three hospitals) in London. Data sources included 36 national-level stakeholders (exploratory and semistructured) interviews, longitudinal organizational ethnography (300 hours of observations; 24 staff interviews), 30 videotaped remote consultations, 17 audiotaped face-to-face consultations, and national and local documents. QUARC (Qualitative Analysis of Remote Consultations) uses established techniques to undertake detailed interactional analysis of different modes of communication (eg, speech, gesture, and gaze) in a dataset of 37 video consultations undertaken by senior and junior doctors and nurse specialists, including consultations with adults with diabetes, women who have diabetes during pregnancy, people consulting for postoperative cancer surgery (drawn from VOCAL) and community-based patients having routine heart failure reviews. Data were analyzed using a combination of sociotechnical change theories (addressing staff and patient experience and organizational and system drivers) and conversational analysis (addressing the patterning of interaction within video consultations).

Results: On the whole, we have found that when clinical, technical, and practical preconditions were met, use of video link was popular with some patients and staff and enabled safe and effective consultations. However, Skype and FaceTime are still novel communication mediums for many users. Three operational and technological issues adversely effected some consultations: (1) consultation openings (in which greetings provide critical moments indicating that participants can see and/or hear one another and that the consultation can go ahead - when clinicians and patients behave as in a regular face-to-face consultation this can lead to confusion, unnecessary delays, and dissatisfaction with the technology and/or consultation); (2) technical difficulties (with issues such as latency, i.e. the delay between one person saying something and the other participant hearing it, potentially impacting on conversational flow and generating misunderstandings e.g. about medication); and (3) physical examinations (with visual, tactile and technological examinations feasible for some patients/conditions but relying on unspoken assumptions about the technology as well as knowledge and understanding of medical procedures and the meaning of measurements). The reality of establishing video outpatient services in a busy and financially stretched acute hospital setting proved more complex and time-consuming than originally anticipated. By the end of the VOCAL study, between 2% and 22% of consultations were being undertaken remotely by participating clinicians. In the remainder, clinicians chose not to participate, or video consultations were considered impractical, technically unachievable, or clinically inadvisable.

Implications: Video consultations are, broadly speaking, a good idea with potential to save time and money and make clinical services more accessible. However, simply replacing face-to-face with video-mediated contact presents potential challenges to communication which clinicians and patients need to be aware of and work to overcome. Video consultations in NHS hospitals is not likely to be easy, quick or cheap. Given the potentially complex challenges to embedding video consultation services within routine practice in NHS organizations, especially in times of austerity, the aspiration for a third of hospital outpatient consultations to be undertaken by video link by 2024 may remain just that: an aspiration.

P3.2 Quality & Safety Abstract Session

03/07/2019
11:35-12:50

In the name of safety: Identifying and letting go of low-value safety practices.

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¹Yorkshire and Humber Patient Safety Translational Research Centre, ²University of Leeds/Yorkshire and Humber Patient Safety Translational Research Centre

Background: This paper presents the first phase of a four phase National Institute for Health Research (NIHR) funded study by the Yorkshire and Humber Patient Safety Translational Research Centre (YHPSTRC). A citizen science based crowdsourcing approach, via an online survey promoted on social media, was used to identify low-value safety practices that represent opportunities for removal. It is increasingly recognised that some clinical procedures are not needed and can do more harm than good, with evidence suggesting as much as 25% of healthcare is unnecessary (Grol & Grimshaw, 2003). In addition, in a National Health Service (NHS) struggling to cope with rising demand, increasingly complex patient care needs and staff shortages, staff have become overwhelmed as: "...the work of healthcare has become undoable." (Sinsky and Privitera, 2018, pE1). This means that reducing unnecessary care whilst maintaining quality and effectiveness is now more critical than ever. Previous, efforts to achieve this have primarily focused on removing health technologies (Haas et al., 2012) and clinical practices that offer little or no benefit (Bekelis et al., 2017). To build a safer, more effective healthcare system however, we must also consider stopping non-clinical safety practices that do not necessarily result in safety improvement or add value (Norton et al 2017) to develop a 'programmatically decommissioning learning health system' based on 'mindful forgetting' (Coiera, 2017). This was reinforced in NHS Long Term Plan (NHS England 2019) which proposes healthcare professionals should identify ways to reduce duplication in how clinical services are delivered. Yet, the best way to do this in healthcare is unclear (Niven et al 2015; Bekelis et al, 2017) and stopping practices may be more difficult for staff than the adoption of new innovations (Ubel et al 2015).

Method: The study had ethical approval from the University of Leeds. A short online survey was developed and piloted with healthcare staff, then used to crowd source low value safety practices from NHS staff over a 10 month period up to December 2018. Responses were analysed using thematic and content analysis.

Results: Almost three hundred healthcare staff from a range of healthcare professional groups completed the survey, identifying 318 low-value safety practices that could be stopped. Responses were received from staff in all the English regions, a wide range of professional groups and a variety of acute and community care settings. Ten themes were identified. These included: non-contextualisation of care, duplication and over documentation. Examples of the commonest safety practices healthcare staff suggested stopping were: routine double checking of all medicines, some incident investigations, transcribing the same patient information to multiple documents, hourly rounding on all patients and Emergency Department breach times.

Phase 2 of the study will determine priority safety practices for stopping, based on evidence review, staff and patient/public perspectives and economic modelling. Phase 3 will then use behaviour change approaches to develop and test, evidence based interventions to support 'mindful forgetting' (Coiera, 2017) or 'letting go' of the priority safety practices identified in Phase 2 in the workplace. Phase 4 will apply the learning from this to begin developing a learning health system that incorporates the programmed 'mindful forgetting' proposed by Coiera (2017).

Implications: Phase 1 has already demonstrated that frontline NHS staff are willing and able to identify and help address the issue of low-value safety practices to maximise the safety and effectiveness of healthcare delivery. As the study progresses, it will provide unprecedented insight into the little understood topic of the stopping established practices within a healthcare safety context, to inform and support the development of a truly learning NHS which systematically stops non-clinical safety practices that do not result in safety improvement. This should enable staff to focus on higher value safety activities, ultimately improving patient safety, staff wellbeing and optimising stewardship of NHS resources.

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Meeting 7 Day Standards: What Affects Implementing Nationally Imposed Change?

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¹University of Leicester, ²University of Birmingham

Background: The ability of organisations to improve quality is influenced by the characteristics of those organisations. Previous research has identified characteristics of high performing and struggling organisations (Vaughn et al., 2019) but more research is required to investigate how these characteristics can impact on improvement, whether this is based on internal innovation, or engagement with external quality improvement programmes. We explored how organisational characteristics impacted on the implementation of externally-imposed, national quality standards, through case study research focusing on the national quality standards for the provision of 'seven day services'. We investigated the role of organisational culture, along with resources and external factors, in enabling or hindering implementation of these standards.

Methods: We purposively sampled eight hospital trusts; four High intensity specialist led (HiSLAC), and four low intensity specialist led (LOSLAC), and inspected the published quantitative data for each trust on performance against four prioritised seven day service standards. In addition, we conducted a total of 43 qualitative semi-structured interviews across the trusts, with executive/director level staff, acute medical consultants, acute consultant rota co-ordinators and senior nurses. Interviews explored strategies used, and challenges faced, in implementing seven day services standards. We used the competing values framework (Cameron K and Freeman S, 1991) with interviewees to prompt discussion of organisational culture, and the impact of culture on efforts to achieve service-level change in response to external standards.

Results: Implementing the priority seven day service standards required efforts to change working patterns and practices of senior staff at weekends, to deliver on the standards for improved patient review and provision of consultant-directed care. Staff in higher performing trusts identified features of their organisational culture, and efforts to generate vision and consensus around shared values, as critical for implementing externally-imposed change. Staff in higher performing trusts were more likely to describe their organisation as having a developmental culture, with positive staff attitudes towards innovation, and a focus on quality improvement. They were able to frame the issue of seven day standards as in alignment with organisational values, and used cooperative and social strategies, such as peer pressure, to achieve change. Staff from higher performing trusts did, however, acknowledge tensions between having a developmental and innovative culture, and the need to control the process of delivering change when it was externally imposed. These trusts were less likely to be experiencing pre-existing financial or infrastructure problems, and described positive relationships with external providers and regulators. In those trusts performing less well, staff described significant resource constraints that impacted on their ability to improve weekend care, including difficulty recruiting staff, which directly impacted on their capacity to make large scale changes to service provision. They also highlighted problematic relationships with external providers. This meant that the infrastructure to support implementation of new quality standards was challenged. These hospitals were more likely to have a history of poor performance and a more hierarchical and target-driven culture. As a result, staff further down the hierarchy were less likely to share in organisational values, and front-line staff engagement in the endeavour of improving weekend working was seen as problematic.

Implications: Our research identifies how organisational characteristics influence the implementation of externally-imposed service-level change. Generating consensus and cooperation were important to make change happen, and this was facilitated by a developmental organisational culture. However, successful sites were also more likely to have a past history of higher performance and be facing fewer resource and infrastructure challenges. Struggling sites described a lack of resources, a disenfranchised workforce, and pressing need to improve basic service quality, as barriers to working creatively and flexibly to implement external quality standards. Our study highlights the role played by organisational culture in successful improvement, but also shows that culture is inextricably linked with local contingencies and historical context.

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03/07/2019

11:35-12:50

The quality and safety of locum doctors: an international rapid review

Jane Ferguson, Kieran Walshe
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Background: Internationally, there have been increases in temporary working in the healthcare sector. Temporary doctors, known as locums, are often argued to pose higher risks to patients than permanently employed doctors because they are more likely to work in unfamiliar teams and settings and are less likely to receive oversight from supervisors and employing organisations. However, there is little empirical evidence to substantiate this assertion. The aim of this review was to establish what the available evidence could tell us about the quality and safety of locum medical practice.

Method: A rapid review of the evidence base, including the empirical and 'grey' literature relating to the quality and safety of locum medical practice was carried out following PRISMA guidelines, a desktop review of five jurisdictions was also conducted to explore differing systems of governance and regulation for locum doctors.

Results: Findings highlighted that the evidence based relating to the quality and safety of locum working was both sparse and methodologically weak. We found no prior systematic literature reviews. Overall, locums were generally regarded as necessary but potentially problematic, in that they may allow healthcare organisations to maintain appropriate staffing levels and flexibility, but they may also adversely affect continuity of care, patient safety, team functioning and costs. This literature also suggests that there is often a lack of robust systems for managing/overseeing locum doctors including inadequate pre-employment checks and induction, unclear line management structures, poor supervision and reporting of performance, and a risk that locums with performance problems move from organisation to organisation. However, our review found only five empirical studies comparing locum and permanent doctor practice and performance, generally with small sample sizes and weak methodologies. A lack of comprehensive national data and formal regulation of locum working meant that key concerns about the quality and safety of locum practice were difficult to gauge. Overall, we concluded that there is very limited robust empirical evidence to support the many commonly held assumptions about the quality and safety of locum working. Implications. An inadequate evidence base relating to locum working, partly due to poor record keeping and reporting oversight may mean that locum working represents an undiagnosed problem. Policies and guidelines used by healthcare organisations working with locum doctors may therefore be based on limited evidence. Robust research is necessary to address these knowledge gaps and highlight where patient safety is most likely to be at risk from locum working.

P3.3 Workforce 3: Wellbeing, Changing Makeup Abstract Session

03/07/2019
11:35-12:50

The importance of stories: lessons from a rapid evaluation of the NHS Workforce Race Equality Standard.

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University of Sheffield

Background: The NHS Workforce Race Equality Standard (WRES) was introduced to the NHS in 2015 to address widespread race inequalities within the NHS. The WRES mandates annual reporting on 9 specific metrics comparing Black and Minority Ethnic (BME) staff experience with the rest of the workforce for all NHS trusts in the UK. Metrics included existing NHS staff survey measures relating to harassment, discrimination and beliefs regarding equal opportunities, alongside additional indicators relating to appointment from shortlisting, career progression and training opportunities. Trusts are required to provide an action plan to address race inequalities in response to the metrics. We aimed to explore the acceptability of the WRES as an appropriate measure of race inequalities, how trusts had used the WRES to make changes within their organisations and barriers and enablers to implementation.

Methods: We undertook telephone interviews with 13 senior stakeholders and 19 senior leaders and members of staff with responsibility for implementing WRES. We also undertook rapid case studies incorporating telephone interviews with 21 senior leaders (including chief executives, chairs of boards and other senior executives) alongside focus groups with BME staff within 5 different types of NHS organisation (acute trust, community and mental health trust, ambulance trust, specialist trust and arms-length body). Interviews and focus groups were recorded and transcribed verbatim. Data were managed and coded using NVivo software and analysed using thematic analysis.

Findings: WRES indicators were considered broadly appropriate and successful at demonstrating race inequalities, although the inclusion of existing NHS staff survey indicators were felt by some to be too broad and insensitive to promote change. The use of benchmarking had encouraged some trusts to undertake whole population surveys rather than sample surveying due to the impact of small numbers on their comparative figures. Overwhelmingly, staff reported that the WRES metrics had provided incontrovertible data that had 'opened the eyes' of senior management to the race inequalities within their organisations and raised the profile and position of equality and diversity on the board agenda. However, there was evidence of significant variation in organisational response to WRES and in the level of engagement and commitment to change from senior leaders. Prior levels of engagement with, and understanding of, the equality and diversity agenda appeared to impact upon the organisational response to WRES data, and the degree to which initiatives to improve race equality could be attributed to WRES. Resistance from middle management, competing organisational pressures and resource restraints were reported as barriers to action by senior leaders, particularly where organisations were undergoing significant organisational change. BME staff described cultures within some organisations as resistant to change and valued BME leadership, role modelling and BME networks as enablers to improving equality. Understanding the lived-experience and narrative behind the metrics appeared to be key to improving engagement for staff at all levels and helped counter resistance due to concerns of positive discrimination.

Implications: WRES metrics highlighted inequalities but required organisations to explore beyond the data to understand the underlying staff experience. Triangulation of metrics with a strong narrative may help to engender change in resistant organisations and enable spread of interventions to improve race equality throughout different layers of the organisations.

03/07/2019

11:35-12:50

Understanding job dissatisfaction, 'burnout' and alienation of labour in England's NHS

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The National Audit Office noted 50,000 vacancies across all types of NHS clinical staff in 2014. It estimated a shortfall of 5.9 per cent between the number of staff that NHS organisations said they needed (and had budgeted for) and the number of staff actually in post. More recent data suggest the position has worsened. For example, in the year up to September 2017 10% of the nursing and midwifery workforce left the NHS, over 3,000 more than joined. Workforce planning has always been a problem for the NHS, because the NHS tends to under-estimate the need for staff and over-estimate the availability of practitioners. In 2017 the House of Lords Select Committee on the Long-term Sustainability of the NHS confessed to being:

"...concerned by the absence of any comprehensive national long-term strategy to secure the appropriately skilled, well-trained and committed workforce that the health and care system will need over the next 10–15 years. In our view this represents the biggest internal threat to the sustainability of the NHS."

In response the NHS is developing a workforce strategy within the Long Term Plan, promoting new roles such as Nurse Associates, as well as expanding medical student places to offset the shortfall in GPs. Although necessary and welcome these plans need to specifically address the causes of staff shortages arising from exit from the professions, which seem to be due in large part to widespread job dissatisfaction, 'burnout' and estrangement ('alienation') from the NHS. These three categories have yet to be defined clearly, making them difficult concepts to analyse, but nonetheless they are used widely in different health care systems to explain widespread problems of staff retention, especially in nursing and medicine. This paper will (on the basis of a rapid appraisal of the literature) tease out the meanings and consequences of job dissatisfaction, burnout and estrangement, and propose a causal hierarchical model linking the three states. The model connects job dissatisfaction, the least severe state in that it appears to induce little lasting damage on patients or professionals whilst being experienced by staff as "part of the job", with burnout, also a state that produces little measurable harm to patients but which does have effects on professionals' subjective experiences.

Estrangement/alienation, understood as a unidimensional construct of estrangement from the tasks of the discipline and features of the whole NHS, can have an impact on the physical and mental health of professionals, but (following Lefebvre) this paper argues that alienation (like the preceding states) is reversible; dis-alienation occurs. Using Light's taxonomy of the Buyer's Revolt against rising health care costs, it will explore the nature of health care labour and changing patterns of work in the NHS, both of which appear to drive dissatisfaction, burnout and alienation, but in different ways in different health care systems. Although there is evidence of individual vulnerability to the job stresses promoting job dissatisfaction, burnout and alienation, personality characteristics account for only a small percentage of 'caseness' whilst organisational factors like service reconfiguration, demands for higher productivity, or bullying account for most.

Finally, this paper will discuss the possible implications of the model for NHS management, trades unions and professional organisations working within the NHS Plan. For example, at a macro-level Berwick recommends stopping excessive measurement, reporting and auditing, abandoning complex financial incentives, reducing the focus on budgets but increasing attention to care quality, protecting civility and rejecting greed. Similarly at a micro-level structural empowerment of nurse teams can lead to psychological empowerment of individual nurses, with a resulting rise in job satisfaction. Structural empowerment occurs when practitioners receive information that is relevant to the task facing them, have resources (especially time) to do the job, and are supported through feedback and guidance that promote learning. Restructuring services according to the NHS Plan will offer opportunities to ameliorate job dissatisfaction, burnout and alienation, but could also worsen these states, depending on how it is carried out.

03/07/2019

11:35-12:50

The potential impact of Brexit and immigration policies on the GP workforce in England: a cross-sectional observational study of GP qualification region and the characteristics of the areas and population they served in September 2016

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Background: The UK is dependent on international doctors, with a greater proportion of non-UK qualified doctors working in its universal health care system than in any other European country, except Ireland and Norway. The terms of the UK exit from the European Union can reduce the ability of European Economic Area (EEA) qualified doctors to work in the UK, while new visa requirements will significantly restrict the influx of non-EEA doctors. We aimed to explore the implications of policy restrictions on immigration, by regionally and spatially describing the characteristics of general practitioners (GPs) by region of medical qualification and the characteristics of the populations they serve.

Methods: This is a cross-sectional study on 37,792 of 41,865 GPs in England, as of 30 September 2016. The study involved age, sex, full-time equivalent (FTE), country and region of qualification and geography (organisational regions) of individual GPs. Additionally at the practice and geography levels, we studied patient list size by age groups, average patient location deprivation, the overall morbidity as measured by the Quality and Outcomes Framework (QOF) and the average payment made to primary care per patient.

Results: Non-UK qualified GPs comprised 21.1% of the total numbers of GPs, with the largest percentage observed in East England (29.8%). Compared to UK qualified GPs, EEA and elsewhere qualified GPs had higher FTE (medians were 0.80, 0.89 and 0.93, respectively) and worked in practices with higher median patient location deprivation (18.3, 22.5 and 25.2, respectively). Practices with high percentages of EEA and elsewhere qualified GPs served patients who resided in more deprived areas, had lower GP-to-patient ratios and lower GP-to-cumulative QOF register ratios. A decrease in pay as the percentage of elsewhere qualified GPs increased was observed; a 10% increase in elsewhere qualified GPs was linked to a £1 decrease (95% confidence interval 0.5–1.4) in average pay per patient.

Implications: A large percentage of the UK general practice workforce consists of non-UK qualified GPs who work longer hours, are older and serve a larger number of patients in more deprived areas. Following Brexit, difficulties in replacing this valuable workforce will primarily threaten the care delivery in deprived areas.

03/07/2019

11:35-12:50

Care Under Pressure: a realist review of interventions to tackle doctors' mental ill-health and its impacts on the clinical workforce and patient care

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Background: The NHS needs healthy, motivated doctors to provide high quality patient care, but being a doctor is a challenging job. In recent years, increasing workload due to societal demand for healthcare services, combined with increasing external scrutiny, has been associated with a high prevalence of mental ill-health amongst doctors [1]. Our focus on doctors working in the NHS reflects the pressing recruitment and retention issues in this profession (e.g. doctors-in-training, general practice, emergency medicine), the significant potential for sick doctors to cause harm to patients and the financial implications of doctors' mental ill-health and loss from the profession. Existing interventions seem to have limited effect given that the issue of mental ill-health in NHS doctors is not improving, but, rather, getting worse [2]. Current debates tend to be based on the idea of building doctors' individual 'resilience' to cope with stress. However, this approach is not always the best way to deal with complex issues such as doctors' wellbeing and mental ill-health [3]. There is a risk that focusing on 'resilience' lays responsibility on the individual, potentially aggravating work pressures [4] and contributing to the emergence of psychological distress.

Aim: Our project aimed to understand how, why and in what contexts mental health services and support interventions can be designed in order to minimise the negative impacts of providing care on doctors' mental ill-health.

Methods: We conducted a realist review [5] of interventions to tackle doctors' mental ill-health and its impacts on the clinical workforce and patient care, drawing on diverse literature sources. Throughout the process, we also engaged iteratively with diverse stakeholders (e.g. doctors who have experienced mental ill-health, representatives of patients and public, other healthcare professionals, policy makers) in order to produce actionable theory and tailor our recommendations.

Results: The review included 178 studies (empirical research, reviews, and policy reports); the majority are from the USA, are published in the 2010s, and target 'doctors' or 'physicians' rather than being speciality-specific. Our realist synthesis produced 18 CMOCs (Context Mechanism Outcome Configurations). It identified social isolation, and stigma towards mental health (namely a cultural/professional difficulty for doctors to take the role of patients) as important processes leading to mental ill-health. Groups, belonging, and relationality emerged as vital factors which can help to reduce the incidence and intensity of mental ill-health. Prioritising connection (with colleagues, patients etc.) can help to build a sense of belonging within teams, programmes, organisations, and professions. It can promote job satisfaction, workforce retention, alleviate stigma, offer more opportunities for mutual learning – ultimately contributing to the improvement of the care provided to patients. Alongside presenting key causative and remedial factors related to mental ill-health in doctors, we will discuss preventative measures, and recommendations on how to implement new interventions, and/or modify existing ones.

Implications: The project provides evidence-based explanations of how, why, who and in what circumstances mental ill-health is more likely to develop in doctors; and on what can remediate the situation. Such knowledge can enable policy makers, health services decision makers, and local team leaders to modify working environments, and it can inform the design of appropriate existing/future support for doctors experiencing mental ill-health. Our recommendations – which have been developed drawing also on the principles of the Evidence Integration Triangle [6] – support the tailoring, implementation, monitoring and evaluation of contextually-sensitive strategies to tackle mental ill-health. This research was funded by the NIHR Health Services and Delivery Research (HS&DR) Programme (project number 16/53/12). PROSPERO registration number: CRD42017069870.

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P3.4 Implementation Abstract Session

03/07/2019

11:35-12:50

Developing products for knowledge mobilisation: how best to get them used?

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Background: The current emphasis on demonstrating academic 'impact' has led to the proliferation of knowledge mobilisation (KM) products from healthcare research (e.g. toolkits, guidance etc), which may be referred to as 'boundary objects'. These may (or may not) support the sharing of information between different communities. Little is known about the motivation for the development of KM products from healthcare research, how they are developed, or the factors which might influence whether and how they contribute to knowledge mobilisation in practice.

This qualitative study aimed to address the following questions with regard to KM products in healthcare research:

- What factors drive and influence their development?
- How are stakeholders involved in their development?
- What factors from the development process influence their potential application?

Methods: Phase 1 included 20 interviews and a focus group (n=11) with academics, healthcare managers, and research funders, specifically focussing on perceptions of toolkits as an exemplar of KM products. Thematic analysis was performed inductively using techniques based in grounded theory. Phase 2 included four case studies of applied healthcare research projects which were developing KM products including toolkits, guidance and interactive dashboards. An ethnographic approach was taken which included observations (80+ hours), document analysis (>150) and interviews (40) with key stakeholders including principal investigators, project managers, researchers, funders, senior organisational leads, stakeholders and end-users. Thematic analysis was inductive and deductive, building on Phase 1 themes and developing new themes where appropriate. Boundary object theory was applied as a lens through which to interpret the findings.

Results: Phase 1: The dominant findings were the constraining effect of the academic context on researchers' ability to concentrate on developing KM products, and the NHS's capacity to integrate research into practice. Toolkits were perceived to be ambiguous and difficult to define, but in general were viewed as practical resources to help users put knowledge into practice. Participants' overwhelming cynicism with regard to toolkits was driven by perceptions that funders 'mandated' toolkits, that they were a tick box exercise to gain grant funding, that the 'NHS is awash with toolkits', and their production was being driven by the 'impact agenda'.

Phase 2: Emergent themes from Phase 2 include stakeholder engagement, (with a range from tokenism to full embedding within the project); development processes (from clear work packages to those lacking a clear timescale); leadership (from distant and disengaged to dynamic and engaged leadership). The potential for KM products to move from 'designated boundary objects' to 'boundary objects in use' was influenced by the need for the product, genuine collaboration with a wide range of stakeholders, and the time and effort devoted specifically to their development. At times, they were characterised as symbolic boundary objects, being used as bargaining chips either with funders or research subjects, rather than being used solely to get research into practice.

Themes from Phase 1 were supported in the analysis of Phase 2, with the impact agenda creating seemingly unresolvable tensions with regard to the perpetuation of the development of KM products. Despite many respondents acknowledging that KM products are unlikely ever to be sufficient on their own to have a significant effect in mobilising knowledge, they continue to be developed frequently as a stand-alone intervention rather than as part of a broader knowledge mobilisation strategy. In addition, the notion of demonstrating impact from single studies appears to be at odds with the view from applied healthcare research that knowledge is cumulative. Participants reported feeling obliged to develop such products as a way of demonstrating their dedication to research impact, although it was often motivated by the prospect of this leading to future success in grant applications rather than due to any real belief that the products themselves are likely to lead to a change in practice within healthcare.

Implications: The current academic context whereby researchers are driven by the need to fulfil paper, grant and 'impact case study' requirements appears to drive the development of KM products. In order to optimise the potential application of KM products, researchers and funders need to consider carefully the motivation for their development. Where developing such a product is felt to have the potential to make a real impact in practice, planning stakeholder engagement, appropriate collaboration and clear development processes might maximise the chance of them becoming boundary objects-in-use, rather than simply remaining as ineffectual designated boundary objects.

03/07/2019

11:35-12:50

The challenge of intervention spread and scale in a national organisation for stroke survivors: lessons from a process evaluation of innovative carer support

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¹University of Manchester, ²University of Cambridge

Background: In high income countries like the UK, an ageing population and improved stroke management to reduce stroke mortality has led to a rise in stroke survivors. Stroke is a leading cause of disability and survivors often require ongoing support and care, which is typically provided by informal caregivers, such as family members. The demands of these caring roles can impact on the caregiver's own physical and emotional well-being, finances, professional and social activities and also have a detrimental effect on the stroke survivor. Although the importance of supporting informal carers is widely recognised there is little clarity on how best to identify and assess their needs. This study reports on the process evaluation of a recently completed Cluster Randomised Controlled Trial (cRCT) called Organising Support for Carers of Stroke Survivors (OSCARSS) (see Patchwood et al. 2019). OSCARSS investigates the clinical- and cost-effectiveness of a new approach to supporting carers within an organisation supporting people affected by stroke across the UK. The cRCT involved 35 widespread clusters (18 intervention, 17 control) and 414 carers participated. The new approach is based on the Carer Support Needs Assessment Tool (CSNAT) (Ewing and Grande, 2013) and includes a training and implementation toolkit to provide a carer-led approach to assessment and support. Integral to the development of this approach was the involvement of a research user group made up of individuals with experience of caring for a stroke survivor. This group also supported the development of the study and interpretation and dissemination of the findings through regular meetings and representation on the Trial Management Group.

Methods: Embedded longitudinal mixed-methods process evaluation drawing on Normalisation Process Theory (NPT) to explore issues of sustainability and scalability of the intervention, and inform wider learning for the organisation on identifying and supporting carer needs. Participants were recruited from intervention and control sites to encompass both the new approach and practice as usual. Data are synthesised and presented from:

- an online questionnaire with frontline staff directly supporting stroke survivors and carers at three time points: pre-cluster-randomisation (N=67), 12 months (N=41) and 24 months (N=38) post-randomisation.
- qualitative interviews with frontline staff (N=20), and managers and senior leaders (N=11) at 24 months post-randomisation;
- qualitative interviews with carer participants from the trial at two time points: individual carer study entry (N=21) and 3 months post intervention (N=11).

Data were thematically analysed drawing upon the four main components of NPT which include: coherence, cognitive participation, collective action and reflexive monitoring (May and Finch, 2009). Reflections from the research user group also contributed to the interpretation of staff and carer interview data.

Results: The NPT analysis demonstrates that individual frontline and managerial staff recognise the potential value of the intervention ('coherence') and believe the intervention is a legitimate part of their role ('cognitive participation'). This understanding and motivation for the intervention was enabled through training and assistance from the research team. Existing organisational structures supported the 'collective action' needed to implement the intervention, however frontline staff reported a lack of organisational support for the intervention, which raises questions about sustaining and scaling the intervention across the whole of the organisation. 'Reflexive monitoring' and individual appraisal and reflection on the new approach contributed in drawing wider organisational attention to carers and the need for continuous responsiveness to adapt to changes in service provision both locally, for example in commissioning, and nationally, such as the national plan for stroke in England. Findings from the carer interviews and input from the research user group was essential for considering the acceptability of the intervention to carers themselves.

Implications: This study has implications for the provision of sustainable support for carers of stroke survivors and also for health interventions being implemented in similar complex contexts of different commissioning arrangements, varying capacity, and differences in external supporting services and clinical pathways. Stroke survivors are often living with multiple health conditions so findings are relevant for organisations providing support for carers of people with other long term and complex conditions. The study demonstrates how process evaluation is essential to capture the dynamic nature of implementation in practice, and beyond explaining main effects in trials, can ensure value for stakeholders through capturing wider learning about how an organisation can spread and sustain interventions and anticipate barriers to changing practice.

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Achieving intervention fidelity 'at scale': an analysis of the NHS Diabetes Prevention Programme

Peter Bower, Elaine Cameron, Rhiannon Hawkes, David French
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Background: Prevention is a core part of the NHS Long Term Plan, and the NHS Diabetes Prevention Programme (NHS DPP) is part of an ambitious attempt to achieve prevention on a national footprint. However, the scale of the implementation of the NHS DPP means that 'fidelity' (i.e. adherence to the intervention protocol) is paramount if the impact of diabetes prevention demonstrated in research studies is to be maintained in practice. The NIH Behavioural Change Consortium developed a comprehensive model of treatment fidelity that incorporates 5 areas: (a) design (b) training providers (c) delivery of treatment (d) receipt of treatment and (e) enactment of treatment skills. During our DIPLOMA programme evaluating the NHS DPP, we assessed fidelity of the design of the NHS DPP to the underlying evidence-based specification.

Methods: We used document analysis to assess fidelity in design, comparing the original evidence-based programme specification (including NICE PH38 guidance) with the programme manuals and framework response documents from four private providers delivering the NHS DPP. All documents were coded using the Template for Intervention Description and Replication (TIDieR) framework and Behaviour Change Technique Taxonomy v1. We compared both pragmatic service delivery features and the inclusion of specific behaviour change techniques (BCTs).

Results: All four providers met requirements for duration and frequency of DPP sessions, but the specific number and size of group sessions differed between providers. Nineteen distinct BCTs were identified in the Service Specification (including NICE guidance), but programme manuals for the four providers contained between 23 and 45 distinct BCTs. Framework responses for the four providers contained between 24 and 30 distinct BCTs, indicating variation in BCT content between provider intervention documents. Providers planned to deliver between 68% and 74% of the 19 unique BCTs specified by NHS and NICE, according to their programme manuals.

Implications: The four providers are planning on delivering approximately three quarters of BCTs in the programme specification, as well as some content which is not mandated. Variation is to be expected to a degree, given the involvement of four different private providers with different backgrounds and service delivery experience, and the fact that the NHS DPP is being delivered outside the confines of a research project, where fidelity assessment and monitoring is less easily conducted. Several important questions remain. Do the issues identified in the programme manuals and framework response documents remain when the NHS DPP is actually delivered in the field? What is the impact of the fidelity 'gaps' (both absent BCTs, and non-specified BCTs) on the effectiveness of the NHS DPP? Further work within the DIPLOMA programme will examine later steps in the NIH Behavioural Change Consortium model, including training (observation of NHS DPP training sessions), delivery (observations of NHS DPP course delivery), and receipt (discussions with patients as to their experience of receiving the course). We will also explore the degree to which variation in fidelity is reflected in eventual patient outcomes. The work will have implications for the delivery of prevention at scale in the NHS and local authorities more generally.

Disclaimer:

This work is independent research funded by the National Institute for Health Research (Health Services and Delivery Research, 16/48/07 – Evaluating the NHS Diabetes Prevention Programme (NHS DPP): the DIPLOMA research programme (Diabetes Prevention – Long Term Multimethod Assessment)). The views and opinions expressed in this briefing are those of the authors and do not necessarily reflect those of the NHS, the National Institute for Health Research or the Department of Health and Social Care.

Evaluation of the Implementation of the UK Antimicrobial Resistance Strategy, 2013-2018, in diverse local settings

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Background: Antimicrobial resistance (AMR) is recognised as a significant threat to human health with major economic implications[i]. The impact of increased AMR on patients and members of the public is likely to be significant, with the loss of important antibiotics resulting in routine medical procedures becoming increasingly dangerous and estimates of up to 10 million additional deaths globally per year by 2050[ii]. The UK Five Year Anti-Microbial Resistance (AMR) Strategy, 2013-2018[iii] was released by the Department of Health (now Department of Health and Social Care), with the Department for Environment Food and Rural Affairs, Public Health England, and the Devolved Administrations in September 2013. The primary objective of the Strategy, which encompasses human and animal health, is to slow the development and spread of AMR. Implementation of the Strategy included activity at national and local level across the UK designed to improve infection prevention and control, and optimise prescribing of antibiotics. We used the so-called 'top-down' and 'bottom-up' lenses to analyse implementation processes of the Strategy[iii]. The top-down lens assumes a linear rational process of implementation through hierarchical structures, whereas the bottom-up perspective recognises that actors at local level have discretion to implement policy in ways that may differ from what was originally intended.

Methods: We studied implementation of the Strategy from the perspectives of national and local participants in England and the Devolved Administrations; and the interaction that takes place between the different levels of implementation. Methods included case studies exploring implementation of the Strategy across human health systems in West Norfolk, Camden, Blackburn with Darwen, Glasgow, Derry/Londonderry and Betsi Cadwaladr. Case studies exploring implementation in animal sectors were also completed, but will not be reported here. We completed semi-structured interviews with national (n= 49) and local (n=96) participants, in addition to drawing on documents and routinely available quantitative data on infection, prescribing and AMR.

Results: There is considerable variation in performance against infection, prescribing, and AMR indicators at local level[iv]. Local targets were seen as an effective means of changing practice in human health sectors. In England, financial incentives were linked to achievement of targets in primary and secondary care. We found local variation in the response to financial incentives. Trusts and general practices may struggle to meet the requirements where the incentive is based on improvement of previously strong performance (a ceiling effect); where the organisation lacks the size to invest in specialist expertise (an effect of scale); and where organisations that are struggling financially lack the funds for 'invest to save' initiatives (a financial effect). We identified examples of local implementation of prescribing initiatives employing a quality improvement approach. Interviewees described concerns about the potential for 'fatigue' in relation to trying to reduce AMR at local level. In England, national engagement at the local level to focus activity on the priorities of the Strategy was often ad hoc, through self-nominated local 'champions'. In contrast, general practices were incentivised to nominate a practice champion for AMR in Northern Ireland and, in Scotland, all Trusts were required to have a multi-disciplinary antimicrobial team with a named individual as a point of contact.

Implications: While implementation of the Strategy has resulted in greatly raising the profile of AMR nationally and locally, our findings indicate there are significant implementation challenges that require more concerted efforts at local level. We found extensive variation in processes and outcomes within some and across all of the case study sites. This is to be expected given that we purposively selected a diverse range of sites, but they are not unique. Similar local contexts are to be found throughout the UK. A challenge for policy makers is to how to address the variation in outcomes and encourage the delivery of contextually informed initiatives with respect to both infection management and prescribing. While top-down performance management approaches may be useful for influencing priorities for action at local level, in future, a combination of performance management and quality improvement approaches may be more useful for addressing variation in local implementation. We suggest that the implementation of the National Action Plan replacing the Strategy should focus explicitly on addressing local variation, and identifying processes for sharing learning and expertise.

[i] The Review on Antimicrobial Resistance Chaired by Jim O'Neill, 2016. Tackling Drug-Resistant Infections Globally: Final report and recommendations

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P3.5 Co-Production Abstract Session

03/07/2019
11:35-12:50

How can shared decision making for cardiovascular conditions be supported?

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University of Bristol

Background: Shared decision making is a process by which clinicians and patients work together to make healthcare choices. Implementing shared decision making in routine care has proven challenging. Hypertension and chronic heart failure are two common health conditions; research focused on shared decision making for chronic conditions in general, and for these two conditions in particular, is sparse. Few studies have investigated shared decision making in routine care using qualitative observational methods. The aim of this study was to understand how patients with hypertension or chronic heart failure experience involvement in decision making during consultations, in order to understand how shared decision making for these conditions can be supported.

Methods: Mixed qualitative methods were used in a longitudinal study. Twenty-four patients with either hypertension or chronic heart failure were recruited from five general practices, sampled to represent a range of practice deprivation levels and practice size. Patients were sampled to include participants with a range of ages and stages of hypertension / heart failure. All patients took part in in-depth baseline interviews. All patients were followed-up, and when they had consultations (with any healthcare practitioners, both at the GP surgery or in other healthcare settings) these were observed and audio-recorded. Following audio-recorded consultations patients and healthcare professionals took part in interviews focusing on their experiences in the preceding consultation. Interviews and data relating to the consultation were transcribed verbatim. Data was considered in two sets: baseline interview data, and all data relating to the consultation (observations/ audio-recording and post-consultation interviews). Data were analysed thematically and used an inductive, constant comparison method. A coding frame was developed and applied to the data; as analysis continued broader categories became evident and these were gradually developed into themes.

Results: All 24 patients took part in baseline interviews; data relating to consultations was collected for 13 of these. Forty consultations were observed (between one and six consultations per patient). Patients' understanding of their health condition was found to be crucially important to their involvement in healthcare consultations. For many patients, in particular those with heart failure, their lack of understanding reduced their opportunities for involvement in healthcare decisions. Lack of understanding affected patient's ability to report important symptoms, to ask questions (including about what the future holds), and to understand the relevance of much of the consultation to any healthcare choices that were subsequently discussed. Most consultations did not provide opportunities to increase patients' understanding of their healthcare condition. Two factors appeared to limit the opportunities patients had to be involved in decision making during a consultation: the highly-structured nature of consultations, and consultation complexity. Highly-structured consultations were led by the healthcare professional and tended to focus on biomedical tasks, limiting patients' contributions to the consultation to either answering the healthcare professionals' questions or asking questions when invited to do. Complexity of consultations also reduced the opportunities for patients to contribute to decision making. Complexity was evident in all consultations for heart failure. Most patients perceived healthcare decisions as straightforward transactions and described accepting treatments that clinicians suggested to them. Few patients recalled discussions about treatments as decisions; rather they recalled being told that medications were necessary. Exceptions to this were the rare situations when patients perceived there was a choice regarding their medication (for example statin decisions) and when they experienced side-effects. Decisions were distributed, i.e. different components of a decision were made over a series of different types of interactions with one or multiple practitioners. Typically, only a small amount of time during consultations was devoted to making decisions about treatment; there was very little discussion of the potential benefits and dis-benefits of treatments (including side-effects), or of the patient's preferences in relation to treatment. Patients often described trust in clinicians as enabling them to believe that clinicians were acting in their best interests, and to adopt a passive stance toward decision-making.

Implications:

Factors reducing patient involvement included the tendency of consultations to be routinized, task-focused and to pursue a biomedical agenda, limited health understanding of patients, the distributed nature of healthcare decisions, and the lack of explicit discussion about choice. If shared decision making is to be facilitated, these barriers need to be addressed.

03/07/2019 11:35-12:50

The co-production of chronic pain peer support groups: A qualitative study examining patients' roles in implementation

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Background: Chronic pain affects approximately 40% of the UK population and can impact a person's mobility and independence, and lead to depression. The NHS provides group pain management programmes (PMPs) to help people manage the effects that chronic pain has on their daily life and improve how they cope. These programmes have been shown to have good results, but improvements don't always last beyond 6 months after PMPs end. North Bristol NHS Trust are tackling this problem by developing 'follow-on' peer support groups for people once they've finished their PMP. The idea behind the development of these groups first came from patients who felt they needed ongoing support after their PMP. They challenged pain clinicians to co-develop this, and together they co-designed a method that helps to trigger peer support amongst PMP participants after NHS programmes have finished. This study illustrates how it is often both patients and staff who are involved in the implementation of health interventions. Implementation theory needs to be developed to take greater account of how patients are involved in the evolution of healthcare. Implementation can be conceptualised as a form of 'co-production', that can involve both staff and patients. Building on conceptual frameworks that differentiate between co-production types, it is illustrated how co-production theory can help us understand patients' contributions in implementation. A framework is presented that integrates co-production and implementation theories. Interdisciplinary perspectives on co-production illustrate how patients can be involved in three different aspects of implementation:

1. the co-design of health interventions (developing peer support groups);
2. the everyday practices of implementing interventions (how patients run peer support);
3. the outcomes and value that are created from an intervention (how patients experience and use peer support to manage their own health).

Methods: This research was co-created by a group of patients and clinicians who sought collaborative support from NIHR CLAHRC West to investigate the experiences of patients who had taken part in peer support groups after PMPs. The research question of the study was "What types of peer support groups are formed (or fold), for whom are they working (or not working), when, where and why?" Interviews (n=45) were conducted with:

- 7 clinical staff involved in running PMPs
- 10 volunteer patient tutors who were involved in facilitating PMPs and helping to set up peer support groups
- 17 PMP patients who had taken part in peer support groups, and 11 who hadn't.

Six peer support group meetings in community settings were also observed. Data were analysed using realist evaluation techniques to understand the implementation process of peer support groups, how different contextual conditions affected the development and running of peer support, the mechanisms of peer support, patients' experiences and the long-term effects of peer support.

Results: Data analysis follows the three different parts of the co-production and implementation framework. First, data illustrates how peer support groups were originally co-developed and embedded into PMPs with the help of volunteer patient tutors. It describes how the first group emerged from patients' ideas, and how volunteer patient tutors worked with clinicians to extend peer support groups through the pain service. Now PMP patients are steered by volunteer patient tutors to set up peer support groups after every PMP. Second, the different peer support groups that have developed are outlined, illustrating their variety and how groups develop in practice. Whilst there was a peer support protocol that was co-developed by staff and volunteer patient tutors, the peer support groups that developed from this were diverse, with the protocol interpreted in different ways. For example, some groups kept in more contact using social media, rather than regular face-to-face meetings. Not all groups continued to meet over a longer period of time, and some found it difficult to start up meetings. We also provide the perspectives of patients who did not join peer support groups and explore their experiences. Third, the value and outcomes of peer support groups are illustrated. Patients spoke of the importance of the ongoing support, trust, understanding and social connections that peer support groups enabled. Some patients shared how the support they received from groups meant that they did not feel the need to access health services as much as they previously had.

Implications: Results indicate that ongoing peer support can be beneficial to some patients with chronic pain. Further research is needed to understand how they may work in different NHS pain services. The study illustrates how patients can have a vital role in designing, implementing and refining healthcare interventions that support patients' own needs. Conclusions demonstrate how co-production and implementation theories can be integrated

and used to analyse and reconceptualise the role of patients in the implementation of different healthcare interventions. This theoretical framework can be applied to other implementation studies.

03/07/2019

11:35-12:50

Can patients, carers and clinicians co-produce increased social, cognitive and physical activity on acute stroke units? The Collaborative Rehabilitation Environments in Acute Stroke (CREATE) study

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Background: Stroke care has been radically transformed following the introduction of the national UK Stroke Strategy in 2007. Major organisational changes aim to ensure that every stroke patient is admitted to specialist centres and most recent Stroke Sentinel National Audit Programme (SSNAP) data indicates that about 85% of patients spent at least 90% of their time in a Stroke Unit. Early mobilisation is critical to improving long-term outcomes. However, observational studies carried out in stroke units since the 1980s consistently show that patients have minimal opportunities for social, cognitive or physical activity outside of structured therapy sessions. Boredom and apathy are commonplace and both negatively impact on outcomes. Outside of therapy – patients spend most of their time inactive and alone. Until recently, most intervention studies focused on what is delivered by therapists and there have been minimal efforts to explore organisational contexts and processes, which may contribute to (in)activity in a broader sense. The CREATE study aimed to evaluate the feasibility and impact of patients, carers and clinicians co-producing interventions to increase and improve patient activity on acute stroke units. Our research questions were: 1) can a co-production approach improve accessibility and quality of patient activity on acute stroke units?; 2) whether and how can co-produced interventions in one unit be transferrable to other units?

Methods: We undertook a mixed method, case comparison evaluation. We recruited two stroke units in London and two in Yorkshire. In the first two acute stroke units in London and Yorkshire, we used Experience-Based Co-Design (EBCD) to structure our approach and evaluated the feasibility of implementing the co-produced interventions (phase 1). We implemented these and other co-produced interventions in two further stroke units (phase 2) over a reduced time period. We evaluated factors influencing co-production pre and post implementation and the impact of the interventions on social, cognitive and physical activity, using ethnographic observations (n= ~400 hours), interviews (n= 72 staff, 52 patients and 25 carers), PROM/PREM questionnaires (n= 173) and behavioural mapping (n= ~7000 observations). Qualitative data were analysed thematically and quantitative data summarised descriptively and compared pre and post implementation within and between sites. We used Normalization Process Theory (NPT) to study the implementation and assimilation of the co-produced interventions in the study settings.

Results: Our triangulated findings show it was feasible to co-produce interventions to increase social, cognitive and physical activity on acute stroke units and that EBCD facilitated change both in its full and accelerated forms. Sites in phase 1 co-produced and implemented interventions across three priority areas (space, activity and communication) over 14 months. Filmed interviews with patients and carers in phase 1 proved powerful triggers for action and were utilised in phase 2 sites where interventions were implemented over 8 months. All sites implemented several interventions to improve activity including: environmental and (unit) organisational changes to enable greater social interaction between patients and families. Engagement with community groups and the voluntary sector for singing, art and exercise groups; therapy dogs; and personalising bed spaces to encourage 'home into hospital' using 'something about me boards', photo hangers and familiar home items to facilitate greater social interaction between patients and staff. Post-implementation interviews indicated patients; family members and staff engaged positively with EBCD and reported that substantive changes had occurred. Staff who had not taken part in EBCD also reported positive change in their working environments. Ethnographic observations indicated more patient-staff interactions and increased activity levels. Using NPT, factors influencing the introduction of the EBCD approach and implementation of co-produced interventions included EBCD's structured and facilitated approach, which both legitimised and supported participatory co-production activity; and participants' recognition that increased activity needed to be embedded in everyday routines and work in stroke units. Early engagement and buy in from volunteer co-ordinators, estates and clinical management was influenced by the shared view that changes were consistent with their organisations commitment to improving patients' experiences. Barriers commonly impacting on implementation of co-produced interventions across sites included the practicalities of ensuring team wide engagement with increasing activity opportunities, persistent staffing shortages and turnover, and the severity and high level of dependency of the caseload.

Implications: Pre-implementation data identified high levels of inactivity and strongly supported the need for change across all stroke units. As the first example of using EBCD in such services, as evidenced in our qualitative findings, the CREATE study has facilitated and documented improvement in patient activity levels driven by a co-production approach. EBCD can be a catalyst for identifying and implementing co-produced interventions, which improve opportunities for greater social, cognitive and physical activity in a stroke specific context. Further work is required to

understand factors influencing sustainability and develop strategies to enable implementation beyond these four stroke units and into other inpatient settings.

P3.6 Service Access & Utilisation Abstract Session

03/07/2019
11:35-12:50

Out of pocket costs for medicines: using model patients to compare six countries

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Background: Health systems in most countries contribute significantly towards the cost of medicines for at least some citizens. However, patients often have to pay out of pocket costs which can act as a barrier to access, particularly for people on low incomes [1, 2]. This study examines how effective the health systems in six OECD countries (Australia, Canada, England, Finland, Germany and New Zealand) are in protecting citizens from high medicine costs. In Canada we included three provinces (British Columbia, Quebec and Newfoundland/Labrador) and the federal Non-Insured Health Benefits Programme (NIHBP).

Method: We developed a series of model patients of varying ages and income levels. Four different health problems were chosen: asthma, type 2 diabetes with common co-existing risk factors, schizophrenia and metastatic renal cell carcinoma (a rare cancer treated with expensive medicines). With the assistance of collaborators from each of the countries we determined the typical medicines used to treat each of these conditions, the local prices of these medicines, and what the patient would pay for the medicines. Prices paid by each model patient were then compared using purchasing power parities, and we used data on incomes to calculate the cost of the medicines as a proportion of model patient's likely income.

Results: There were striking differences in medicines prices between the countries. New Zealand prices were consistently the lowest. Prices in Canada were comparatively high. In Australia (for patients with concession cards), England, Germany and New Zealand, all prescriptions have a fixed co-payment prescription charge, so medicine price does not influence the amount patients pay. In Canada, Finland and for other patients in Australia, prescription charges are based on the list price of the medicine, so the relatively high prices in these countries are significant for patients. Model patients spent from 0% to over 50% of their income on medicines. Young adult patients, those with low incomes, and those with metastatic renal cell carcinoma were at risk of spending a high proportion of their income on medicines. Some model patients were exempt from medicine costs because of age, medical condition or income type. Patients in England paid the least, and almost all of our model patients did not have to pay for their prescription medicines. This reflects the very generous exclusion criteria for prescription charges in England. In New Zealand there were few exemptions but prescription medicine charges were relatively low compared to other countries. Patients in Canada generally paid more for their medicines than those in other countries. For each of the conditions, a model patient from Canada paid the highest proportion of their income on medicines. This suggests that the Canadian system is not good at protecting patients from high costs. All of the model patients who spent 0.5% or more of their yearly income for a month's supply of prescription medicines lived in Canada. Thirty two of the 105 Canadian model patients not covered by the NIHBP paid more than this.

Implications: Attempts to control medicine prices are clearly more successful in some countries than in others. Canada's high prices may be due in part to the many purchasing bodies for medicines in Canada. With the exception of Germany, the other countries in this study all have a single public agency responsible for purchasing medicines or setting medicine prices. This gives these agencies greater bargaining power. There was considerable variation in out-of-pocket costs for patients across the countries and conditions included. Co-payment systems in some countries were more effective at protecting patients from high medicines costs. The model patients who spent the largest proportion of income on prescription medicines were generally those on the lowest incomes, particularly young people and those earning a minimum wage. Payment systems need to be designed to ensure that these people do not miss out on medicines they need. While no real patient data was used in this study, using model patients gives unique insights into how co-payment systems work and the application of such systems to real-life situations. It would be difficult to obtain real data for so many different types of patients.

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03/07/2019

11:35-12:50

Healthcare utilisation among migrants to the UK: cross-sectional analysis of two national surveys

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Background: In the context of increasingly polarised public discourse on migration, objective, up-to-date, evidence about migrants' utilisation of health services is needed to inform policy. The UK national health service provides universal health coverage to residents of the UK. Though migrants from some countries are required to pay a visa levy to allow use of the health service. Previous evidence has suggested that migrants to developed countries are often healthier, and use less secondary care than native born residents, however there has been little information on utilisation of other health services. Our research examined whether migrants use health services as often as those born in the UK, and examined variation in this pattern by the type of service. We then analysed whether variation in utilisation between migrant and UK-born populations explained by differences in age or health, and if this pattern changed since arrival to the UK.

Methods: We explored health service utilisation in the past 12 months among migrants to the UK over seven health service domains: primary care, inpatient admissions, outpatient care and childbirth, mental health, dental care and physiotherapy. We adjusted for age and sex, and additionally for long-term health conditions, using weighted logistic regression. We additionally explored whether the association between being a migrant and health service utilisation varied with time since moving to the UK. We used data collected as part of two nationally representative household surveys. Understanding Society is a panel survey with fieldwork for included responses carried out between January 2015 and June 2017. The European Health Interview Survey is a cross-sectional survey with UK data collected between March 2013 and September 2014.

Results: Healthcare utilisation among migrants to the UK is lower than utilisation among the UK born population (OR range 0.58-0.89) for all healthcare dimensions except childbirth. After adjusting for differences in age and self-reported long-term health conditions between migrants and non-migrants, these differences were no longer observed, except for dental care (OR 0.57, 95%CI 0.49-0.66, $p < 0.001$). Considering primary care, outpatient, and inpatient care, we found utilisation was lower among those who have recently moved to the UK, and increased to the levels of the non-migrant population among those who have been in the UK for 10 years or more.

Implications: We found that migrants to the UK typically had lower healthcare utilisation than non-migrant populations; these differences are largest for migrants who have recently moved to the UK and are explained by younger age and fewer health conditions of migrants. These results contribute up-to-date nationally representative evidence to inform public debate and policy in the areas of migration and the NHS.

03/07/2019

11:35-12:50

The associations between deprivation and hospital service use for children and young people locally and nationally: Learning from research to inform innovative service delivery and tackle inequalities

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Background: Children and young people in the UK have poor and unequal health outcomes, and increasing and unequal dependence on hospital services. To improve health outcomes and tackle inequalities in health and service use in Lambeth and Southwark, the local clinical commissioning groups, local authorities, and healthcare providers formed The Children & Young People's Health Partnership (CYPHP). CYPHP is delivering an innovative model of care to children and young people, improving equity through pro-active case finding and services tailored to the patient's family and social context.

Aims: To analyse the relationship between deprivation and secondary care use among children and young people. To quantify the scope and magnitude of the CYPHP ambitions to reduce inequalities, by describing the associations between deprivation and secondary care use in Southwark and Lambeth before introduction of CYPHP services. To compare local inequalities in service use with national data.

Methods: Cross-sectional data on English general practices (n=7244) were compared with local data from the 86 GPs in Southwark and Lambeth. Data were extracted from the Public Health England Fingertips tool National General Practice Profiles in July 2018. The Income Deprivation Affecting Children Index (IDACI) and Index of Multiple Deprivation (IMD) were used as measures of deprivation, based on 2015 data. Hospital activity (during 2013/14 – 2015/16) for under-18s was measured by A&E attendance rate, outpatient first attendance rate, and emergency hospital admission rate. Linear regression was used to estimate the dependence of each hospital activity measure on each deprivation measure. In the national data set, GPs with the highest 1% of A&E use were identified as outliers and excluded from analyses.

Results: GP practices in Southwark and Lambeth have higher deprivation indices (mean IMD 29.7, 10th percentile 21.9, 90th percentile 36.4; mean IDACI 30.0, 10th percentile 19.9, 90th percentile 36.4) than the national averages (mean IMD 20.0, 10th percentile 8.3, 90th percentile 33.4; mean IDACI 23.6, 10th percentile 9.8, 90th percentile 40.2). The mean A&E attendance rate in Southwark and Lambeth for under 18s (426 per 1000 person-years, 10th percentile 340, 90th percentile 532) is higher than the national rate (386 per 1000 person-years, 10th percentile 247, 90th percentile 549). The mean outpatient and emergency admission rates in Southwark and Lambeth for under-18s (Outpatient: 236 per 1000 person-years; Emergency admissions: 53 per 1000 person-years) are marginally lower than the national means (Outpatient: 261 per 1000 person-years; Emergency admissions: 68 per 1000 person-years). In Southwark and Lambeth, A&E and outpatient attendances were positively associated with deprivation indices. A&E results: IMD regression coefficient 3.9, 95% confidence interval 1.2, 6.8; IDACI regression coefficient 3.9, 95% confidence interval 1.5, 6.3. Outpatient results: IMD regression coefficient 0.6, 95% confidence interval -0.6, 1.9; IDACI regression coefficient 0.3, 95% confidence interval -0.8, 1.5. Emergency admissions did not show a clear dependence on deprivation. Nationally, all three hospital activity measures were significantly associated with the deprivation indices. The magnitude of the regression coefficients for A&E attendance and Outpatient use were similar to the Southwark and Lambeth values. The regression coefficients for emergency admissions were 0.5 and 0.6, for IMD and IDACI respectively.

Implications: Future research and action A&E attendances for under-18s in Southwark and Lambeth exceed the national rate. Of the three measures of under-18 secondary care use, A&E attendances show the greatest disparities. Further observational work will identify drivers of high and unequal A&E use. The evaluation of CYPHP services will assess the impact of innovative services to reduce A&E attendances and improve equity of service use and ultimately of health outcomes.

03/07/2019
14:25-15:40

[illegible]

Method: We searched 15 databases including CINAHL, MEDLINE, EMBASE and PsycINFO to identify any empirical evaluations of CLAHRCs. Current and archived CLAHRC websites and the reference lists of retrieved articles were scanned to identify any additional manuscripts. Searches were restricted to English language only. Any publications from evaluations of the CLAHRCs were eligible for inclusion if they fulfilled at least one of three pre-specified inclusion criteria. A narrative synthesis was undertaken. Consistent with an integrative approach to synthesising evidence, we performed a narrative synthesis of the evidence. The synthesis aimed to present a descriptive summary of findings across studies and then to generate, across reported findings, a number of themes relevant to the aims of this review. An iterative process of adaptation and refinement was undertaken to generate initial themes, and these were further refined via consensus discussions with the full research team.

Conclusions: Our findings suggest that although a large body of knowledge and learning exists, much of this remains 'locked up' within CLAHRCs and collectively CLAHRCs and the evidence they produce has had a low profile. ARCs must avoid perpetuating this knowledge-practice gap. If this is to be avoided cross-ARC coordination of the communications, dissemination and 'linkage and exchange' activities within and between ARCs and other key agencies will be needed to accelerate promulgation and adoption of research outputs. Cross-ARC evaluation focused on which knowledge mobilisation approaches work, where, how and why is also warranted.

03/07/2019

14:25-15:40

“If you wear a uniform you’re a nurse. I don’t” Boundary spanning and identity work in the clinical research workforce; a qualitative study of research nurses, midwives and allied health professionals

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Background: Research nurses, midwives and allied health professionals (RNMAHPs) are at the heart of delivering clinical research in the UK. They are boundary spanners, providing and delivering high quality patient care, undertaking data collection and follow-ups, liaising with patient groups and industry. They also develop and build the multi-disciplinary teams that deliver research. They operate in a constantly unfolding policy context regarding health research workforce, and are the focus of significant National Institute of Health Research (NIHR) strategy and leadership investment, e.g. ‘NIHR Clinical Research Network: Developing our Clinical Research Nursing Strategy 2017-2020’ and the 70@70 NIHR Senior Nurse and Midwife Research Leader Programme. There is also a growing literature on the experiences of health research workforce, including that of nurses, midwives and allied health professionals. This includes studies regarding various national contexts (e.g. UK, US, Australia, New Zealand, Italy, Canada, Jordan), areas of medicine (e.g. oncology, tissue viability, primary care), types of study involvement (e.g. clinical trials, qualitative studies), and activities entailed (e.g. processing informed consent with participants). This study adds to this emerging literature. We report on a study that has explored the role of RNMAHPs in bridging between research studies and potential participants. Their role is both to make a success of the research, by maximising recruitment and retention, ensuring data collection and intervention adherence, while ensuring informed consent, protecting participants and making their experience as good as possible. This is a neglected and sometimes undervalued role, but a crucial link between research and participants. Research nurses may find their role rewarding and stimulating, but may feel marginalised from both the research team and their colleagues in ‘mainstream’ nursing, midwifery etc. What do we know about their experiences of these roles, and of spanning these multiple boundaries?

Methods: In-depth interviews with a maximum variation sample of research nurses, midwives and allied health professionals (n=46) with experiences ranging from a few months to more than 25 years. Interviews were audio and video recorded (with consent) and transcribed. A thematic analysis was undertaken using a modified grounded theory approach. A new resource under the ‘Health Research’ section of Healthtalk.org has been published.

Results: Interviews were wide ranging and revealed a range of tensions; practical, ethical and emotional. RNMAHPs face career tensions and often a lack of recognition from their clinical colleagues. There are challenges of conducting research in NHS settings, in a busy and resource-limited context which is not designed or necessarily accommodated to this purpose. Barriers can be structural, physical and cultural, ranging from lack of available rooms to use to see potential participants when discussing sensitive issues to unclear career structures and progression. Participants had a range of formal and informal strategies they employed to navigate the potential inhibitors to research activity, sometimes in subversive ways and/or using creativity and reward-based systems. There were a range of challenges to professional-personal identities and challenges to those identities in the transition to research jobs that were surfaced. Signifiers, such as uniforms and badges, became key symbols of these tensions. We will present a discussion of these findings in the wider context of the invisible work of nursing (Allen 2004) and identity work and status identity (Gill 2013).

Implications: We will consider these results in the context of the literature on professional identities of research nurses, midwives and allied health professionals. We will discuss issues that this research raises for the recognition and professional support and training needs for this workforce.

03/07/2019
14:25-15:40

Taking the pulse of the health services research community in Australia and New Zealand: a cross-sectional survey of research impact, barriers, and support

Rachael Morton
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Background: Health services research in Australia and New Zealand faces a number of challenges such as inequitable funding allocation and difficulties in quantifying the impact of HSR on changing health policy or practice. This study commissioned by the Health Services Research Association of Australia and New Zealand (HSRAANZ) reports the: (1) characteristics of individuals conducting health service research (HSR) in Australia and New Zealand; (2) perceived accessibility of resources for HSR; (3) self-reported impact of HSR projects; and (4) perceived barriers. Methods: A sampling frame was compiled from funding announcements, trial registers, and HSR organisation membership. Listed researchers were invited to complete online surveys.

Results: A total of 424 researchers participated (22% response). Respondents held roles as health service researchers (76%), educators (34%), and health professionals (19%). The most common employer were universities (64%) and 57% held a permanent contract. Although 63% reported network support for HSR, smaller proportions reported executive (48%) or financial support (26%). The least accessible resources were economists (52%), consumers (49%), and practice-change experts (34%) – researchers affiliated with health services were less likely to report access to statisticians ($p<0.001$), economists ($p<0.001$), librarians ($p=0.02$), and practice-change experts ($p=0.02$) than university-affiliated researchers. Common impacts included conference presentations (94%), peer-review articles (87%), and health professional benefits (77%). Qualitative data emphasised barriers such as embedding research culture within services and engaging with policy-makers.

Implications: The data highlights opportunities to sustain the HSR community through dedicated funding, improved access to methodological expertise, and greater engagement with end-users.

03/07/2019

14:25-15:40

Conflict in the CLAHRC? The experiences of mid-level academics in an applied health-service research organisation

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Background: As they become more senior, academics are typically expected to do both managerial and research work. Those doing applied health research often face further challenges because they have to address the demands of multiple stakeholders: their students and colleagues, their host universities, their funding bodies, and local and regional stakeholders (including health and social care organisations, patients, and the public). They must also address their own needs, including but not limited to the need to develop and advance their careers and do work that they value. Taking into account these multiple and varying demands, as well as those associated with 'New Managerialism' Mercer (2009), the Research and Teaching Excellence Frameworks (REF and TEF), and the needs of a patient-focused collaboration, the aim of this study was to explore how academic managers within one National Institute for Applied Health Research and Care Collaboration for Leadership in Applied Health Research and Care (NIHR CLAHRC) site in England perceived their responsibilities, how these complemented or conflicted with each other, and the impacts on the individuals involved.

Method: We conducted in-depth semi-structured interviews (n=7) informed by an inductive approach. Participants were mid-level academics (at Senior Research Fellow/ Senior Lecturer/ Associate Professor grades) who worked as part of a CLAHRC and had both research and management responsibilities; sampling was purposive. We undertook thematic analysis of the transcribed interview data.

Results: Most participants felt that, although they were under growing pressure to deliver across a range of areas, with the right types of support some management and research activities could be effectively combined without detriment to either their time or outputs. Challenges were experienced satisfying the requirements of different sets of internal and external stakeholders, particularly around the assessment and reach of research impact, the requirement for specific versus generalisable research skills, and difficulties in producing "high-impact" applied health research outputs of international relevance for REF purposes without compromising potential impact for the health service and local stakeholders. Operating in this environment led to difficulties in terms of job role and terms of employment for the academic careers of the individuals involved but to some extent researchers felt these were offset by individual beliefs and values and in particular by an overriding motivation to improve the healthcare of the population through research.

Implications: The complex interplay of individual, organisational, and external demands on researchers creates possibilities and tensions that do not sit easily with standard researcher roles or aspirations. Our findings suggest that for researchers to flourish they need opportunities to become more specialised in their research field so they can optimise their chances of combined managerial and research success. Senior managers within host organisations need to address the sometimes conflicting demands of multiple stakeholders on researchers to bring them into closer alignment and individual employment contracts should be reviewed in order to broaden the opportunities for success for both the individuals and institutions involved.

P4.2 Patient & Public Involvement/ Voice Abstract Session

03/07/2019
14:25-15:40

Public involvement in evidence synthesis of health services research: experience of the Sheffield Health Services & Delivery Research Evidence Synthesis Centre

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Background: The Sheffield Health Services & Delivery Research (HS&DR) Evidence Synthesis Centre provides rapid evidence syntheses for the National Institute for Health Research HS&DR programme. To ensure that the work of the Centre includes involvement from patients and the public, a standing patient and public involvement (PPI) advisory group was established in 2017 to provide ongoing input across the diverse review topics. The advisory group comprises eleven members, drawn from the local region and other areas of England. Members were recruited by contacting other existing groups, and via an online public involvement website.

Method: While PPI is becoming an increasingly accepted element of evidence synthesis research, studies typically involve a group of patients/public who have particular expertise in a clinical condition or a type of service. This presentation outlines our experiences of having a single public advisory group involved in reviews on very different health service delivery topics. We draw on learning in particular from two recent projects: a review on digital and online symptom checkers and health assessment/triage services for urgent care; and a realist review of factors that facilitate the implementation of interventions to reduce preventable hospital admissions.

Results: The PPI group typically meets every three or four months. We find that scheduling meetings flexibly enables input at times when it is most needed during the review processes. Examples of input from the group during our recent reviews are outlined below.

Informing early work: The digital and online symptom checkers review provides an example of how input from the PPI group informed the early phase of a review. We found that PPI discussion using a strengths-weaknesses-opportunities-threats framework provided valuable understandings for the subsequent work. These included highlighting public concern over the reliability and consistency of symptom checker algorithms; questioning of economic benefits; concerns regarding accessibility to some groups; uncertainty about the impact on the wider urgent and emergency care system; and concerns regarding possible breakdown of the system or loss of data. The input of the PPI group provided depth of contextual understanding of public perspectives to the scope of the topic, and encouraged attention to identification of any data relating to public views/experiences of the technology in the subsequent review.

Synthesis: The preventable admissions review provides an example of where the PPI group was influential during the synthesis phase of the review. The review used realist methods, so the first PPI meeting required a brief introduction to the concept of a realist review. We then discussed factors that could potentially lead from a patient perceiving a problem to an avoidable admission or avoidance of admission. This discussion helped the research team to develop programme theories for the realist synthesis. Before a second meeting, the researchers 'translated' aspects of the programme theories into potential patient real 'scenarios'. Each scenario was discussed with the group, and members were asked to comment on the credibility of the scenarios and clarity of the language used to describe them. As a result of the PPI input, some scenarios were significantly modified, and this was reflected in a change in the researchers' understanding of the corresponding programme theory.

Reporting the findings: During the digital and online symptom checkers review, the involvement of the PPI group informed the reporting of our findings by adding highlight to particular issues that had been identified in the evidence. For example, the group's uncertainty about the likely impact of 'digital 111', reflected in their concerns regarding whether patients would trust the advice they were given, and the desire of patients to be able to talk to someone about their problems for reassurance and empathy was noted in the report's findings. These insights informed our recommendations for ongoing evaluation and further research.

Dissemination and impact: The PPI group had an important role in dissemination of research findings by commenting on draft plain English summaries for each project, and providing input regarding appropriate channels for disseminating the research and achieving impact. The group provided a valuable means for discussing the findings of each review and getting public responses, including feedback regarding where further clarity was required.

Implications: The PPI advisors made substantial contributions to the two evidence synthesis projects discussed. A standing advisory group may have facilitated the reviews gaining public involvement at key points when required in the research process. We found that not having personal experience or expertise of a topic under investigation was not a barrier to providing valuable input. Having a standing group enabled individuals to become familiar with relevant research methods, and become skilled public advisors.

Disclaimer: This abstract presents independent research funded by the NIHR HS&DR programme under project number 16/47/17. The views and opinions expressed are those of the authors and do not necessarily reflect those of the NHS, the NIHR, NETSCC, the HS&DR programme or the Department of Health.

03/07/2019
14:25-15:40

Co-research and involvement of people living with dementia in hospital based mixed method research.

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Background: In NHS hospital settings, people living with dementia occupy as many as one in four hospital beds. Dementia training for hospital staff is a national priority and a key focus of dementia strategies and policy [1-2]. However, evaluation of the impact of dementia training on quality of care in hospitals and outcomes for dementia patients is lacking, and there are limited approaches to research in this area that ensure the perspectives of people living with dementia are included to inform research design and findings. DEMTRAIN, one of eight work programmes within the Neighbourhoods and Dementia (N&D) Study (funded by the ESRC/NIHR; www.neighbourhoodsanddementia.org), is developing the evidence base for evaluating dementia training in NHS hospitals. There is increasing recognition that inclusion of people living with dementia beyond that of participant in health research is an imperative, and should extend to involvement in all areas of the research process [3-8]. The CO-research INvolvement and Engagement in Dementia or COINED model [9] forms part of the work of the N&D Study and is a unique and positive feature of the DEMTRAIN study. The term 'co-researcher' reflects collaborative, co-operative and community-based partnership between groups of people living with dementia, academic researchers and service providers.

Methods: We utilised a mixed methods research design, that included a cohort study, Hospital Episode Statistics and health economics analysis, as well as primary data collection. These data included survey data at organisational (hospital) and staff levels, and qualitative data gathered through a multi-hospital case study approach. A systematic review of literature identified contextual factors, mechanisms, interactions, facilitators and barriers to dementia training in the hospital setting. This mixed method approach formed the basis of a programme theory that has been used to illustrate these components in a logic model of dementia training in acute hospital settings. Across each of the study phases, we have facilitated the involvement of people living with dementia as co-researchers, guided by the COINED model of co-research. In this presentation, we focus on our co-research approach and facilitation.

Results: To inform the three main study phases, we consulted people living with dementia on study design, survey development and participation in case study site visits and analysis. We worked with local memory cafes to hold group discussions and one to one consultations. People living with dementia who are members of the study advisory group were also consulted on study design and data collection tools. In this presentation, we outline these areas of involvement and focus on the inclusion and participation of people living with dementia in the DEMTRAIN study in the following ways:

- Consultation and feedback on the choice of staff participants from hospital case studies, question domains for study surveys (hospital and staff levels), and the focus of qualitative interview tools;
- Conducting hospital case study visits with people living with dementia in each site, for 'real-time collaborative co-research analysis';
- Co-research data analysis workshop, and development of an initial logic model through the systematic review.

These areas of involvement enhanced the inclusion of the perspectives of people living with dementia in the hospital context in our study design and case study sites. They ensured a fuller exploration and understanding of hospital and staff data, and interpretation of these data within our theoretical and thematic analysis frameworks. Importantly these opportunities of involvement facilitated the unique representation of people living with dementia in a multi-level, mixed method study conducted in the complex environment of NHS acute hospitals.

We gratefully acknowledge all the contributions made to DEMTRAIN by the study co-researchers.

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03/07/2019

14:25-15:40

“But they’re not your average patient”: representativeness, expertise and diversity in patient involvement.

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Background: There is established international interest in how patients and members of the public can be involved in research, and involvement is a requirement for research funders in the UK. This has led to an emerging evidence base seeking to critically assess and evaluate involvement, with the aim of improving the processes of involvement, and better conceptualising its intended impacts on research. Such evaluations increasingly consider not only how involvement happens and what effects it has, but the question of who is involved, and who may be excluded. One criticism which has emerged in early debate focuses on researcher reliance on “the usual suspects” at the expense of increasing access for more diverse and ‘hard to reach/easy to ignore’ groups. There is contention around whether such ‘expert’ contributors, with experience of multiple projects and considerable familiarity with/ knowledge of research, can appropriately reflect the concerns of ‘research naïve’ patients. However, such debates have notably been conducted within research communities by researchers themselves, with the perspective of patients themselves being neglected. As part of a longitudinal evaluation of patient involvement within the Greater Manchester CLAHRC, we explored the experiences of our Patient Panel, consisting of four public/patient contributors who operated as ‘topic champions’ in the CLAHRC programme. ‘Topic champions’ provided ongoing expert input both individually to studies and more strategically to theme leads, adopting an ‘expert contributor’ role’. The aim of the evaluation was to capture learning regarding how to improve involvement in future programmes of work, and consider the advantages and disadvantages of the ‘expert’ topic champion model.

Methods:

Design: Single case study.

Data collection and sample:

1. Two focus groups - Patient Panel members to reflect on involvement across the Greater Manchester CLAHRC conducted in 2017 and 2018.
2. Documentary analysis of impacts and activities of the panel as captured in highlight reports across the previous 12-month period.

Analysis: Preliminary thematic analysis conducted by the research team to identify strengths, weaknesses, opportunities and threats of the champion/expert panel model. Findings were shared with the panel members to elicit further reflection and clarification, check for shared understanding, and achieve consensus on priority themes.

Results

- The status of the panel members as ‘expert contributors/lay professionals’ was a primary theme in the data. Their contribution, both self-reported in the focus groups and as evident in the impact reports, can be formulated as knowledge brokering and boundary spanning activities. Their familiarity with complex university structures and systems, and their in-depth understanding of research and researcher aims and priorities, enabled them to act as two-way translators/intermediaries between researchers and patient groups. This included explicit translation, e.g. writing lay summaries of research, and more subtle but essential communication of patient needs whilst remaining sensitive to researcher goals.
- The panel themselves emphasised the need for greater outreach to ‘naïve’ contributors but rather than a simplistic either/or model of expert and naïve contributions, the Panel emphasised the benefits of different contributors with differing levels of understanding and experience.
- Increasing diversity and accessibility were priority issues for the Panel themselves, and the panel members posited that expert contributors/lay professionals could have a key role in identifying and increasing opportunities for new contributors. This might include acting as connectors with groups outside the university; supporting new contributors to navigate academic systems; acting as intermediaries between the general public and researchers; and diagnosing, troubleshooting, and helping dismantle barriers to access (e.g. delays in reimbursement, and a lack of opportunities beyond the campus).
- The Panel reported challenges to the motivation and sustainability of the ‘expert’ model of involvement itself, e.g. the feeling of being ‘dismissed’/undervalued by researchers because of ‘knowing too much’; and emphasised that even expert contributors required appropriate support/appreciation to engage effectively.

Implications:

- Conceptualising expert contributors as boundary spanners recognises both the benefits and challenges of contributors operating between two worlds of expertise.
- Pragmatically, this could encourage better support for such contributors given the recognised tensions of operating between different domains. This could include capacity building and skills development, development of models that sustain involvement long term, and better recognition and rewarding of expert contributions.
- Framing the need for diversity and improved access as a critique of 'expert' contributors neglects the role that such experts have in addressing those challenges. Learning with and from such experts, who are uniquely placed to understand both patient and research worlds, will be crucial to addressing such challenges.
- A focus on 'representation' of a naïve public may be misleading, as much depends on what kind of contribution is most appropriate. Both researchers and funders need to better conceptualise the goals and focus of different levels of involvement, rather than framing such problems as flaws of the contributors.
- Future research should aim to explore the perspective of 'hard to reach/easy to ignore' patients themselves.

03/07/2019

14:25-15:40

Building capacity for co-producing research with patients and carers within global health research to improve stroke care in India: reflecting on evolving practice and consequences

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Background: Within UK Health services research, there is an established tradition of Patient and Public Involvement and co-production, but this is not generally the case within low and middle-income countries (LMICs). However, there have been increasing examples and varied models of conducting participatory research within LMICs in order to feed into design and testing of healthcare innovations. Such methodologies raise particular considerations regarding research relationships, ethical governance and standards of practice, all of which vary across multiple cultural and organisational contexts as evident when global collaborators forge a path to enable co-production. We aim to embed Patient Carer and Public Involvement (PCPI) within our NIHR global health research group (comprising researchers from India, UK and Australia) to improve stroke care in India. This has evolved during the first phase of research activities and this paper describes and reflects critically on the evolution of practice, as well as the consequences for participants, service providers and the research within two distinct health care settings in north and southern India. **Methods:** Two workshop events were conducted with patients and their carers; one in a large public hospital in New Delhi (site A), and one in Kerala (site B). For the first event in site A, attendees (n=40) were divided into 5 discussion groups. Members of the network team took on specific roles so that each group had a facilitator, a translator and a note taker. Discussions in site A were conducted in Hindi, and translated into English. Several key trigger questions were used to prompt discussion and notes were summarised. During the second event in site B, a smaller event was purposefully planned and attendees (n=13) were divided into two discussion groups. Discussions were conducted in Malayalam, and translated into English. Debriefing meetings were conducted following each event between participating members of the research network. Detailed notes were typed up immediately following each event for each discussion group, and synthesised into a summary document for each workshop to synthesise the key themes of discussions, as well as reflections on the process and learning points for next steps. At multiple points we reflected on PCPI activities in relation to the PPI NIHR INVOLVE standards.

Results: Discussions from both events provided rich insights into experiences of both patients and carers feeding in to development of interventions (management of swallowing; physiological and neurological monitoring; and education and training for carers) for implementation and evaluation within the research programme. Key themes of the discussions for both events included: need for more information about signs, symptoms, and management of stroke; limited provision and access to specialist and rehabilitation services; diverse views about causation, and experience of plural systems of treatment; difficulties with physical and mental health problems; difficulties experienced by carers including informational, psychological and practical support; difficulties associated with changing roles, and social exclusion with multiple socio-economic implications following the acute phase. Consideration of the PPI INVOLVE standards helped in thinking through and responding to the challenges of PCPI for global health research, particularly regarding governance. The workshops were first events of this nature for the hospital teams involved. However, the fact that such events were unfamiliar to staff and patients required careful groundwork to enable a supportive environment to share experiences. Local collaborators advised that societal hierarchies and high esteem conveyed upon medical staff presented additional challenges for PCPI and coproduction. There were ethical issues making PCPI within the Indian context different to the UK. For example, whilst governance structures prevent reimbursement for time, we did have early concerns regarding expectations of patients and carers when operating in parts of the health care system where there were scarce resources. This made us consider management of expectations more carefully for the second event. The reduced number of groups and participants enabled an easier rapport between the team and participants, and between patients themselves. We were able to support greater input and leadership from local staff for the second workshop helping towards growing capacity for leadership and sustainability within the local partner organisations. Feedback from participants at the second workshop was particularly positive and an unintended consequence was a decision taken at that workshop for participants to establish their own peer support group to meet and share experiences periodically, and enabled by local hospital and research staff.

Implications: Ongoing interest in global health research offers further opportunities to impact healthcare systems, patient care and facilitate shared learning. However, the diversity across cultural, social and economic paradigms brings additional challenges for involvement and engagement. This paper highlights some of the key issues faced when developing a PCPI strategy for work to improve stroke in India. Similar complex issues and challenges are experienced in other global contexts, and this indicates the possibility for developing international guidance and standards for PCPI for global health.

P4.3 Emergency Care Abstract Session

03/07/2019
14:25-15:40

The impact of emergency care centralisation on mortality, hospital discharge and readmission: an observational study.

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Background: Current healthcare policy favours centralization of emergency medical care but it is unclear how broad implementation will impact upon health outcomes and service efficiency. This approach has been successful for specific acute conditions requiring time-critical interventions delivered by expert multidisciplinary teams such as major trauma, but many unscheduled district general hospital (DGH) admissions reflect milder exacerbation of long term conditions and functional decompensation of frail patients provoked by minor illness. To understand the impact of whole-system centralisation for unselected emergency admissions, a retrospective cohort study examined consolidation of three DGH A&E departments into a single high-volume site providing acute care only.

Method: Northumbria Healthcare NHS Foundation Trust (NHFT) is an acute and elective care provider for 550,000 people. Prior to 16th June 2015, all medical emergencies were admitted via three DGH A&E departments. These were reviewed daily including weekends on a mixed assessment unit by a consultant in general internal medicine or surgery and transferred after 12-24hrs to an appropriate ward if needing further inpatient care. Since 16th June 2015, all medical emergencies have been admitted to a single new Emergency Care Hospital (ECH) located in-between the DGH sites. After arrival, patients pass directly from A&E to the most relevant acute specialty within a target time of 4 hours: cardiology, gastroenterology, respiratory, stroke, internal medicine, geriatric medicine, general surgery, orthopaedic trauma and critical care. Each has ward-based consultant specialist presence for 12 hours per day, 7 days a week and on-call availability overnight. The reconfiguration did not intend to alter the service boundary, mode of admission or average travel times. The cohort consisted of consecutive adult (+18yrs) emergency index admissions from matching postcode areas identified in Hospital Episode Statistics during a three-year period: pre-centralisation Baseline (16/06/2014 to 15/06/2015), ECH Year 1 (16/06/2015 to 15/06/2016) and ECH Year 2 (16/06/2016 to 15/06/2017). Logistic regression compared probabilities of mortality and daily discharge up to day 60 after admission, and readmission within 60 days of discharge during ECH Year 1 and ECH Year 2 relative to Baseline. Co-variables included demographic characteristics, Charlson Comorbidity Index (CCI) and Index of Multiple Deprivation Score (IMDS).

Results: 52,439 index admissions met the cohort definition. There was a trend for increasing age and co-morbidities, and small absolute reductions in the proportion of day 60 deaths and readmissions at the ECH (Table 1).

	Baseline	ECH Year 1	ECH Year 2
Number of index admissions	18,586	16,126	17,727
Male (%)	7856(42.3%)	7060 (43.8%)	7690 (43.4%)
Age mean (SD)	67.0 (20.2)	67.9 (19.3)	68.3 (19.1)
CCI mean (SD)	1.54 (2.12)	1.66 (2.19)	1.74 (2.24)
IMDS mean (SD)	24.7 (15.3)	24.2 (15.1)	24.0 (15.0)
Day 60 deaths (%)	1729 (9.3%)	1488 (9.2%)	1574 (8.9%)
Readmissions (% of discharged alive)	3752 (21.3%)	3001 (19.6%)	3177 (18.8%)

Table 1: Demographic characteristics and descriptive outcomes for all cases.

Regression analysis showed a reduction in the risk of day 60 mortality which reached statistical significance in ECH Year 2 (Table 2), with a similar effect for individuals still hospitalised and those already discharged. For both years the probability of discharge per day increased significantly in parallel with a reduced risk of readmission.

	ECH Year 1	ECH Year 2
Overall day 60 mortality	0.95 (0.88 to 1.02)	0.94 (0.91 to 0.97)
Inpatient day 60 mortality	0.99 (0.90 to 1.10)	0.95 (0.90 to 0.99)
Post-discharge day 60 mortality	0.91 (0.82 to 1.01)	0.94 (0.89 to 0.99)
Discharge per day up to day 60	1.07 (1.04 to 1.10)	1.04 (1.02 to 1.05)
Readmission <60 days of discharge	0.90 (0.87 to 0.94)	0.92 (0.90 to 0.94)

Table 2: Post-reconfiguration outcome probabilities (95% CI) relative to Baseline.

When three ages bands were considered (Table 3), only admissions aged 80+yrs showed a statistically significant reduction in the risk of day 60 mortality. There was no significant change amongst the 18-64yrs group, which may reflect the lower rate of deaths at this younger age or a lack of effect from reconfiguration.

		Number of index admissions	Day 60 mortality
Age 18-64 yrs	ECH Year 1	5,758	1.15 (0.91 to 1.43)
	ECH Year 2	6198	1.04 (0.93 to 1.16)
Age 65-79 yrs	ECH Year 1	4849	1.02 (0.89 to 1.16)
	ECH Year 2	5281	0.95 (0.89 to 1.02)
Age 80+ yrs	ECH Year 1	5519	0.88 (0.79 to 0.97)
	ECH Year 2	6248	0.91 (0.87 to 0.96)

Table 3: Probability of day 60 mortality (95%CI) relative to Baseline by age bands

Implications:

Although the absolute benefit was small, reconfiguration of local to central emergency care provision within one NHS organisation resulted in a significant short-term survival benefit for older index admissions. There was an increase in the probability of being discharged and reduced risk of readmission. Further evaluation is required, but a service model providing earlier specialist review for a higher volume of unselected emergency admissions shows promise for improving outcomes and efficiency.

Interventions to improve service use and self-care decision-making in patients making clinically unnecessary use of urgent and emergency care

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HSRUK Conference: Abstract Submission

Background

There is widespread concern amongst clinicians and policy makers about the use of urgent and emergency care services for non-urgent problems which could have been managed through lower acuity services or self-care. This demand increases pressure on the emergency and urgent care system, particularly 999 ambulance services, the Emergency Department, and urgent general practice appointments. Little is known however what interventions and changes to service provision these types of patients themselves consider would enable different decisions to be made.

Method

Patients who had been identified by health professionals as making non-clinically necessary use of the Emergency Department or of same-day GP appointments were recruited to attend focus groups. Participants were not informed of the reason for their identification, but invited to give their opinions on how people made decisions about service use. Three focus groups were held (total 15 participants), each targeting a population considered to have a higher propensity to use emergency and urgent care services when not clinically necessary: parents of children under 10; young adults aged 18-30; and people living in areas of high deprivation. Groups were arranged at times convenient to the participants and facilitated by two researchers. A topic guide was used to explore positive and negative perceptions and experiences of a range of health services, and to identify changes which could be made to improve access to lower acuity services and to increase self-care. During the groups, the researchers compiled a list of all the suggestions made and these were then presented to the group. Participants were asked to prioritise the interventions they considered most important. The findings were reviewed across the three groups to identify general and group-specific recommendations for changes to services and strategies that might change decision-making.

Results

Recommendations were grouped by the service to which they related. The greatest number of recommendations were made regarding access to General Practice, with all three groups emphasising the need for improved availability of appointments, including quicker access to non-urgent appointments and greater availability of weekend and evening appointments. The complexity of booking systems was highlighted by those in the deprivation focus group, whilst parents' suggestions included priority booking and specialist GPs for children. Young adults recommended that GPs provide advice regarding the role of pharmacists in providing non-urgent care, and also proposed the introduction of online consultations. A range of recommendations were also made regarding walk-in centres, pharmacies and NHS 111, and in relation to increasing health literacy and knowledge through support and education. Further details will be presented.

Implications

The experiences and views of patients who have been considered non-clinically necessary users of urgent and emergency care provide important insights into the reasons driving such decisions. This study will help to identify specific interventions in relation to health services and education which are valued by these patients and are therefore most likely to have a meaningful impact on service use.

The propensity to make clinically unnecessary use of emergency departments: a vignette study

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Background: There is widespread concern about the high level of demand for emergency departments. Some service use is clinically unnecessary when people attend with minor or non-urgent problems. Our aim was to identify the characteristics of people with a propensity to make clinically unnecessary use of emergency departments.

Methods: Each year the National Centre for Social Research run the British Social Attitudes Survey, a survey representative of the British population aged over 18. In 2018 the University of Sheffield bought a module of 60 items exploring population views of seeking help for unexpected health problems that were not life threatening. The module was based on findings from a realist review that identified 10 programme theories about decision-making that resulted in clinically unnecessary use of emergency and urgent care, early findings from a qualitative interview study with three sub-groups of the population identified as potentially having a higher propensity to make clinically unnecessary use of emergency and urgent care, wider literature about use of emergency and urgent care, and a Patient and Public Involvement workshop. The questionnaire was administered face-to-face, with a small number of items offered for self-completion. The response rate was 42% for the module, with 2906 respondents. The findings were weighted to represent the British population. As part of the questionnaire, three pairs of vignettes were constructed in conjunction with clinicians. Clinicians identified some actions to each vignette as clinically unnecessary. Each respondent completed one vignette from each pair. Two vignettes focused on illness in adults (cough or diarrhoea and vomiting), two on injury in adults (sore rib or back pain), and two on illness in children (high temperature on a Wednesday or a Saturday). Logistic regression was undertaken to identify influences on the propensity to make clinically unnecessary use of emergency departments for adults.

Results: 19% of respondents had a propensity to make clinically unnecessary use of an emergency department for any of the four adult vignettes (cough n=17, vomiting n=73, painful rib n=366, back pain n=89). We tested the influence of socio-demographic characteristics, the programme theories identified in the realist review, health literacy, and other perceptions and attitudes identified from wider literature. Univariate analysis identified a range of variables affecting propensity including household income (highest income households had a lower propensity than lowest income households: odds ratio 0.6 95% CI 0.4,0.9), and perceptions that doctors in emergency departments know more than GPs (those who disagreed had a lower propensity than those who strongly agreed/agreed: odds ratio 0.4 95%CI 0.2,0.7). The findings from the multivariate analysis will be presented.

Implications: We tested a wide range of variables and will identify a small number that together explain propensity to make clinically unnecessary use of an emergency department. This will offer direction about the types of interventions needed to reduce clinically unnecessary use of emergency departments.

03/07/2019

14:25-15:40

The impact of alcohol intoxication management services on frontline work in the night-time economy: an ethnographic study

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Background: In the UK, where alcohol misuse is one of the highest in the world, Emergency Department (ED) is the primary destination for those at risk due to their levels of consumption. It is estimated that 8% to 15% of ED attendances in the UK are alcohol related (Pirmohamed et al 2000; Newton 2007; Hoskins & Benger 2012; Parkinson 2016), this value increases considerably for weekend evenings and approximately 40% of all alcohol-related attendances arrive by ambulance (Verelst et al 2012). A survey of Emergency Care Consultants in the UK found that 42% had been assaulted by someone who was intoxicated one or more times. (Institute of Alcohol Studies Report 2016)

Typically located in the centre of the night time economy (NTE) and open at times when alcohol consumption peaks, Alcohol Intoxication Management Services (AIMS) are designed to receive, treat, and monitor intoxicated patients who would normally use emergency care services. As pressure on emergency care services intensifies, there is growing policy interest in AIMS as an alternative pathway for this patient population. While there are a growing number of AIMS, their impact on frontline work has never been formally examined.

Methods: As part of a mixed-method study which evaluated the impact of AIMS on EDs (Irving et al 2018) an ethnographic case study design was used to compare two sites with an established AIMS (Cardiff and Swansea) with one site with no AIMS (Sheffield). Three hundred and sixty three hours of field observations and twenty-seven in situ interviews were conducted with ambulance personnel, ED staff, Police, Street Pastors and other agents in the NTE across the three sites. Data generation was informed by ecological theories of the division of labour, Cultural Historical Activity theory (Engeström 2000) and Translational Mobilisation Theory (Allen and May 2017). A standard data generation template informed by the theoretical framework ensured a consistent focus across all sites. Fieldwork notes and other pertinent documents e.g. AIMS SOPs were first used in a triangulating fashion to build up an understanding of the ecology of work in each case and cases were then compared to examine the commonalities and differences particularly between AIMS and non-AIMS sites.

Results: In all three cases the different agents in the NTE worked flexibly and responsively to identify and manage alcohol-related risk. In Cardiff and Swansea the AIMS operated as a focus for the coordination of activity, and in Sheffield, in the absence of an AIMS, the ED functioned as the central actor – exerting power at a distance on the work of police and ambulance crews whose work was driven by an organising logic aimed at avoiding inappropriate ED attendances. While ED staff reported positive benefits of AIMS in reducing but not eliminating the requirement to care for intoxicated individuals in the ED, the case studies suggest that from a workforce perspective the most immediate beneficiaries of AIMS are street level agents. People who are intoxicated present particular management challenges, namely assessing whether an individual simply needs time to sober up or whether there is a more serious reason for their symptoms – such as a head injury - which indicates the need for hospital admission. Because acutely intoxicated people are often unable to offer a history of what has happened to them, it can be difficult to build up an understanding of the case. AIMS offer an important referral option to enable assessment, treatment or a place of safety for those who are at risk. The absence of an AIMS in Sheffield impacted on the work of street level agents – police and ambulance crews – who worked to try and avoid ED admissions but where wider work pressures created higher levels of risk taking in relation to managing individuals who were vulnerable owing to intoxication.

Implications: First, AIMS are often promoted in the health policy context as a solution for reducing ED attendances, but our study shows that they have wider benefits for agencies working in the NTE – namely police and ambulance crews – and have value in supporting vulnerability in the NTE. This suggests that AIMS should have a wider remit than simply diverting ED attendances and should also be funded and evaluated on this basis. Second, as presently constituted AIMS are driven by an acute care function; we observed limited follow up care in either AIMS. AAI may be symptomatic of other underlying conditions and there is, the potential for AIMS to fulfil a wider public health function, particularly by working more closely with Universities in relation to the student population, where poor mental health is a growing concern. Third, AIMS services in Cardiff and Swansea relied on self-selecting staff working on an over-time or voluntary basis. Those who worked in AIMS as part of their core duties were less enthusiastic about the work. This has important implication for staffing policy in future service design.

P4.4 Innovations Abstract Session

03/07/2019
14:25-15:40

Innovating for improved healthcare services: policy and practice for a thriving NHS

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Background: Healthcare services in the UK, as elsewhere, face rising demands and downward pressures on expenditure. Bridging this gap requires (among other things) innovation. RAND Europe and the University of Manchester conducted a study to examine the potential of innovation to help respond to the challenges the NHS faces, and to support efficient and effective services. 'Innovation' in this study refers to any product, technology or service that is new or applied in a new way to the health system, aimed at delivering improvements or efficiencies. It is as much about high-tech as low-tech or no-tech solutions.

The research was funded by the NIHR Policy Research Programme, in close collaboration with the Department of Health and Social Care, NHS England and the Office for Life Sciences.

We examined four interrelated questions:

1. How do organisations working in and closely with the NHS perceive and understand innovation, and how does this influence their actions?
2. Who drives and contributes to innovation and how might successful innovation have greater scale, scope and impact on the health service, patients and wider society?
3. What practical changes to policy, culture and behaviour can support system-wide improvements?
4. How can we measure the contributions of innovation to healthcare?

Methods: The study draws upon a systems perspective rooted in socio-technical regimes schools of thought, orienting it towards the wide range of stakeholders and complex interactions involved in establishing and sustaining innovating systems. We use a multi-method approach combining insights from 242 interviews, a literature review, a survey with 256 individuals, 11 workshops with 172 participants, 14 case vignettes, an analysis of indicators for evaluating innovation performance and an analysis of the population-level factors associated with innovation uptake.

Results: The study brings new insights through not only the scale and diversity of data collected and analysed, but also through identifying practical actions across multiple and interdependent components of an innovating health system. We present findings based on a detailed assessment of the current landscape in England and identify recommendations for actions that stakeholders could take related to 8 key themes: (1) skills, capabilities and leadership; (2) motivations and accountabilities; (3) information and evidence; (4) relationships and networks; (5) patient and public involvement and engagement (PPIE); (6) funding and commissioning; (7) aligning policy design with implementation and success criteria; and (8) better metrics of innovation impact.

We present detailed empirical evidence and discuss the key areas for action from the perspectives of NHS staff, PPIE representatives and charities, innovators in the NHS and private sector, commissioners, policymakers, innovation and improvement networks and the academic and research community. To illustrate, we:

- Detail specific technical and social skills that need strengthening and how this can be achieved, for example through the roles of innovation champions and brokers, collaboration with professional communities, medical royal colleges and Health Education England.
- Discuss how current incentives and accountabilities for engaging with innovation could be strengthened through awareness raising, incentives and rewards that address NHS staff personal beliefs and values, leadership responsibilities, norms, financial and career-related drivers.
- Discuss how the currently diverse but fragmented information and evidence landscape might be improved, including the nature of a requisite national framework and infrastructure.
- Characterise the variety of initiatives that promote collaboration for an innovating and improving health system, and identify how these might be better coordinated to support impact at scale.
- Propose ways to improve meaningful PPIE with innovation.
- Identify health innovation funding initiatives and discuss how the coordination, sustainability and stability of funding flows for innovation development and uptake could be facilitated.
- Discuss how to better align policy design and implementation.
- Detail potential indicators of innovation impacts on patients, the service and the economy.

Implications: Our research has implications for policymakers and service providers especially (though not exclusively), in specifying priority actions they could take and collaborative relations they will need to strengthen to ensure that innovation (when evidence-based) can translate into benefits for patients and the health service.

This is particularly timely in light of the upcoming, planned detailing of further phases of the NHS Long Term Plan, whose ability to deliver on the vision will depend on identifying and implementing concrete, feasible actions that respond to multiple, interrelated drivers of successful improvement and innovation.

Our findings and recommendations emphasise that success will require balancing shorter-term, 'quick-win' actions with longer-term transformational interventions rooted in a whole care-pathway approach, rather than being focused exclusively on siloed solutions. They also bring to the core of the agenda that transformative change in healthcare will require targeting both the structures and funding that support innovation, and equally so cultural and behavioural change. The study also makes a significant contribution to the wider academic literature and to efforts to bring complementary insights from innovation and improvement research closer together and leverage their synergies in informing practical actions. This independent research was funded by the National Institute for Health Research (Evaluation of strategies for supporting innovation in the NHS to improve quality and efficiency, PR-R7-1113-22001). The views expressed are those of the author(s) and not necessarily those of the NHS, the National Institute for Health Research or the Department of Health and Social Care.

03/07/2019

14:25-15:40

Understanding social prescribing for people with co-morbid mental and physical health conditions. A realist evaluation.

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Background: In October 2018, the UK Government committed to a widespread expansion of social prescribing (1). Social prescribing is a way of connecting NHS patients with community resources to help improve health and well-being (2) and reduce isolation. It can take a variety of forms and is funded in a variety of ways, however, it is often small charity sector organisations providing services such as health trainers, gardening groups, benefit or housing advice, befriending services or social cafes. Social prescribing is widely supported but currently has a limited evidence base (2). We worked with a social prescribing organisation to undertake a realist evaluation of their work to investigate the approach, who it works for and why.

Method: The realist evaluation involved a three phased approach. Phase one, interviewing social prescribing staff (n=13), their clients (n=15) and professionals from services who referred into SOAR (n=7) this included GPs and practice nurses. Clients self-identified as having both physical and mental health concerns. We used a constant comparison interview method (3) where the interview schedule was constantly modified to take account of responses received in previous interviews. The data was analysed using thematic analysis to develop context-mechanism-outcome configuration (CMOs) and initial programme theories. In phase two, the programme theories from the qualitative data from the interviews were tested during a stakeholder meeting of staff, clients and referrers (n=15, of whom only 3 of the staff had previously been interviewed) to gauge their views on our interpretations and areas where we considered there maybe be missing data. This was then fed back into the analysis. Phase three; the final programme theory was compared with Antonovsky's Salutogenesis theory of health, this was applied to the data using Framework analysis (4,5).

Results: All participants reported clients moving in a health promoting direction as an outcome for people with co-morbidities accessing social prescribing services. The interventions delivered benefits via a range of mechanisms (social connectedness/place to belong/personalised health goals/ health knowledge). The programme theories were mapped onto Salutogenesis theory of health. Clients, staff and referrers reported outcomes as increased health knowledge and reduced inappropriate health service use (comprehension); increased ability to self-manage and reduced stress, anxiety and low mood (manageability); increased social connectedness and increased routine and structure as well as increased confidence and self-worth (motivation). Clients were empowered to mobilise and reflect on the resources they already have available to them (enabling their 'sense of coherence').

Implications: By focusing on person-centred and client-determined goals using an asset (strengths) based approach to increasing a client's, comprehension, motivation, manageability, social prescribing enables them to cope with stressors and move in a health promoting direction.

It is important to understand how and why social interventions have the potential to affect change (6). By applying theory to social prescribing we have attempted to develop a theoretical explanation for its popularity and the positive findings from case studies.

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03/07/2019

14:25-15:40

Towards a more pragmatic vision for group consultations: participatory, 'researcher-in-residence' evaluation of group-based care for young people with diabetes in ethnically diverse, socioeconomically deprived settings (TOGETHER study)

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Background: Young people with diabetes face a range of poor clinical and psychosocial outcomes, such as high HbA1c, diabetes-related psychological distress and fear of complications. In this patient group clinic attendance and engagement is often poor, with lack of developmentally appropriate consultations, care fragmentation and poor satisfaction with the health service often cited as reasons. To improve diabetes-related health outcomes, alternative ways of engaging young people in diabetes care are urgently needed. Our NIHR-funded project examined how group-based care may be developed and delivered in the NHS to meet the complex and distinct needs of young people living with diabetes in socio-economically deprived settings.

Methods: We developed a new, co-designed model of group-based care for young people with diabetes (16-25 years old) that was implemented in two London NHS Trusts and evaluated using a 'researcher-in-residence', theory-driven approach between 2017-2019. Evaluation methods included ethnographic observations in 25 group clinics and 10 standard care appointments, 25 patient and staff interviews, fieldnotes from project meetings, informal discussions and training sessions, and document analysis. The evaluation also included quantitative methods (biological markers, Patient Enablement Instrument (PEI), Problem Areas In Diabetes (PAID) questionnaires). Data analysis and programme theory development was underpinned by social theories on solidarity and supported ecological self-management and theoretical work on patient expertise and experiential knowledge. A realist review on group clinics (manuscript under review) and iterative co-design have further underpinned the development of this model of care.

Results: Group clinics covered topics relevant to diabetes self-management and education, including diet and carbohydrate counting, psychology and motivation, physical activity, sexual health and relationships. Most were led by a diabetes specialist nurse and a youth worker, with an additional health professional invited if additional specialist expertise was required. Engagement varied between sessions and has improved as young people became more familiar with this new model of care. Group clinics were delivered on the basis of three principles:

- As a model of care subject to iterative co-production and refinement with young people as partners in, rather than recipients of, care delivery.
- As a flexible and informal approach carefully balancing clinical and educational content on diabetes with patient experiences and peer support.
- As a safe, non-judgmental space where sharing and reciprocity (i.e. communication meeting mutual expectations and providing shared benefit) is valued and encouraged.

Our presentation will focus on an in-depth analysis of the opportunities and challenges afforded by group clinics as a new way of organising care. Many of the young people attending group clinics had previously experienced difficulties managing their diabetes and had suboptimal engagement with their clinical team. Meeting others with diabetes in their age group was eye-opening for some participants, who appreciated opportunities for useful exchange of self-management experiences. Many expressed feeling better understood by their peers and more supported with their care, having acquired useful experiential learning, but also additional clinical input, in an environment where power dynamics were more equally distributed. Group clinics relied on therapeutic relationships, not just between patients and health professionals, but also between peers. These relationships were largely based on flexibility, reciprocity, openness, non-judgmental language and understanding of developmental goals and priorities. Contrary to what might be expected, however, some of the relationships between peers evolved through conflict rather than harmony. Competing behaviours had to be managed carefully to result in beneficial outcomes, with group conflict acting as an enabler rather than deterrent, for improved self-reflection and engagement with care.

In established clinical services where individual consultations are the norm, shifting towards group-based care can be culturally and operationally challenging. Implementation required significant amounts of coordination between health professionals and relied on good working relationships. Resource limitations and infrastructural issues (e.g. physical space, appointment and notification systems, documentation practices) have to be identified and addressed to accommodate group clinics. Group facilitation required a skill-set different to individual consultations, for which health

professionals may need additional training and support, especially when it comes to young people with complex health and social needs. Our presentation will cover additional clinical, operational and emotional work required to successfully run group clinics.

Implications: By drawing on life stage-, context- and culturally-sensitive approaches, group-based clinical care could be a useful way to overcome barriers to regular clinic attendance and engagement, leading to improved health outcomes. However, the mechanisms by which this can be achieved may not always be straightforward. Opportunities and challenges need to be better understood in different contexts, rather than purely treating group clinics as the sum of multiple individual consultations, as often portrayed in the policy domain. Our presentation will discuss policy and practice-relevant lessons for the delivery of group clinics and the development of engagement strategies to tackle inequalities in service access.

03/07/2019

14:25-15:40

Intentional rounding in hospital wards: What works, for whom and in what circumstances?

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Background: Part of the government response to the high profile care failures at Mid Staffordshire NHS Trust was to announce the policy imperative of introducing “regular interaction and engagement between nurses and patients” into the NHS. Consequently, “Intentional Rounding” (IR), a timed, planned intervention that sets out to address fundamental elements of nursing care by means of an hourly or two-hourly, structured bedside ward round, developed by the Studer Group in the US was introduced in the UK. The overall aim of this study was to investigate the impact and effectiveness of IR in hospital wards in England on the organisation, delivery and experience of care from the perspective of patients, their family members and staff. It set out to understand how IR works when used with different types of patients, by different nurses with different levels of experience, in diverse ward and hospital settings, and if and how these differences influence outcomes.

Methods: A multi-method study design was undertaken using realist evaluation methodology. The methods included an evidence review to develop preliminary theories of why IR may work, to be tested throughout the study; a national survey to find out how IR had been implemented across England (n=108, 70%); a case study evaluation of IR as implemented in two wards in each of three purposively selected acute NHS trusts in England, investigating the perspectives of senior managers (n=17), nursing (n=33) and other healthcare professionals (n=26), patients (n=34) and carers (n=28); 188 hours of observations of nursing care delivery, including the delivery of IR; and an analysis of costs.

Results: The national survey showed that 97% of NHS trusts had implemented IR in some way, although there was considerable variation in how it was implemented nationwide and many trusts added additional checks to the documentation (e.g. fluid charts, nutrition and falls assessments and IV line checks). Observations of IR demonstrated that fidelity to the IR intervention (as per the Studer Group protocol) was generally low as, for example, nursing staff rarely told patients their name, asked the core comfort questions identified on the IR documentation or informed them when they were likely to return to the bedside. Opinion was divided about whether IR should be applied to all patients however senior nursing managers and nursing staff thought IR should be delivered as part of a conversation tailored to individual patient need and not in a standardised, rigid way. Rather than carry out IR as a separate activity, nurses often combined it with other tasks, such as giving medication or feeding patients and were frequently interrupted when carrying out IR. Interviews with senior nursing managers and frontline nursing staff identified that few participants felt IR improved either the quality or the frequency of their interactions with patients and their family members. Instead, staff perceived the main benefit of IR to be the documented evidence it provided that nursing care had been delivered. However, there was concern that this evidence was not always sufficient or reliable and that it was difficult for nursing staff to maintain IR documentation when faced with other competing demands upon their time. Patients and family members valued communication with staff and the relational aspects of this communication, however, this was rarely linked to IR. This is perhaps not surprising as IR was rarely explained to patients and carers and they were generally unaware that it was happening.

Implications: The evidence for the effectiveness of IR, as currently implemented and adapted in England, is weak. However, there was also evidence for a lack of clarity in the purpose and expectations of IR, lack of preparation of staff and a lack of resources to support the introduction and sustainability of IR. There was ambivalence and concern expressed that IR oversimplifies nursing, privileges a transactional and prescriptive approach over relational nursing care, and prioritises accountability and risk management above individual responsive care. We suggest the insights and messages from this study inform a national conversation about whether IR is the optimum intervention to support the delivery of fundamental nursing care to patients or whether it is timely to shape alternative solutions.

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P4.5 Dementia Abstract Session

03/07/2019
14:25-15:40

Optimising acute care for people with dementia: a mixed-methods study

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Background: Concerns have repeatedly been expressed about the poor quality of inpatient care that people with dementia receive in acute hospitals. This can result in delayed discharge and increased morbidity and mortality. The National Audit of Dementia has highlighted marked variation in the quality of inpatient care that people with dementia receive across England and Wales. The aim of this study was to identify aspects of the organisation and delivery of general hospital acute care that are associated with better quality care and shorter length of stay for people with dementia.

Methods: A mixed methods study with two work-packages: a secondary analysis of data from the third round of the National Audit of Dementia (work-package one), followed by nested comparative case studies of hospitals and wards that provide the most and least effective care (work-package two) using a 'realist' approach. We used data from the third round of national audit of dementia to quantify three components of quality of care; 1) length of stay, 2) carer-rated experience of quality of care, and 3) quality of assessment of patient needs.

Results: WP1 - In the primary multivariate analysis associations were found between the following variables:

i) Shorter average length of stay and:

- Type of ward
- Documented evidence that discharge planning is initiated within 24 hours of admission
- Executive Boards reviewing delayed discharge for people with dementia (the effect is borderline), and
- Longer stays if involving carers in discharge planning

ii) Higher carer-rated experience of care and:

- The hospital NOT having a carer engagement strategy.
- The fewer patient records having a section dedicated to information collected from the carer.

iii) Higher quality assessments and

- Ward type,
- Presenting complaint,
- Age (more comprehensive assessments among older patients), and
- Having a dementia champion at a directorate level.

WP2

Data collection at six study sites have been completed with a total of 60 interviews. Interviews are transcribed and in the process of analysis. We present preliminary results from WP2 focusing on two areas (dementia training for staff and carer involvement).

The following 'context-mechanism-outcome' or CMO configurations explain how and why and under what circumstances dementia-specific training and carer involvement would lead to outcomes of interest, namely providing higher quality care and/or reducing length of stay.

Staff training

- When training material includes 'simulation sessions' in which trainees will feel what it must be like for patients with dementia (C), this gives trainees insight into experience/perspective of patients with dementia (M1), and would enable them to empathise with and be more aware of the difficulties that patients with dementia experience (M2), this leads to staff providing more person-centred, dignified, and humane care (O)
- Assuming, there is enough training available for staff, in hospitals where there is an in-house educational training lead / dementia specialist nurse (C), they monitor how taught materials are put in practice by role modelling best practice (M1), they also provide short ad-hoc sessions when gaps in knowledge/practice are identified (M2), this leads to providing a more consistent care (O)
- When dementia training is delivered to a wide range of staff working with patients with dementia including volunteers, hostesses and ward clerks (C1) and when the training material addresses practical issues such

as how to deal with challenging situations (C2), this upskills the professionals and other staff and makes them feel confident in dealing with challenging situations (M) which ultimately leads to person centred, and consistent care provision (O)

Carer involvement

- When carers are allowed to stay and be more involved in providing care to patients (C), it allows patient to be more settled, which makes it easier to get patients to eat, drink, and take their medication (M), which will lead to reduction in their length of stay (O)
- In hospitals, where there is clear communication between staff and family carers (C), this ensures that family carers understand the progression of their family member's dementia (M) and have realistic expectations (M) which leads to a higher carer-rated quality of care (O1) and timely discharge (O2)
- In circumstances where there is a lack of carer/family involvement (C), this makes it difficult for staff to find out information about patients including their medical history, normal functional level and cognitive baseline (M1), this also means staff need to consider organising more social care on discharge (M2), both leading to patients being kept in hospital for longer than necessary(O2)

Implications:

Based on preliminary findings, hospitals need to focus and allocate resources to factors which contribute the most to providing better quality care for patients with dementia: these include staff dementia training and involvement of family carers from the point of admission and early assessments onto discharge planning. Furthermore, this study highlights that early discharge planning (within 24 hours of admission) and review of delayed discharge by executive boards lead to shorter length of stay.

The VOICE study – a before and after study of a dementia communication skills training course

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Background: A quarter of acute hospital beds are occupied by persons living with dementia (PLwD) [1, 2]. PLwD have problems with memory, understanding and communication [3], which can make conversations difficult. Communication impairments can include word finding difficulties, repetition in speech, lack of coherent speech and difficulties understanding what others are saying. In severe dementia, there can be no intelligible speech at all [4]. Healthcare professionals (HCPs) report a lack confidence in their dementia communication skills [5], but there are no evidence-based communication skills training approaches appropriate for professionals working in the acute hospital [6, 7]. We aimed to develop and pilot a dementia communication skills training course that was acceptable and useful to HCPs, hospital patients and their relatives. The full study has been published [6, 8].

Methods: The course was developed over four whole day workshops using conversation analytic findings from video recordings of HCPs talking to PLwD in the acute hospital [6], together with systematic review evidence of dementia communication skills training [6, 7] and taking account of expert and service-user opinion. The expert group developing the course included HCPs, academics, educationalists and family carers. The course teachings were based on the conversation analytic findings of interactionally problematic areas for HCPs around making a request and responding to refusals [6] and frequently prolonged closings of healthcare encounters [9]. The two-day course was based on experiential learning theory [10], and included simulation and video workshops, reflective diaries and didactic teaching. Actors were trained to portray PLwD for the simulation exercises. The video recordings showed real conversations between HCPs and PLwD in the acute hospital. The two days of the course were a month apart to allow practice of the communication skills in the clinical setting. HCPs completed a reflection during this time and a reflection workshop, on day two of the course, explored their experiences. The before and after evaluation entailed: questionnaires on confidence in dementia communication; a dementia communication knowledge test; and participants' satisfaction. Video-recorded, simulated assessments were used to measure changes in communication behaviour.

Results: Forty-four HCPs attended both days of one of six VOICE training courses between January and May 2017. The HCPs included doctors, nurses, allied health professionals and one activity co-ordinator. Most were female and had white ethnicity. Following day two of the course, participants increased their knowledge of dementia communication (mean improvement 1.5/10; 95% confidence interval 1.0-2.0; $p < 0.001$). Confidence in dementia communication also increased (mean improvement 5.5/45; 95% confidence interval 4.1-6.9; $p < 0.001$) and the course was well-received. One month later participants reported using the skills learned in clinical practice. Blind-ratings of simulated patient encounters demonstrated behaviour change in taught communication behaviours to close an encounter, consistent with the training, but not in requesting behaviours.

Conclusion: We have developed an innovative, evidence-based dementia communication skills training course which HCPs found useful and after which they demonstrated improved dementia communication knowledge, confidence and behaviour.

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National evaluation of Dementia Friendly Communities: the DEMCOM project

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Background: A Dementia Friendly Community (DFC) can involve a wide range of people, organisations and geographical areas. There are more than 270 communities across England that are recognised as working towards being dementia friendly. The DEMCOM study is a national evaluation of this initiative funded by the DHSC PRP and supported by CLAHRC East of England.

Methods: A mixed method study organised in two phases. Phase one linked population data on dementia prevalence with DFC activities and conducted an online review of 100 DFCs to determine the range of achievements and resources used to implement and sustain DFCs. Phase two involved in depth case studies of 6 purposively sampled DFCs in geographically scattered areas of England. This work focused on how organisation and funding of a DFC, the involvement of people with dementia, and its focus affect how people with dementia at different stages of the disease are understood by others, live, and participate in their local communities. The findings from phase one and two were used to develop and test an adapted evaluation tool that was originally designed to evaluate age friendly cities. People living with and affected by dementia have been involved in all stages of the study as both participants and members of the research team

Results: Phase one found that by linking the provision of DFCs with epidemiological-based need that DFCs are located in areas where they can have a greater impact to the lives of people affected by dementia (1). The online review found that most communities are defined by geographical location, while some are structured around businesses and organisations. The majority of DFCs came into being following 2012, the year in which DFCs were endorsed by policy through the Prime Ministers Challenge on Dementia. The primary focus of DFCs is on promoting awareness and reducing stigma. The work undertaken by DFCs relies largely on a voluntary workforce, with some evidence of investment from local authority and charitable agencies. Less clear was how DFCs were helping to normalise the experience of living with dementia and how they evaluated the impact of their activities. Phase two: The six sites were based in the North East, Midlands, East, West, North West and North of England they represent a range of approaches to organising and running a DFC (Local authority funded, volunteer run, close alignment with service provision for people with dementia, coalition of smaller DFCs, mixed funding) size and settings (inner city, industrial, rural, diverse and deprived populations, prior history of engagement in age friendly initiatives). Data collection involved documentary review of 300 papers (strategies, minutes, evaluations, information resources) produced by or for the DFCs, interviews and focus groups with 141 participants including people living with dementia and observation of 21 meetings/events. There was also a survey across the study sites of over 210 people living with dementia but not directly connected to the DFC. At the time of submission data collection in the study sites has ended and analysis and findings will be completed by June.

Implications: This is the first study to map national provision of DFCs in England. The findings will directly inform the development of an evidence-based evaluation framework that can inform how current and future DFCs initiatives are developed, funded and review their impact. It aims to provide a resource to inform future policy and evaluate the impact and reach of different types of DFC initiatives that aim to support the participation and inclusion of people affected by dementia.

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Neighbourhoods & Dementia Programme Study: Core Outcome Set for people living with dementia

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Background: The emergence of core outcome sets (COS) - a list of core outcomes which should be measured and reported as a minimum across all relevant effectiveness trials - addresses the lack of consistency in outcomes and measurement instruments that are used across studies and subsequent obstruction of robust meta-analysis and comparisons for effectiveness (1, 2). For example, in the field of dementia, a recent review has found over forty quality of life measurement instruments (3). The objective of work programme 3 of the wider Neighbourhoods and Dementia programme (funded by the ESRC/NIHR under key commitment 12 of the first Prime Minister's Challenge on dementia), is to develop a COS for non-pharmacological health and social care community-based interventions for people living with dementia. The scope and focus of this COS reflects the widely acknowledged need to further develop community-based health and social programmes for people living with dementia (4, 5). This study addresses to research questions:

1) Which outcomes should be measured from the perspective of people with dementia living at home, care partners, health and social care professionals, researchers, policy makers/ service commissioners?

2) How should such outcomes be measured? (6):

Method: We answer these questions through the following methods:

1) qualitative interviews/focus groups (including key stakeholders: people living with dementia, care partners, health and social care professionals, researchers and policy makers) and literature review;

2) a Delphi survey (with key stakeholders and co-designed with people living with dementia (7)) and consensus workshop and

3) systematic review of existing outcome tools.

Results: This presentation will briefly highlight how we answered the first research question and then detail the findings relating to the second research question Which outcomes should be measured? Fifty-four outcomes were initially identified through a process of extracting outcomes from existing trials, key sources and qualitative work with stakeholders in phase 1. In a two-round Delphi survey (round 1 n=288, round 2 n=246 – 85% response rate) with key stakeholders, consensus for inclusion in the COS was attained for 10 outcomes. Three additional outcomes were added at a consensus workshop with key stakeholders (n=20). The final thirteen outcomes in the COS are across four domains – self-managing dementia symptoms, quality of life, friendly neighbourhood and home, independence. How should such outcomes be measured? We will then describe our systematic review (including an assessment of psychometric properties) which seeks to identify existing outcome measures that map onto the 13 outcomes identified in the COS.

Implications: This study has developed a set of outcomes as a tool-kit that can be routinely used in the evaluation of non-pharmacological health and social support for people with dementia living at home. We recommend thirteen outcomes in the COS that need to be measured as a minimum in trials of community-based health and social interventions for people living with dementia. Furthermore, this consensus on what outcomes are regarded as core is also capable of informing the content and delivery of health and social programmes. As such, the COS and this study is of interest to researchers, trialists and policy makers including those who plan and commission services. The gaps in outcome measures will also help to set the research agenda for the development of relevant measures in the future.

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P4.6 Routine Data & Analytics Abstract Session

03/07/2019

14:25-15:40

Is increasing uptake in screening compatible with our move from the 'Era of assessment and accountability' to the 'Era of systems and creativity' in the NHS

Aileen Clarke¹, Sian Taylor Phillips², Chris Stinton²

¹University of Warwick, ²Warwick Medical School

In 2018 Nick Black wrote 'Health and care services must be able to adapt to complexity, uncertainty, and non-linearity. To achieve this, [we need] to encompass two features that may seem incompatible: systems and creativity. We need to supplement existing achievements by introducing a greater recognition that health and care services are "human systems.." In all 11 screening programmes in England and Wales key performance indicators include measures of uptake and coverage. These measures vary in their sophistication but all assume that increasing uptake and coverage are 'a good thing' and of paramount importance for screening programmes. Uptake and coverage as measures fit into an 'assessment and accountability' model of health services as put forward by Relman in 1988 rather than the new era of 'systems and creativity'. The large national screening programmes were designed and implemented in an era prior to the concepts of patient based decision making and informed choice. Uptake and coverage as KPIs are not compatible with an 'informed choice model of health service delivery. The Nuffield Council on Bioethics suggests that there are two major underlying shifts in our approaches to health care: 'responsibilisation', a shift in the balance of responsibility between individuals and collective bodies and professionals, and 'consumerisation', a shift in provision - including greater emphasis on consumer-style relationships between providers and users instead of a citizenship or fiduciary relationship between professional and client. In this paper based on relevant ethics and screening literature, I will explore these principles and issues underlying approaches to health screening and the implicit approaches to populations, to individuals and their implications for current day health screening in the NHS. I will discuss which KPIs should now be used to assess the performance of current health screening programmes.

03/07/2019

14:25-15:40

‘On it like a car bonnet’: Understanding how and in what contexts National Clinical Audit data are used to monitor and improve care quality in the NHS

Lynn McVey¹, Natasha Alvarado¹, Dawn Dowding², Rebecca Randell¹, Lynn McVey and Natasha Alvarado¹

¹University of Leeds, ²University of Manchester

Background: In the UK over 100 National Clinical Audits (NCAs) provide data, with the assumption that their use will contribute towards assuring care quality and stimulating quality improvement (QI) in the National Health Service (NHS). Whilst there is evidence that NCAs have led to improvements, there are reports of variation in how NHS Trusts engage with the data and consequently their potential to inform QI may not be realised fully. As part of a wider study using a realist evaluation approach to develop and evaluate a web-based, interactive dashboard - QualDash - for exploring NCA data, we undertook interviews with members of clinical teams, Trust Boards and their quality sub-committees (n=54) about their current use of NCAs. Here, we share preliminary findings from the first stage of the study about the contexts and mechanisms that support such use at clinical team-level.

Method: Data collection and analysis were informed by realist evaluation, to elicit programme theories that explain why, how, and under what conditions outcomes occur, taking into account the constitutive role of context - ‘backdrop’ elements outside the formal programme structure - and mechanisms - the ways people respond to programme components. To develop a programme theory applicable beyond a single NCA, the sampling strategy aimed to capture variation in NCAs, NHS Trusts and potential user groups. We focused on two NCAs, the Myocardial Ischaemia National Audit Project (MINAP) and the Paediatric Intensive Care Audit Network (PICANet), which are delivered by different suppliers, involve different clinical specialties and professional groups, and incorporate multiple measures. Because both MINAP and PICANet are managed centrally by the Healthcare Quality Improvement Partnership and report at service-, rather than individual clinician-level, we also explored use of independently-funded NCAs such as the National Audit of Cardiac Rehabilitation and audits that provide individual operator feedback, like the British Cardiovascular Intervention Society. Fifty-four participants were recruited across five Trusts, including large teaching hospitals and smaller district general hospitals, which varied in terms of performance in selected MINAP and PICANet measures. Clinical and non-clinical staff, together with members of Trust Boards and their quality sub-committees were interviewed about their use of NCA data and circumstances that supported or constrained such use. Interview transcripts were analysed using framework analysis, with codes designed to capture contexts, mechanisms and associated outcomes. The resulting programme theory will be tested and refined at a later stage of the project, during ethnographic observations of meetings and other contexts where quality monitoring and improvement take place.

Results: Within the five participating Trusts, clinical teams in two reported using MINAP and/or PICANet data routinely to monitor and improve care quality. A number of contexts and mechanisms supported such use. The teams were based in large teaching hospitals; stored the data in local databases before upload to suppliers (giving them easy access to their own information); and the staff responsible for data collection and reporting were resourced to do so in a timely and accurate way. Given these contexts, we identified several mechanisms for engaging with data, including staff members’ desire to ensure patients received safe and effective care. For example, in a paediatric intensive care unit in one Trust, routine review of PICANet data using a local database, maintained and monitored by experienced staff with a remit specifically associated with the audit (context), revealed a small increase in the number of endotracheal tubes that had been dislodged accidentally. Clinicians, motivated by their desire to offer safe, high quality care to patients (mechanism), offered training to colleagues on best practice in tube-taping and how to check chest x-rays for tube position (outcome).

Implications: When contexts and mechanisms, including those identified above, are in place we found that NCA data use was supported, enabling clinical teams to use the data to maintain and improve the quality of care: a capacity that one clinician characterised as being ‘on it like a car bonnet’. Given these findings, we offer the following recommendations to promote engagement with NCAs: teams need to have sufficient resources (staffing and IT infrastructure) to collect, validate and report data clearly, accurately and in a timely manner (or NCA datasets need to be reduced), as well as timely access to comparator data from other Trusts, to assure themselves that they are offering at least comparable levels of care (and take remedial action, if not). We aim that QualDash, the web-based dashboard we are developing, will contribute to these objectives.

03/07/2019

14:25-15:40

The impact of comorbidities on the safety and effectiveness of hip or knee replacement surgery

Belene Podmore, Andrew Hutchings, Jan van der Meulen

London School of Hygiene & Tropical Medicine

Background: In some areas of the UK access to joint replacement surgery has been restricted by commissioners of healthcare services to reduce costs despite their being no clinical or economic justification for any of these criteria and not being supported by clinical guidelines. Eligibility criteria have included a body mass index of less than 30 kg/m² and the optimisation of pre-existing comorbidities. An increasing number of patients undergoing hip and knee replacement surgery have at least one comorbidity. It is therefore important to understand the impact of comorbidities on the safety and effectiveness of hip and knee replacement surgery.

Methods: Our sample included 640 832 patients in England who had an operation between 2009 and 2016. Primary outcomes were a measure of safety (odds of minimum of one adverse outcome) and two measures of effectiveness (change in the Oxford Hip or Knee Score (OHS/OKS) which measures severity of joint problems on a scale from 0 (worst) to 48 (best) and the EQ-5D a health-related quality of life (HRQoL) measure on a scale of -0.59 (worst) to 1 (best)). Logistic and linear regression analysis were used to estimate the impact of 11 different comorbidities with adjustment for age, sex, ethnicity, socioeconomic status and other comorbidities.

Results: Patients with comorbidities were more likely to have an adverse outcome with odds ratios ranging from 1.14 (95% CI 1.10, 1.19) for patients with high blood pressure to 1.89 (95% CI 1.70, 2.10) for patients with stroke across both hip and knee patients. On average, patients with comorbidities reported large improvements in severity of joint problems (20 points in OHS, 15 points in OKS) and HRQoL (0.4 in hips, 0.3 in knees) after hip and knee replacement surgery. Compared against patients without comorbidities, patients with comorbidities reported slightly smaller improvements in OKS/OHS (adjusted differences in OHS ranged from 0.39 (95% CI 0.27, 0.51) to 0.74 (95% CI 0.31, 1.17) and OKS ranged from 0.32 (95% CI 0.07, 0.57) to 1.15 (95% CI 0.58, 1.72)) except for patients where a comorbidity was high blood pressure, kidney disease or cancer where there was little difference in improvement. There was limited to no impact of comorbidities on HRQoL. The size of the effects increased with the number of comorbidities.

Implications: Our study suggests that the negative impact of comorbidities on the safety of hip or knee replacement surgery is small compared to the beneficial impact of the surgery itself. Patients with comorbidities had more adverse outcomes but benefit from hip and knee replacement surgery with the improvements in function only slightly less than patients without comorbidities. Our findings therefore indicate that restricting access based on the presence of comorbidities alone is unjustified.

03/07/2019
14:25-15:40

Hiding in plain sight: using routine data to identify opportunities to increase value and reduce waste in health systems

Louise Hussey, Jill Stocks, Paul Wilson, Jo Dumville, Nicky Cullum
The University of Manchester

Background: In resource constrained health care systems we must explore opportunities to de-implement contradicted and unproven practices in order to increase value and reduce waste. In the management of complex wounds, dressings are classed as external medical devices and, as such, require a lower level of evidence to support marketing authorisation and new dressing products come to market relatively rapidly and are not always supported by evidence of effectiveness (1). This study investigates temporal trends in the use of antimicrobials dressings, places this in the context of available evidence and discusses the potential impacts on the UK National Health Service (NHS).

Methods: We conducted a secondary data analysis of the NHS Prescription Cost Analysis (PCA) database 1997-2016. We plotted the quantity and expenditure of prescribing for four antimicrobial dressing categories by year and also in relation to the publication of a key national guidance in 2010 (2) using an interrupted time series (ITS) design from 2005 to 2015 (five years pre and post 'intervention').

Results: There was a large increase in the prescribing of, and expenditure on, relatively costly silver and other antimicrobial wound dressings between 1997 and 2016. In 1997 the total number of dressings prescribed was 5,792,700; by 2009 this had increased to 11,447,102 (Figure 1) with expenditure increasing from £1,960,386 to £32,841,263 (Figure 2) over the same period. Antimicrobial dressings have taken an increasing market share of dressings used and account for a disproportionate amount of expenditure despite no compelling evidence to support their routine use.

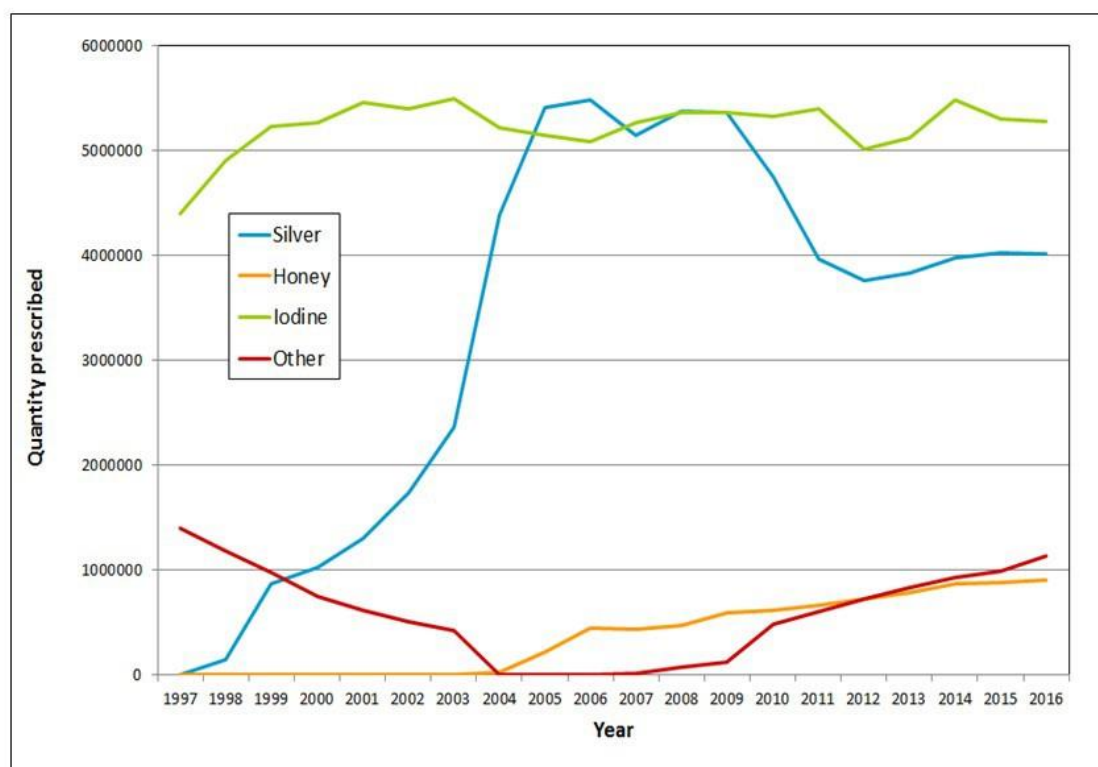


Figure 1. The quantity prescribed per annum of silver, honey, iodine and other antimicrobial dressings prescribed in the community in England (1997 to 2016)

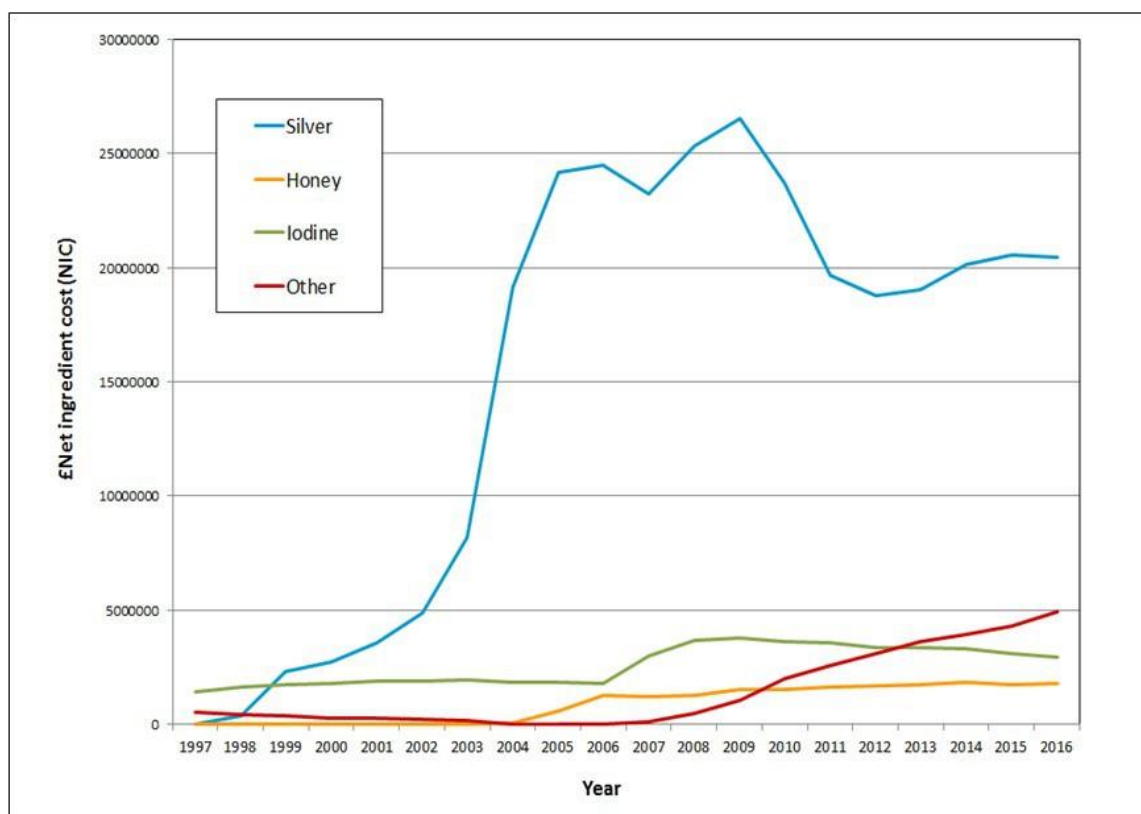


Figure 2. The Net Ingredient Cost (NIC) (total expenditure) per annum of silver, honey, iodine and other antimicrobial wound dressings prescribed in the community in England (1997 to 2016)

The first UK guidance we found was published 1998 (3) and suggested little or no good research evidence that using antimicrobial dressings influenced wound outcomes. Guidance universally recommends using simple, non-adherent wound dressings for complex wounds and agrees that there is little research evidence to suggest that antimicrobial dressings are clinically or cost effective.

The results of the ITS analysis for expenditure on antimicrobial dressings from 2005 to 2015 show that £25.9 million (95% confidence intervals, £24.4 to £27.5) was spent on antimicrobial dressings in 2005, followed by an increase in spending of, on average, £1.6 million per year (£1.0 to £2.1) until 2009. In 2010 (the year of the SIGN guidance publication), there was a reduction in the expected spending on antimicrobial dressings (based on the pre-intervention trend) of -£5.2 million (-£8.6 to -£1.7), this reduction was largely driven by a reduction in silver dressing spend. There was no corresponding significant reduction in expenditure on non-antimicrobial dressings in 2010 (£0.9 million; -£4.8 to £3.0)

Implications: Routinely available prescribing data can be used to identify products of unproven benefit and which also impose a significant financial burden on health systems. This study quantifies the huge increase in the use of antimicrobial wound dressings over a 20 year period despite the lack of compelling research evidence to support their routine use. Routine data can be used to as part of more systematic efforts to increase value and reduce waste in health systems.

References:

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Poster Display

Poster Board Number: 101

Rapid Fire 3
03/07/2019
10:00-11:15

Complexifying Adversity: First Findings from The Development of a Professional Training Resource for Improving The Discussion of Adverse Events in Maternity Care

Mary Adams, Jane Sandall, Rick Iedema
King's College London

Background: The need for improvements in the professional work of understanding and discussing adverse healthcare events, and for the involvement of harmed patients and their families in this process, is widely recognised. The importance for discussions of harm between affected women or families and maternity care professionals has been highlighted. To date, professional training interventions have focused on skills acquisition to improve the rationalisation and clarification of an adverse event. The affective and relational dimensions of event investigation and discussion are often assumed to be interruptions to this task. We have developed an interactive training intervention using scenario-based, virtual theatre that aims to encourage participants (health care professionals, students and managers) to deal with the complex realities of events of harm, including discussions with women and families. The training is a tailored 'Justice Syndicate' game where participants explore implicit assumptions, intuitions and emotions that influence their reactions to, and judgements of, those involved in an unfolding scenario of unanticipated iatrogenic harm to a patient. Our paper focuses on findings from the first phase of this development work: the identification of key themes for scenario development and the implications of these for a wider understanding of how events of patient harm might be understood.

Method: Scenario development involved the secondary analysis of ethnographic field notes and anonymised documents collected from two maternity units (organisational case studies) comprising one-to-one interviews with staff, including front-line midwives, administrators, senior managers, obstetricians and other doctors (n=12) and 24 days of ethnographic observations on the maternity units where they worked. Emergent themes were identified from analysis of interviewees' views and experiences of two events of serious harm that happened during fieldwork in one unit. These themes were further developed in conversations with three practicing midwives and an obstetrician.

Results: The three main themes identified across the field data were: (1) recognition that healthcare failings are the 'work of many hands' (2) evidence of failings are always partial and emotive; (3) formal explanations of failings harbour a multitude of situated meanings and motives. These findings were used both to establish the scenario for the immersive training intervention and to reflect on the ongoing, collective work undertaken in some maternity teams in making sense of events patient harm in maternity care. From these findings from the organisational case studies, we propose a view of a collective understanding of adverse healthcare events in maternity care that draws on Law's (2002) view of complexification. This view questions the notion of a singular, authoritative and final view of events that have led to patient harm; a recognised (and tolerated) co-existence of multiple frameworks of possibility, knowledge and claims to value.

Implications: The training intervention that has been tailored from a Justice Syndicate approach is designed to enhance the reflective capacities and confidence of maternity care professionals and teams undertaking disclosure conversations with women or families. The emphasis of the approach is the displacement of simple, linear narratives of harm and blame to encourage discussion about the complexity of health care delivery and the fragility of its organisation and the recognition of distributed responsibilities.

Rapid Fire 1
02/07/2019
14:00-15:20

The journey of Looked After Children in developing a research Patient and public involvement group.

Hayley Alderson¹, Rebecca Brown², Debbie Smart², Raghu Lingam³

¹Research Associate, ²Newcastle University, ³University New South Wales

Background: Looked after children and Care Leavers (denoted as LAC) are often described as a vulnerable and 'hard to reach' group of young people. LAC are often disadvantaged, tending to have poorer outcomes than their peers. They tend to have higher rates of mental health problems, higher levels of risk-taking behaviours such as drug and alcohol misuse and lower educational achievement than their peers (Simkiss, Spencer et al. 2012, Simkiss and et al 2013). Groups such as the Young Person's research advisory groups (YPAG) are already in existence and they aim to "engage young people in research and to work in partnership with, and offer support to, researchers" (Preston J and Moneypenny S). Established PPI groups can struggle to regularly attract the marginalised groups identified above and whilst there is recognition of the importance of obtaining multiple perspectives, the inclusion of some seldom heard and socially excluded groups continues to pose challenges. The views of LAC continue to be largely absent within the design of academic research.

Methods: This presentation reports on experiences and reflections of a group of children and young people and academic researchers who developed a Patient and Public Involvement (PPI) group that was set up in the context of an on going health service intervention trial with LAC. The PPI project took place over an 18 month period, nine PPI sessions took place, each lasting approximately 1 hour in length. Eighteen qualitative semi structured interviews were conducted at two separate time points (prior to commencing any sessions and within the final session) with 7 LAC, the participation officer within a North East Children in Care Council and the 4 researchers involved in developing and facilitating the PPI group. The qualitative interviews were transcribed verbatim. Thematic analysis was used to analyse the data (Braun and Clarke 2006) and direct quotes are used within the presentation. Video recording was undertaken within the sessions as LAC participated in mock interviews/focus groups and contributed to group discussions.

Results/Main Outcomes: The findings from the PPI project reflect the practicalities of working with an under-represented group, such as LAC, whom often present with a range of competing demands and needs. This project has highlighted that involving LAC in academic research can result in concrete outcomes and have key impacts. Additionally, LAC chose to use the video recordings collected throughout the PPI group sessions to produce a short 5 minute video to highlight why they think young people should be involved in research. This video has been shown to academic colleagues and within the local authority setting. Overall findings suggested that it was feasible to develop a PPI group with LAC to be involved in an academic research project. Specific areas of significance when working with LAC were the logistics of attending the PPI group (transport, time and location of sessions), an emphasis on building up a relationship, the necessity of using creative methods to engage young people in sessions and the ability to be responsive to the environment and able to change the plan for the session at short notice. Findings from the research were used to co-develop 'top tips' of working with vulnerable young people such as Looked after Children.

Implications: This presentation shows that PPI with this group of young people can be done, if researchers have enough time, resources and willingness to work at the pace of the participants attending the group. The project highlighted what can be achieved when researchers take a co-development approach to a research idea rather than simply consultation which is present in policy documents. We highlight the necessary steps to make this work achievable and acceptable. The findings from this project can hopefully act as a mechanism to challenge society's image of LAC and explore pre-conceptions about the ability to engage and work with this group of young people.

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15:45-17:00
Rapid Fire 2
02/07/2019

Exploring the Influence of Healthcare Accreditation on the Psychosocial Work Environment

Amna Alshamsi, Louise Thomson, Angeli Santos
University of Nottingham

Background: In the new era of health system, an increasing movement has been observed in assessing the quality of healthcare settings, which improves the delivery of services and ensures patients' safety. The growth of health care accreditation programs has increased significantly over the course of the past four decades, and many countries have made it mandatory for their healthcare facilities to achieve external accreditation from a recognised accrediting agency. The term accreditation is inspired by the "continuous quality improvement" (CQI) concept which aims at acknowledging healthcare facilities publicly and encouraging them to constantly improve the delivery of care provided to patients. Accreditation is an external inspection process, which assesses the performance of healthcare facilities to a defined set of standards, supports the promotion of patients' health and safety, and improves the quality of healthcare management and leadership. Although the impact and outcome of accreditation remain unclear, many countries, such as France, Italy, Scotland and the United Arab Emirates (UAE) mandate such assessment for better delivery of health services. In contrast, studies have noticed observed consequences to the accreditation process such as increased workload, elevated stress level, and more consumption of resources. Furthermore, the constant demands of patients and supervisors may risk healthcare workers' health, regarding feeling stressed or being injured. Moreover, literature has linked employees' perceptions about their organisational commitments in protecting workers' psychological health to errors and under-reporting, and 39% of healthcare workers do not report one or more injuries. Therefore, this investigation will attempt to explore how accreditation influences the psychological health and well-being of employees working in accredited facilities, and how leaders' respond to the cumulative psychological hazards related to high job demand and low social and psychological support.

Aim: This poster aims to highlight the psychosocial risk factors that go hand in hand with the accreditation process at healthcare facilities and their influence on healthcare workers' psychological health and organisational safety outcomes.

Methods: The study addresses the influence of accreditation on healthcare workers' psychological health and organisational safety outcomes via interviews and focus group sessions on understanding and generating knowledge from workers' experience with accreditation. Both interviews and focus group sessions use an average of 10 main semi-structured questions that focus on the different aspects of psychosocial hazards associated with the accreditation process.

Results: This poster will report the findings of the study conducted in recently accredited healthcare facilities in the United Arab Emirates, which aim to explore the influence of healthcare accreditation on healthcare workers' psychological health and organisational safety outcomes. In addition, findings will argue that the process of healthcare accreditation could increase the risk of psychosocial hazards related to employees' psychological health and organisational safety outcomes such as patients' safety.

Implications: The implication for the future organisational support and commitment in reducing psychosocial hazards during the accreditation process and the contribution of this study to the field of Occupational Health and Psychology in developing countries of the Eastern Mediterranean region will be discussed in the poster.

Poster Board Number: 104

Rapid Fire 2
02/07/2019
15:45-17:00

Power bases and influence tactics of medical leaders

Kirsten Armit
Faculty of Medical Leadership and Management

Background: Top management researchers have paid little attention to the power and influencing capability of executive leaders other than chief executive and chair, particularly in the public sector. In healthcare, research indicates the important role of medical leaders in influencing organisational performance. In the UK, Veronesi, Kirkpatrick, and Vallascas (2012) found that higher representation of clinicians on governing boards appeared to be associated with better performance, patient satisfaction and morbidity rates. They also showed that when the percentage of doctors on Boards was greater, even by 10%, this had marked consequences for performance. Dickinson, Ham, Snelling and Spurgeon (2013) found that organisations with high levels of medical engagement performed better on available measures of organisational performance than others. In the USA, Goodall (2011) found a strong relationship between medical chief executives and hospital rankings. These findings suggest there is a need to understand more about why and how medical leaders influence performance (Sarto and Veronesi, 2016). One means of doing this is to understand how individual medical leaders interpret and carry out their role. McGivern et al (2015) suggest that medical professionals' identity when in managerial roles will affect their impact, with those more willing to identify as managers potentially having greater impact. While identity matters, there are many factors which may influence how leaders interpret and carry out their role. For example, their own values, professional and educational background, cognition and motivations play an important part, as do the explicit and implicit messages and expectations received from colleagues. Role theory offers a useful framework in understanding the structural and interpersonal interactions shaping ones understanding and enactment of their role. However, to study impact on performance, we need to go beyond understanding how medical leaders interpret their role if we are to explore how their role enactment leads to potentially impacting organisational performance. Research and theory on power and influence offers further insight, as managerial success is widely held to be down to the effectiveness with which an individual influences attitudes, behaviour and psychological state of others including subordinates, peers and superiors (Mintzberg, 1973; Yukl, Chavez and Seifert, 2005, French and Raven, 1959; Yukl and Falbe, 1990). Social scientists have identified a range of power bases (factors which provide the 'potential ability to influence') and choice of influence tactics (ie actions and behaviours) (Pfeffer, 1994) used by students and individuals at various organisational levels. French and Raven (1959) proposed a range of power bases such as the ability to reward or coerce others, utilise legitimate position or status, expert knowledge or skill and access to key information (Raven, 2008). Such structural approaches to power are important but relational approaches which describe behaviour in exercising power are also necessary (Pettigrew and McNulty, 1995; Brass and Burkhardt, 1993). Researchers have identified a range of influence tactics employed by individuals at various organisational levels such as assertiveness, ingratiation, rational persuasion, sanctions, exchange, appeals, blocking, coalitions, collaboration and apprising (Kipnis, Schmidt and Wilkinson, 1980; Yukl, Chavez and Seifert, 2005). Use of tactics may depend on role, job status and hierarchy, access to resources, context and organization size (Kipnis et al, 1980; Yukl et al, 2005; Katz and Kahn, 1963). To better understand how and why medical leaders impact organisational performance, we need to improve our understanding of how they interpret their role, how other's expectations influence this, and identify which power bases and influence tactics medical leaders employ. This qualitative research study shares findings from semi-structured interviews with medical directors and board-level colleagues on how medical directors are perceived to influence decision-making and strategic agendas in organisations.

Methods: Nineteen hours of semi-structured interviews were conducted between late September and early November 2018 with 10 medical directors, three chief executives, three chairman and three government officials. Further in-depth interviews were conducted in early 2019. Written records were kept, augmented by recordings with prior consent. Information collected from the interviews was collated and a thematic analysis conducted to identify power bases and influence tactics reportedly employed by medical directors.

Results: This study is underway at present but findings will be available in time for the HSRUK conference.

Implications: This research will add to the top management team (TMT) literature, particularly with respect to the role of executives (other than chief executives and chairs) in public sector organisations. In examining the medical director role, this study may add to our empirical understanding of how professionals use power and influence to impact organisational decision-making and priorities. In developing a greater understanding leadership by

professionals, this research may have an influence on the future expectations of the medical director role and inform recruitment practices and expectations of individuals in the role.

References removed due to limited space but available on request.

Mitigating medical overuse - how can we ensure 'just enough medicine'?

Natalie Armstrong¹, Delran Anandkumar², Olivia Phillips¹

¹University of Leicester, ²University College London Hospitals NHS Foundation Trust

Background: Overdiagnosis and overtreatment are increasingly highlighted as a significant problem in contemporary healthcare. While not necessarily straightforward to define, overdiagnosis and any subsequent overtreatment are terms generally used about instances in which a diagnosis is 'correct' according to current standards but the diagnosis or associated treatment has a low probability of benefitting the patient, and may instead be harmful. While initially used largely in the context of cancer screening, more recently concerns about overdiagnosis and overtreatment have spread to a wide range of clinical activities. The potential consequences of overdiagnosis and overtreatment may be significant and include such harms as the psychological and behavioural effects of disease labelling, physical harms and side effects of unnecessary tests or treatments, unnecessary treatment negatively affecting quality of life, increased financial costs to individuals, and wasted resources and opportunity costs to the health system. While there is increasing focus on individual behaviour change approaches, overdiagnosis can also be understood as a consequence of the organisational, financial and cultural attributes of healthcare systems and not simply the product of individual decisions. However, we know relatively little about the forms interventions at these levels may take, and how successful they might be. We present a review of interventions seeking to tackle overdiagnosis and/or overtreatment in healthcare.

Methods: A systematic search of published research reporting system level interventions to tackle overdiagnosis and/or overtreatment was conducted, supplemented with reference chaining. Language was restricted to English. There was no restriction on search dates. A narrative approach to analysis took account of the heterogeneous contexts and processes on which the evidence base is built and ultimately sought to integrate the various literatures through a narrative argument. We analysed key features including characterisation of the problem to be tackled, the type and nature of the intervention, the target population, type(s) of outcome sought, and evidence of impact.

Results: In total, 147 articles were found to meet the inclusion criteria for the review. Studies predominantly took the form of non-randomized quality improvement projects, including both prospective and retrospective data collection. A handful of cluster randomized control studies were also included, as well as some cohort studies. Characterisation of the problem being tackled was typically weak, with few studies demonstrating clear articulation and diagnosis of the issues they sought to tackle. The types of outcomes sought included things like: reducing the number of interventions carried out; limiting testing without clinical indication; and minimizing prescribing of particular medications. In general, these outcomes were associated with higher level objectives such as the improvement of patient safety, higher quality of care, or reducing financial waste. Interventions were typically multi-faceted in nature including: processes of consensus building; formalization into new guidelines, decision making algorithms, and/or order sets; education; and ongoing feedback to the teams involved. Nonetheless, few demonstrated a clear theory of change through which the intervention elements would lead to the desired outcomes. The interventions in the included studies typically showed a reduction in the practice of interest, but often fell short of commenting on the appropriateness of those reductions. Data on the financial savings attributable to the intervention were included fairly regularly, and there were some attempts to explore professional and/or patient satisfaction with the outcomes observed. A minority of studies also included data on balancing measures, which aimed to capture unintended consequences of the intervention in question.

Implications: Interventions to reduce overdiagnosis and overtreatment are increasingly common, but more research is needed to fully understand how these can best be designed and implemented in practice. A lack of clarity around problem definition together with the failure to clearly articulate a theory of change for the intervention proposed is likely to undermine the potential effectiveness of such improvement efforts.

Rapid Fire 3
03/07/2019
10:00-11:15

Analysis of Community Pharmacist Tasks in Practice

Ahmed Ashour, Darren Ashcroft, Denham Phipps
University of Manchester

Background: Community pharmacists conduct a number of tasks as part of their daily practice. These range from clinical and professional tasks, as commissioned by the community pharmacy contractual framework, which governs the way pharmacies are remunerated, to other non-professional and business-related tasks. Many of these tasks can impact patient safety, and they each require different technical and non-technical skills in order to be completed safely and efficiently.

Method: Hierarchical Tasks Analyses (HTAs) were completed for tasks suggested by community pharmacists as being important and relevant to patient safety. HTAs allow for the systematic description of the sub-tasks and behaviours that are completed in order to achieve a goal or task. Initially, community pharmacists were given a brief training session explaining how to conduct HTAs and were asked to individually produce a HTA for one of the tasks. These tasks were discussed in a focus group to identify differences in how tasks were completed. Observations then took place that allowed a comparison to be drawn between what was discussed in the focus groups, with what occurs in practice.

Results: Validated HTAs were produced for a number of important tasks that community pharmacists may complete on a daily basis. There were differences highlighted in the way different pharmacists completed the same tasks. These HTAs describe the differences in the number of steps required for different tasks, and further steps can be taken which will prospectively predict potential errors that could occur, and propose steps to prevent them.

Implications: This work sets the foundation for further Human Factors and Ergonomics (HFE) research to take place. Tools such as the Systematic Human Error Reduction and Prediction Approach (SHERPA) use HTAs as a foundation for describing potential errors in tasks, and provides suggestions of potential improvements that would reduce the potential of errors.

Does the Duty of Candour process impact on improvements in practice?

Jemma Barton
University of Salford

Background: Concerns and complaints raised by a persistent group of patients and families, linked with concerns regarding mortality rates led to the Mid Staffordshire Inquiry (Francis Report, 2013). This inquiry found a catalogue of failings that included preventable deaths, incidents which had led to patient harm, and a culture which did not foster open and honest discussions with patients and families when something had gone wrong within services. The findings from this inquiry led to Sir Robert Francis to recommending a statutory 'Duty of Candour' (Health and Social Care Act, 2008) to be imposed across healthcare services in England. Francis (2013) also recommended that this statutory requirement should be monitored through the healthcare regulatory body, Care Quality Commission (CQC). There was a requirement for all healthcare organisations to have policy and procedures in place by April 2015. The Duty of Candour is formalisation of processes of being open and honest when a notifiable safety incident has occurred. This regulation states that the Duty of Candour applies to all incidents which are reported and are graded as causing (or likely to cause) moderate harm or above or prolonged psychological harm and meet the criteria for a notifiable safety incident (where the incident was deemed as unintended and or unexpected). Based on this regulation, healthcare organisation should undertake a number of mandatory steps to ensure that patients and families are aware of the incident and have the opportunity to contribute to the ongoing investigation. The justification of the introduction of this regulation is that there is evidence to indicate that positive incident reporting cultures, including an organisational focus on being open and honest when an incident has occurred plays an important part in ensuring learning and improvements to services. More so, good incident reporting can also help towards organisational culture which enables members of staff to feel able to safety raised concerns (often before they become an incident or issue). This is often referred to as organisational psychological safety (Colley et al 2013).

Methods: The focus of this research considers two key elements of the Duty of Candour. First, to what knowledge do healthcare staff have of the Duty of Candour and its application in practice? Secondly to understand whether there is any emerging evidence that this requirement is leading to improvements in practice by learning lessons from incidents. A detailed literature review has highlighted gaps in the current evidence base regarding the exploration of the application and impact of the Duty of Candour, and hence, this study seeks to provide an evidence based consideration of the implementation and understanding of this regulation at an everyday working level. In order to do this, semi-structured interviews with members of staff who have reported an incident will be conducted and analysed through a grounded theory frame. Approximately 10 interviews will be conducted with staff.

Results and Implications: Interviews have been conducted and themes from these interviews are currently being coded and considered. Results, conclusion and implication will be readily available prior to the date of this conference.

Rapid Fire 1
02/07/2019 14:00-15:20

The benefits and challenges of early dissemination strategies: reflections from the General Practitioners in Emergency Departments (GPED) study.

Helen Baxter¹, Sarah Purdy¹, Hayley Dash², Katherine Morton², Sarah Voss², Jonathan Benger²

¹University of Bristol, ²University West of England

Introduction: A thorough knowledge mobilisation strategy for a study will consider mechanisms to both inform target audiences and to actively engage them in the research process and findings using a two-way process of knowledge sharing. Incorporating the multiple perspectives of stakeholders within the research process increases both the relevance of research and its use within practice (Batalden, Batalden et al. 2016, Buick, Blackman et al. 2016, Heaton, Day et al. 2016). The General Practitioners and Emergency Departments (GPED): Efficient Models of Care study is a mixed methods research study comprising three work packages: A) a mapping description and classification of current models of GPED in all emergency departments in England; B) quantitative analysis of national data: measurement of the effectiveness, costs and consequences of the GPED models compared with a no-GPED model, using retrospective analysis of Hospital Episode Statistics Data; C) detailed case studies of different GPED models using a mixture of qualitative and quantitative methods. The aim of the study is to understand the impact of GPs working in or alongside the ED on patient care, primary care, the acute hospital team and the wider urgent care system as well as the differential impact of different service models of GPED. Knowledge mobilisation for GPED was designed around a layered strategy (Bennet & Bennet, 2007) of breadth approaches repeated over time (e.g. website, newsletter, animations and blogs) and depth, single occasion approaches (e.g. knowledge broker, presentations to policy makers, stakeholder meetings). The policy-making environment changes at a fast pace, which is often ahead of the time taken to conduct a research study. In order to ensure that the knowledge generated from the study was fed into practice whilst still relevant to clinicians, commissioners, health service managers and service providers, a mid-study dissemination event was held. This process gave an opportunity for stakeholders to engage with the early findings of the study and to comment on and influence the direction of the final stages of the research to ensure its utility for practice.

Method: A stakeholder dissemination event was held at an appropriate venue and advertised using local and national networks to clinicians, health service managers, service providers, clinical commissioners, national commissioners, patient groups and academics. Another research group from Cardiff University, who are collaborating with the GPED team, were invited to take part and present their findings. Fifty-three stakeholders registered to attend the day event; 23 clinicians (mostly from Emergency Departments), 9 local commissioners, 4 national commissioners, 4 researchers, 6 service providers, 4 health service managers and 3 patients.

The first part of the day event involved a series of presentations from the two research teams outlining the current findings of the study at the midway point. The second part of the event was run as a round table discussion in small groups to address two key questions: 'How should we judge the success of a GPED model of care?' and 'What outputs from the research will inform practice, and what more do we need to know?'

Results: The groups generated 73 responses to the first question and 65 responses to the second question. The groups organised the responses into themes and identified key questions, which were then fed back to the wider group. Responses and groupings were tabled and fed back to the study steering committee and management group for further discussion. A summary of the findings from the group work suggested opportunities for a different focus and exploration of the data, especially around patient experience and education. However, it did not identify any area that the research team had neglected to collect information on or could not explore from the previously planned data collection. Holding the event required substantial financial resourcing and also drew considerably on the energy and focus of the research team, which needs to be allowed for in project planning.

Implications: For projects addressing research questions in health services organisation and delivery there are benefits to conducting early dissemination due to the changing landscape of commissioning and service provision. A check-in with stakeholders on the relevance of a current study gives an opportunity to make changes and increase the utility of final results. However, the benefits of early dissemination must be balanced against the investment of resources in holding such an event and the challenge of potentially identifying a mismatch between the research aims and stakeholder expectations at a "point of no return". Initial investment in engaging with stakeholders during study design is essential for the planning of resources and to ensure research aims are aligned with practice from the outset.

Poster Board Number: 109

Rapid Fire 3
03/07/2019
10:00-11:15

A creative co-production approach to promote exercise after stroke

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Background: Stroke is the 4th leading cause of death and the leading cause of adult disability in the UK, affecting 152,000 individuals annually and costing the UK health economy nearly £9 billion. A quarter of these strokes are recurrent and often preventable if secondary vascular risk is optimised. It is established that physical inactivity is an independent risk factor for primary and secondary stroke and that exercise limits secondary vascular risk by reducing blood pressure, cholesterol and weight. Yet less than half of adults over the age of 65 years in the UK achieve the recommended levels of activity, and this declines further after stroke and transient ischaemic attack. Only 6% of the stroke survivors in Sheffield attend the exercise referral programme.

Method: The aim of this project was to explore ways to promote exercise in stroke survivors living in Sheffield (UK) using co-production workshops. Based onto the experiences of the services accessed by a range of stakeholders in Sheffield, we intend to understand how the current delivery of exercise after stroke is, what the myths and enablers/barriers are, and explore ways in which the service could be improved using co-production methods. The multidisciplinary core team is composed of two health professionals (stroke consultant and physiotherapist) and two designers who co-facilitated a series of five workshops. This design-led project used co-creative methods throughout a series of divergent and convergent thinking based onto the double diamond (Design Council, 2005) approach. This project can be split in two phases. Phase 1 consisted of defining a series of briefs that are part of a new 'ideal' service, and phase 2 of responding and developing the briefs. Relating to the double diamond, phase 1 could therefore be seen the first diamond and phase 2 to the second.

Stakeholders: Throughout the entire duration of the project, at least 15 participants were involved in each workshop, gathering together stroke survivors (all within the past five years), health care professionals, exercise prescribers, social services, commissioners, medics and the voluntary sector. After workshop 3, a total of ten students from the product design course at Sheffield Hallam University were recruited and joined workshops 4 and 5 to develop the briefs that emerged from the research. In this second phase of the project, students were paired with stroke survivors and healthcare professionals to develop their own brief.

Results: Among the ten students, a total of five briefs emerged from the research: a marketing campaign to burst myths and promote physical activity; a video raising awareness of the benefits of promoting exercise; a staff training package to deliver the right information at the right time and in an appropriate language; a stroke survivor's passport to access relevant and customised information as well as to keep one's medical record in one place; and a 'buddy box' to increase wellbeing among survivors at key points in the recovery process. Each brief was developed in a group formed of two or three students along with patients and other healthcare professionals. Even if the briefs were complementary and belonged to one project, some students worked individually. Therefore all the designs that emerged from the briefs have to be brought together under one same entity. This is the purpose of phase 3, during which we wish to secure some funding to create one proof of concept to prototype and test in stroke wards.

Implications: A stroke is a life changing experience which can be very challenging at a psychological and/or physical level, regardless of the severity of the stroke. Therefore, it is crucial to provide healthcare that will help patients to recover quicker and empower them with the right information and tools is crucial. Using co-creative methods allowed developing outcomes that are part of a service that fulfil these gaps. Furthermore, giving a voice to those patients who had a negative experience of the service by involving them in the project seemed to act as therapy. Involving students in the process has proved being challenging in two main ways. Firstly, to satisfy the project's scope while meeting the university requirements. Indeed the first three workshops led to developing four briefs that are all part of one project. Yet there were two or three students per brief who had to work individually so we had to ensure that the work students were producing was also meeting the assessment criteria. Secondly, around the IP consent. The work students produced stem out from a brief we created during the first three workshops however some of them did not give their consent to develop their work forward. This issue of where does the IP belong can often be of concern in projects using participatory approaches.

Funders: This project was part of getting research into practice and funded by the NIHR CLAHRC YH.

Rapid Fire 2
02/07/2019
15:45-17:00

Periprosthetic fractures – the next fragility fracture epidemic? National observational study

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Introduction: In 2017, approximately 92,000 primary hip replacement and 102,000 primary knee replacement procedures were performed in England and Wales. The population is ageing, and one of the hazards of improved life expectancy is an increasing likelihood of sustaining a fracture due to osteoporosis and of falling. Surgery to treat fractures that occur around joint replacements – termed periprosthetic fractures – is often complex and prolonged, requiring specialist input from a multidisciplinary team. England's national hospital administrative database, Hospital Episodes Statistics (HES), began to use a new ICD10 code, M96.6, to capture these fractures for the first time. We assessed their rate of growth in England, which patients do and do not get an operation, and their short-term outcomes.

Methods: Data on admissions for M96.6 in England between Apr 2013 and Sep 2017 came from HES. The trend in admissions for this code was shown graphically since Apr 2013 and, from the date of its official recommendation in Mar 2015, by Poisson regression. To counter the impact of differential coding uptake by hospitals, trend analysis was stratified by whether hospitals were early adopters of the code. Analysis of who did and did not get an operation and their outcomes (length of stay, final destination on discharge and in-hospital mortality) was descriptive.

Results: After the coding guidance was introduced in March 2015, there were 14,010 admissions (83.6% classified as emergency) for 12,919 patients. For the 83.3% who had M96.6 in the primary diagnosis field, there were 11,019 admissions for 10,444 patients. 87% of patients were aged 65+ and 66.7% were female. The subsequent analysis is restricted to admissions with M96.6 in the primary diagnosis. Eighty-nine out of 171 hospital trusts using the code were labelled early adopters. The rate of increase (slope) for the non-early adopters was significantly higher than that for the early adopters ($p=0.001$ for the interaction term). If we take the early adopters as being the "true" underlying trend, then there was a 17% annual rise in M96.6 admissions between April 2015 and October 2017 (Table 3). Excluding the first six months since the coding change did not change the rate of increase significantly. For the elective admissions, 85.5% had a procedure performed; for the emergency admissions, 73% had a procedure performed, with an overall proportion of 74.1%. Younger patients (aged under 65) and those without dementia were more likely to receive an operation; there was little relation with other characteristics. Acute hospital LOS increased with increasing age and was higher for older ages for both genders and for operative than non-operative management at each age group ($p<0.001$). Whereas 91.9% were admitted from their usual residence, only 74.6% went back there after an M96.6 admission: 8.9% went to a care home; 5.4% were discharged to a temporary residence; 4.4% died and 3.6% went to another hospital for which no HES record could be linked.

Implications: The number of patients admitted to hospital in England with periprosthetic fractures is currently around 450 per month and increasing by approximately 15% each year. These fractures require specialist teams to treat and are associated with a relatively prolonged length of stay and increased dependency upon discharge. They represent another growing challenge for the NHS and require planning at the local and national level.

The Community Ageing Research 75+ (CARE 75+) cohort study: a resource for research with older people with frailty

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¹Academic Unit of Elderly Care and Rehabilitation, Bradford Teaching Hospitals NHS Foundation Trust, ²Bradford teaching Hospitals NHS Foundation Trust, ³University of Leeds

Background: The proportion of people older than 65 years is growing faster than any other age group (Wise et al. 2010). Frailty is an especially problematic expression of population ageing with profound implications for the planning and delivery of health and social care services. Historically, the healthcare response to frailty has been reactive and secondary care based. However, there is increasing recognition that frailty should be identified and managed as a long-term condition. With the widespread introduction of a robustly developed tool to detect frailty in older people in UK primary care, the electronic Frailty Index (eFI) (Clegg et al. 2016), there is an opportunity to develop services for older people according to their frailty status rather than chronological age. The aim of the Community Ageing Research 75+ (CARE75+) study (UKCRN 18043) is to investigate clinical, health, psychosocial and economic outcomes in a cohort of older people (≥ 75 years) with well characterised frailty and to investigate factors that contribute to worsening or modifying frailty trajectories. Additionally, the aim is to provide a rich and comprehensive data resource and recruitment platform for research with older people across the frailty spectrum.

Method: Community-dwelling older people aged 75 years and over were recruited to the on-going longitudinal CARE75+ study via general practices. Recruitment started in 2014 in Leeds and Bradford, and then in the following regions: North, South and East Yorkshire; North East; West Midlands and the South-West Peninsula. An extensive range of health and psychosocial outcomes are collected in addition to robust measures of frailty. Data is collected at: baseline; 6 months; 12 months; 24 months; and 48 months. Participants provide optional, informed consent for: data linkage; to be approached about participating in other studies (sub-studies); data to be used as control data in future embedded randomised controlled trials; and the collection of blood samples for basic science research (Leeds and Bradford sites).

Results: To date (January 2019), 1185 older people have been recruited to CARE75+. Ninety three percent have consented to data linkage; 87% have consented to be contacted about participation in sub-studies; and 98% for data to be used as control data. Data has been used for a variety of analyses including investigating: pain impact and frailty; frailty and longitudinal pain trajectories; association between cold homes and frailty; socioeconomic status as a mediator between frailty and disability; and convergent validity of frailty measures. Additionally, CARE75+ has provided participants with frailty for studies investigating: communication between older people and general practice staff; the appropriateness of quality of life measures for older people; the management of high blood pressure; and resourfulness in later life.

Implications: CARE75+ is providing robust data on factors that contribute to health and frailty. Additionally, CARE75+ is proving a successful, robust and cost-effective method of identifying older people for sub-studies, therefore providing information which will inform the development of future services for older people within primary care.

References: Wise J, Moynihan R, Bay B. Number of 'oldest old' has doubled in the past 25 years. Br Med J [Internet]. 2010/06/10. 2010;340:c3057. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/20530566>

Clegg A. et al., (2016) Development and validation of an electronic frailty index using routine primary care electronic health record data. Age and Ageing. 45(3): p. 353-360.

The impact of pain in older people with frailty

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Background: A review of cross-sectional data identified a higher prevalence of pain in older people with frailty compared to fit older people (Brown *et al.* 2015). Additionally, a recent review of five prospective, longitudinal studies (n = 13,120) reported that people with persistent pain at baseline had twice the risk of developing frailty during follow-up (between three and eight years) (Saraiva *et al.* 2018). However, both reviews did not investigate the impact of pain on the day-to-day lives of older people with different severity grades of frailty as the assessment tools were predominantly single item measures to identify the presence of pain or pain severity. We report a more comprehensive assessment of pain in older people with and without frailty, with a particular focus on pain impact using data from participants from a UK multi-site cohort study.

Methods: This was cross-sectional analysis from baseline data from the Community Ageing Research 75+ (CARE75+) cohort study (UKCRN 18043). Participants were assessed as not frail, pre-frail or frail using the phenotype model of frailty (Fried *et al.* 2001). Pain impact was measured using the Geriatric Pain Measure Short Form (GPM-12), a multi-dimensional pain assessment instrument incorporating 10 items on how pain impacts on ambulation, social engagement, ability to accomplish tasks and on sleep. Additionally it includes a measure of current pain intensity and average pain intensity (last 7 days). Differences in the GPM-12 total score for pain impact, current pain intensity and average pain intensity between frailty categories were compared using Kruskal-Wallis H tests. Intrusive pain (pain interfering with work inside and outside of the home) was identified from an item in the Short-Form 36-item health questionnaire (SF-36). Logistic regression models were used to investigate the association between frailty and intrusive pain adjusting for sex, ethnicity, mood and high comorbid burden (≥ 4 disease conditions).

Results: Our sample was comprised of 887 participants: not frail 139; pre-frail 471; and frail 268. Total GPM-12 median (inter quartile range): not-frail 5.0 (0.0, 12.5); pre-frail 10.0 (0.0, 27.5); and frail 40.0 (10.0, 65.0) ($p = <0.0001$). Current pain intensity: not frail 0.0 (0.0, 1.0); pre-frail 0 (0.0, 3.0); and frail 3.0 (0.0, 5.0) ($p = <0.0001$). Average pain (last seven days): not-frail 0.0 (0.0, 2.0); pre-frail 1 (0.0 to 4.0); frail 4.0 (2.0, 6.8) ($p = <0.0001$). There was a strong association between being frail and intrusive pain when adjusted for sex, ethnicity, mood and high comorbid burden: OR 3.53 (95% CI 2.47, 5.04).

Implications: This research has identified an important new finding that pain in older people with frailty appears to be of sufficient severity to impact negatively on multiple aspects of day-to-day life including ambulation, social engagement, and ability to accomplish tasks and on sleep. Strategies are needed to support older people with frailty to better manage their pain. This was cross-sectional analysis and longitudinal research is necessary to establish causation between pain impact and frailty.

References: Brown *et al.* Pain in older people with frailty. *Reviews in Clinical Gerontology*. 2015; 25 (03):159-71.

Saraiva *et al.* Persistent pain is a risk factor for frailty: a systematic review and meta-analysis from prospective longitudinal studies. *Age Ageing* 2018 Nov 1; 47(6):785-93.

Fried *et al.* Frailty in older adults evidence for a phenotype. *The Journals of Gerontology Series A: Biological Sciences and Medical Sciences*. 2001; 56 (3):M146-M57.

Rapid Fire 3
03/07/2019
10:00-11:15

Predicting treatment response to antidepressant medication – the PReDicT test: an exploration of acceptability and implementation

Sue Brown¹, Cornelia Ploeger², Juliana Petersen², Richard Morriss³

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Background :

The technology:

P1vital Products Ltd have developed a technology called 'PReDicT' that helps to predict whether someone is responding to antidepressant medication after 7-10 days of treatment (questionnaire-based methods used by GPs take 4-6 weeks). PReDicT involves patients looking at a series of facial expressions and categorising the emotion being displayed. An algorithm detects whether responses are changing over time, which would indicate a change in the processing of emotional information; this is combined with other information to provide an indicator of treatment response. A pilot study conducted indicated that PReDicT is 75% effective in predicting response, and has the potential to reduce time taken to treatment response.

The study:

Horizon 2020 provided funding for a trial of the technology within Primary Care in five countries (France, Germany, Netherlands, Spain, UK) and the clinical trial recruited from July 2016 to September 2018 (n=913 patients recently prescribed an antidepressant). Alongside the main clinical trial, there is a health-economic evaluation, and a **study relating to acceptability and implementation (presented here)**.

Aims of acceptability and implementation workstream:

- Explore the acceptability of PReDicT to patients and clinicians, and their experience of using it
- Explore how PReDicT shapes care, including working practices, using normalisation process theory to consider its potential for future incorporation into routine care
- Highlight challenges, barriers and facilitators to use of PReDicT

Method:

Acceptability and implementation workstream

The clinical trial has been running from July 2016 to December 2018. The acceptability and implementation workstream ran alongside this, continuing into March 2019.

- Quantitative methods were used to explore acceptability and implementation across all countries.
- In-depth qualitative exploration was carried out in UK and Germany (whose care systems are very different) to understand how PReDicT shapes care
- **Normalisation process theory** was used to explore the implementation of the technology into working practices.

The overall aim was to compare implementation in different contexts to maximise learning for potential future roll-out.

Questionnaires (all countries):

Patients

N= circa 913, completed by all participants after primary outcome measures (week 8)

- exploring use of PReDicT and having care shaped by it

Clinicians

N= circa 60-80, completed by prescribing clinicians towards end of study

- exploring use of PReDicT, its role in shaping care and working practices

Questionnaires were analysed descriptively, and included exploration of variation by country, and other factors. Free text comments were analysed thematically.

Semi-structured interviews (UK and Germany): in-depth exploration of experience of using PReDicT

Patients:

N=42 (n = 22 in UK; n= 20 in Germany)

Clinicians

N= circa 20 (n = circa 10 in each country)

Qualitative data was analysed using a hybrid approach (a combination of inductive and deductive approaches, see Ritchie et al. 2014). This involved thematic analysis, generating themes from the data using an inductive thematic, constant comparison approach based on grounded theory. In addition, a deductive approach explored key pre-existing areas of interest, including components of normalisation process theory. Researchers in UK and Germany worked in close contact, discussing and comparing findings and identifying differences and similarities between the two countries.

Results:

At time of writing, data collection and analysis is still ongoing. Quantitative results will be presented, identifying findings that point towards the feasibility of PReDicT being used in each country. Qualitative results for patient and clinician interviews will be presented, including the identification of similarities and differences between UK and Germany. Initial analysis from UK qualitative data indicates that broadly speaking, patients and clinicians perceive the Test as improving the delivery of care and providing a useful adjunct to existing methods. Whilst the Test's primary use is to assist clinicians with prescribing (and identifying whether a patient is responding to treatment), the Test provides additional benefits to both groups, most notably to patients. For patients who perceive the Test positively, the weekly completion of short questionnaires online serves to make them feel more supported by clinicians, and more closely monitored. Completion of the questionnaire can also be a catalyst for self-reflection, including acknowledgement of the severity of their current situation as a catalyst for change. Benefits for clinicians include additional information to guide prescribing decisions and to shape discussions with patients. Not all experiences have been positive and the study has identified useful features that could help improve its future roll-out.

Implications: The technology has the potential to shape care, and there are potential benefits to both patients and clinicians. A key factor in its future use is whether it can be implemented into routine care practices, and qualitative data from this study provides essential insight into this. The combined study will shed light on the likely implementability of the technology, and alongside a health-economic analysis and the main trial outcomes, will identify the technology's overall capacity to enhance care.

Prehospital Recognition and Antibiotics for 999 patients with Sepsis: Feasibility Study Results

Jenna Bulger¹, Chris Moore², Timothy Driscoll¹, Saiful Islam¹, Alison Porter¹, Greg Fegan¹, Helen Snooks¹, Matthew Morgan³, Theresa Foster⁴, Nick Francis³, Timothy Rainer³, Bernadette Sewell¹, Gavin Perkins⁵, Mike Smythe⁵, Susan Allen³, Fang Gao Smith⁶

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Background: Sepsis is a common condition which kills approximately 44,000 people annually in the UK. Early recognition and management of sepsis has been shown to reduce mortality and improve outcomes. Paramedics frequently attend patients with sepsis, and are well placed to provide early diagnosis and treatment. We aimed to assess whether a multi-centre randomised trial to evaluate pre-hospital antibiotics was feasible.

Methods: Volunteer paramedics used scratchcards to allocate patients with 'Red Flag' Sepsis at random between experimental and control arms. The primary outcome was mortality at six months. We also measured: adverse events, costs, final diagnosis, length of stay in hospital, and quality of care; and collected qualitative data about acceptability to patients in interviews, and paramedics in focus groups. We pre-specified criteria for deciding whether to progress to a fully powered trial based on: recruitment of paramedics and patients; retrieval of outcome data; safety; acceptability; and diagnostic accuracy. We invited all paramedics in the feasibility study to take part in a focus group to explore their experience of and attitudes towards the new intervention. We recorded the discussion and analysed the transcript thematically.

Results: Fifty-four paramedics completed their training and were issued scratchcards to randomly allocate patients to trial arms. Patients were recruited from 1.12.17 to 31.5.18. In total, 118 patients were randomly allocated to trial arms; four patients dissented to be included in the trial, leaving 114 patients to follow-up. Sixty-two patients (54%) were allocated to the intervention arm. The mean age of the control arm was 71.2 years (range 28-97); 33 (65%) control participants were female. In the intervention arm the mean age was 75.6 years (range 30-99) and 38 patients (61%) were female. Nine patients in the control group (18%) and 17 in the intervention group (28%) were already taking antibiotics at the time of their 999 call. Twenty-three questionnaires were received. No serious adverse events were reported. The five paramedics in the focus group were enthusiastic about the intervention and its impact on patient care. They found most of the processes of the trial, including patient selection, randomisation and treatment, straightforward. However, paramedics reported that they found the taking of blood samples in the ambulance was challenging, and they needed time and experience to become confident with the new intervention, in addition to the formal training they received. They suggested that involving Emergency Medical Technicians (EMTs) in the study training would allow them to provide support for the trial processes and would aid their understanding and engagement, even if the technicians were not responsible for recruiting patients.

Implications: Like many studies, PHRASE involved paramedics in recruiting patients and delivering the intervention, equipping them with new clinical and research skills in the process. Although EMTs were not included in the study, they could potentially make a valuable supporting contribution. Complete quantitative results will be presented at the time of the conference, when routine linked anonymised outcomes are available. We will be able to report whether or not we have met the progression criteria to continue to fully-powered trial.

Rapid Fire 1
02/07/2019
14:00-15:20

Evaluation of a community healthcare service innovation in real world conditions: a focus on stroke Early Supported Discharge

Adrian Byrne¹, Adrian Byrne¹, Niki Chouliara¹, Lizz Paley², Alex Hoffman², Anthony Rudd², Claudia Geue³, Justin Waring¹, Thompson Robinson⁴, Peter Langhorne³, Sarah Lewis¹, Marion Walker¹

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Background: The National Health Service Long Term Plan makes recommendations and provision for increased investment in community healthcare services. It also calls for implementation and further development of higher intensity care models for stroke rehabilitation. Early Supported Discharge (ESD) is a service innovation that enables stroke survivors to spend more time rehabilitating at home rather than in hospital. Based on clinical trial evidence, implementation of stroke ESD services has been recommended in national clinical guidelines. This study evaluated different ESD service models operating in real world conditions with the aim to provide guidance relevant to the National Long Term Plan.

Methods: Using historical prospective Sentinel Stroke National Audit Programme (SSNAP) data (1 Jan 2016 – 31 Dec 2016), measures of ESD effectiveness were *responsiveness* (time from hospital discharge to first contact within 24 hr; n = 6,222), *rehabilitation intensity* (total number of treatment days / total days with ESD; n = 5,891) and *stroke survivor outcome* (modified Rankin Scale; n = 6,222). ESD service models (derived from 2015 SSNAP post-acute organisational audit data) were examined with a 17-item score, reflecting adoption of ESD consensus core components (evidence based criteria; Fisher et al 2011). Patients were clustered within ESD teams (n = 31) and multilevel modelling analysis was undertaken.

Results: A variety of ESD service models had been adopted, as reflected by variability in the ESD consensus score. Controlling for patient characteristics and SSNAP hospital score, a one unit increase in ESD consensus score was significantly associated with an increased odds of responsiveness by 29% (95% CI 1% - 49%) and increased treatment intensity by 2% (95% CI 0.3% - 4%) but had no association with stroke survivor outcome measured by the modified Rankin scale.

Implications: This study has shown that adopting defined core components of ESD is associated with providing a more responsive and intensive ESD service. This indicates that adherence to evidence based criteria is required for services to be effective. The national stroke audit data provided useful process measures of ESD effectiveness, although additional measures of patient outcomes are required. This study highlights the importance of using evidence to guide practice and the need for national audit data to evaluate service provision. Both are important, in conjunction with the National Long Term Plan, to facilitate improvements in community healthcare.

Rapid Fire 3
03/07/2019
10:00-11:15

Gaining entry access to primary and community health care services for adults with intellectual disabilities - mapping review and targeted systematic review

Anna Cantrell, Liz Croot, Maxine Johnson, Ruth Wong, Duncan Chambers, Susan Baxter, Andrew Booth
School of Health and Related Research (SchARR), University of Sheffield

Background: In 2015 approximately 2.16% of adults were reported to have intellectual disabilities (IDs). Government policy is that they should access mainstream health services however, people with IDs are known to experience challenges when accessing primary and community health services. Primary care services are particularly important because they provide an entry point to screening, treatment and secondary care, and difficulty and/or delay in accessing these services may lead to negative health outcomes and inequalities.

Method: The research comprised two stages: firstly, a systematic mapping review of literature on access to primary health care for people with ID in the UK and similar developed country health systems; and secondly a targeted systematic review of UK literature focused on first contact services for adults (16 years of age or older) with all grades of severity of ID. The aims were: to identify influencing factors for gaining access to primary and community health care services; to determine which actions, interventions or models of service provision improve access to these service for people with IDs and their carers; and to identify gaps in evidence and provide implications for healthcare and recommendations for research. For the mapping and targeted review 12 electronic databases were searched for relevant studies from 2002 to September 2018. Extensive grey literature searches were conducted during the mapping review which provided grey literature for both stages. Screening of retrieved citations and data extraction of studies included in the targeted review were completed using the EPPI-Reviewer 4 software. Quality (risk of bias) was assessed using validated checklists published by the US National Heart, Lung and Blood Institute for quantitative study designs and the CASP (Critical Appraisal Skills Programme) checklist for qualitative studies.

Results: The mapping review included 413 studies, of which 142 were from the UK. The targeted review included 78 UK studies reported in 80 publications. The studies generally had small samples, there were few of comparative design, and most measured only short-term outcomes. We completed a narrative synthesis based around a pathway of care model. Evidence was examined in regard to: identifying need (14 studies); accessing services (24 studies); and interaction during a consultation (19 studies). Influencing factors at each stage were detailed. Studies of innovations/interventions to improve access (23 studies) at each stage in the pathway were also analysed.

Innovations

The introduction of routine health checks was evaluated in 15 studies, and found to help identify health needs, improve monitoring of long-term conditions, reduce long term need for referral and interventions and increase health promotion activities aimed at people with learning disabilities. Defining eligibility was reported as a key challenges to the introduction and uptake of health checks.

Influencing factors

The review found the following factors potentially influencing access across all stages of the patient pathway:

- Joined up working between services
- Communication within services
- Consistency of care
- Involvement of formal carers, relatives and other supporters
- Training for care staff
- Communication skills of all who come into contact with people with ID
- Availability and use of accessible resources
- Provision of extra time needed to communicate effectively with people with ID
- Accurate record keeping.

Implications: The review identified the following implications for health services delivery:

- Staff retention is a key issue, the high turnover of paid carers mean that it can be difficult for carers to develop a relationship with adults with ID that can enable them to realise when they are ill or in pain and when they need to access services.
- Developing and providing training for healthcare professionals and carers could potentially help adults with ID to access healthcare.
- Joint working across services is important to ensure information about patients is shared and skills can be utilised.
- Ensuring that patients have appointments with the same health professional may enable them to develop a relationship. Double appointments give health professionals and patients longer to discuss health problems and decide on treatment while ensuring joint understanding. Improved communication also includes ensuring all signage is clear and any leaflets or letters are easy to understand.
- Clear record keeping can enable key information about patients to be passed onto other health professionals quickly and easily.
- Health services need to be aware that patients with ID have varying abilities and this can affect their capacity to consent to treatment. Consent requires patients to be provided with clear information and when proxy consent is sought it should be clear that the person providing consent is appropriate.
- Health services need to balance patients' right to autonomy with the needs of safeguarding, recognising that there may be tension between them.

Disclaimer: This abstract presents independent research funded by the NIHR HS&DR programme under project number 16/47/17. The views and opinions expressed are those of the authors and do not necessarily reflect those of the NHS, the NIHR, NETSCC, the HS&DR programme or the Department of Health.

Desired improvements in resilience in NHS top leadership? Characteristics of long serving NHS CEOs

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Background: Top leadership in the NHS is facing a crisis. There is currently around 7% vacancy rate for CEOs (Kings Fund/NHS Providers 2018). The average tenure of an NHS CEO is calculated to be somewhere between 700 days (Rose Report, 2015) and 4 years (Kings Fund/NHS Providers, 2018). It is therefore unsurprising that only around 11 % of the NHS CEOs have been in the same post for over 10 years (ibid). There has been a recent spike in the numbers of very experienced NHS Chief Executives (CEOs) departing from some of the biggest, most complex, or most troubled hospitals in England (for example in Newcastle, Sheffield, Birmingham, Stockport, Lincoln and Dorset). These empirical developments connect with a wider debate about the apparent emergence of post-bureaucratic organisations involving rapid organisational change, workforce pressures and increased turnover, loss of organisational memory, and reliance on IT systems, rather than embodied knowledge (Pollitt, 2009). They also accord with notions of resilient leadership, which refers to the ability of individuals to deliver emotionally responsive, patient centred services, in the face of multi-level pressures (Arond-Thomas, 2003; Wong & Cummings, 2009). These individuals deploy political astuteness in the face of multiple, competing imperatives (Hartley et al, 2015). Evidence in the NHS suggests that organisations which enjoy stability of leadership also demonstrate better performance, and, conversely, the existence of an apparent inverse leadership law which suggests that organisations in difficulty find it relatively more difficult to attract and retain suitably experienced CEOs (Chambers et al, 2011; Kings Fund/NHS Providers 2018). Furthermore, the “CEO paradox” contrasts the need for stability (which longevity engenders) with the lack of conditions to create it. Longer tenure itself is not the goal, but it can be an enabler of more effective boards and organisations (ibid), notwithstanding the potential for the ‘dark side of resilience’ (Chamorro-Premusic and Lusk, 2017) presenting itself as a consequence of strong and stable leadership. Longevity of CEOs has thus been an overlooked issue. Rather, there has been a focus on high turnover of CEOs and the causes of this phenomenon, including the tendency to move or dismiss when problems emerge (Boyne 2010), increasing political exposure of managers (Timmins, 2016), and lack of managerial capacity (Rose, 2015). To date, there has been no known study specifically of these long-serving chiefs. It is therefore important to understand their career pathways, influences on them, and their skills in coping with continual organisational change and policy reform. There are important lessons to glean from these individuals. How do CEOs become resilient to internal and external pressures; how do they ‘re-invent’ their careers; and what advice would they offer newly appointed CEOs?

Methods: We identify two types of long-serving NHS CEOs: those who have been CEO in one organisation for 8 years or more (ie more than twice the national average length of tenure) and those who have been CEO for at least 8 years in total, but in more than one organisation. We plan to interview 5 of each type between February – May 2019 with findings available in time for HSRUK conference in July. We shall conduct a biographical life narrative interview method (BNIM) (Wengraf, 2001) to conducting these in-depth interviews. The essential technique in BNIM is to ask the participant to ‘begin at the beginning’ and tell their story uninterrupted (Macfarlane et al, 2011). We shall prompt them to elaborate or clarify certain points in this ‘story’ of these managers’ careers. We shall pose counter-factuals (what if...?) and alternative scenarios (how might have this incident been different...?). We therefore will use prompts rather than a specific interview schedule, and will be responsive to the interviewees’ comments. Our framing will be guided by topics which accord with themes identified in the academic and policy literature. We plan to interview them face-to-face, at a location and time of their convenience. We expect that each interview will last 1-2 hours. Interviews will be audio-recorded and transcribed. Analysis will be conducted thematically, drawing on the framework approach (Ritchie and Spencer, 1994). We shall look for patterns between individuals, as well as similarities and differences in their accounts. It is important that the interviewees are experienced in this method. The two person research team has considerable experience and credibility in conducting such interviews with very senior NHS leaders. Initial feedback will be given to the participants for validation of our findings.

Results: To be shared and discussed at the HSRUK conference

Implications: We envisage lessons for policy and practice in the recruitment of NHS CEOs, improving length of tenure, training and support, and evaluation and development for NHS boards. We anticipate making an academic contribution to a greater understanding of resilient leadership in post-bureaucratic organisations and the impact of healthcare system culture on leadership (rather than the other way round).

The development and organisation of clinical pharmacy services in China: a scoping study

Yu-Chia Ko, Sarah Willis, Fay Bradley, Li-Chia Chen
The University of Manchester

Background: Clinical pharmacy services in China are still at an early stage of development despite the concept of clinical pharmacy developing in China during the 1950s-1970s. ¹More recently, large-scale systemic healthcare reform launched in 2009 aiming to provide affordable and equitable basic health care for all by 2020, ²and the launch of the public health initiative “Healthy China 2030” in 2016, ³has led to further professionalisation and recognition of the potential contribution of clinical pharmacists to patient-focused care and the safe and cost-effective use of medicines. However, despite the value of the role being identified by policy-makers, budget cuts and financial constraints in the Chinese healthcare system mean that the implementation of clinical pharmacy services may not have been as intended. It is also unknown whether service evaluation models used in the UK are transferable to the clinical pharmacist workforce in China. This study therefore aims to scope and understand the current development and organisation of the emergent clinical pharmacy workforce in China, their roles, responsibilities, scope and models of practice, in order to inform future service development and evaluation.

Methods: A mixed-method approach was adopted, involving: 1) a narrative systematic review of the Chinese clinical pharmacy workforce and services provided; 2) a case study of one Chinese tertiary hospital exploring the role and organisation of clinical pharmacy through qualitative interviews with key stakeholders. The narrative systematic review was conducted by both electronic database search (MEDLINE, EMBASE, International Pharmaceutical Abstracts, PubMed and The Cochrane Library from January 2000 to October 2018) and manual search of relevant publications and documents. Chinese literature was also retrieved and provided by study collaborators in China. Grey literature such as academic reports, government documents and policy guidance were additionally searched. Literature related to the clinical pharmacy workforce and services in terms of policy, regulation, health system requirements, scope and models of practice, education and evaluation were included. Literature reporting randomized controlled trials, pilot or feasibility studies, therapeutics and workforce issues surrounding emergency situations were not included. The case study included interviews with a hospital pharmacist, a clinical pharmacist, a physician, a nurse and a hospital executive. All interviews were conducted by a Mandarin speaker via WeChat, audio-recorded, transcribed verbatim and translated into English. Interviews were analysed thematically.

Results: The narrative systematic review found that health care reimbursement reform, implemented in 2018, which removed the 15% profit on drug sales entitled to hospitals, was identified as a key driver to change for the hospital pharmacist workforce and clinical pharmacist profession. In terms of workforce education and training, a national pharmacy curriculum was launched in 2017 to standardise pharmacy programmes, but this is not competency-based. Statutory pharmacist law defining pharmacists’ roles and responsibilities is still developing, with clinical pharmacists regulated under measures controlling administration of medical institutions that specify a minimum number of clinical pharmacists required in hospitals (e.g. 5 clinical pharmacists for tertiary hospitals), rather than in relation to patient number. Finally, no standard measure for evaluating clinical pharmacists’ contribution to patient care outcomes was identified. These findings were confirmed by the case study, where, despite reaching the required standard for the number of clinical pharmacists, provision of direct patient care was limited by workload, with each clinical pharmacist covering 20-40 beds. The role and contribution of clinical pharmacists was recognised by interview participants, with the physician suggesting a need to increase the workforce at the hospital. However, the hospital executive felt that current provision was sufficient and stated that there were no immediate plans to expand either the workforce or their service provision further. Interviews also revealed that, as part of their role, clinical pharmacists were expected to conduct research and publish, despite having no additional training in this.

Implications: The development of clinical pharmacist capacity and workforce in China is constrained by approaches taken by hospitals to manage budget-control strategies in the healthcare system. In contrast to the UK, clinical pharmacists in China conduct research and are measured by research outputs and research income, suggesting clinical outcome-based evaluation frameworks are unlikely to capture the value of clinical pharmacists’ contribution. As a consequence, there is a need to further understand the services and tasks performed by clinical pharmacists through a work-time sampling structured observation. Such an understanding will usefully inform education and professional development of the Chinese clinical pharmacist workforce. [1] Yao D, Xi X, Huang Y, et al. (2017) A national survey of clinical pharmacy services in county hospitals in China. PLoS ONE 12(11):e0188354. <https://doi.org/10.1371/journal.pone.0188354>

[2] Mossialos E, Ge Y, Hu J and Wang L. (2016) Pharmaceutical policy in China: Challenges and opportunities for reform. http://www.euro.who.int/__data/assets/pdf_file/0020/320465/Pharmaceutical-policy-China-challenges-opportunities-reform.pdf (accessed 12 January 2019).

[3] The Central Committee of the Communist Party of China and the State Council of China. (2016) Blueprint of Healthy China 2030 (Chinese). October 25, 2016. http://www.gov.cn/zhengce/2016-10/25/content_5124174.htm (accessed 12 January 2019).

The North West Coast Atrial Fibrillation (AF) Collaborative: Preventing possible strokes through the diagnosis and improved management of people with AF in primary care

Michelle Coleiro, Julia Reynolds
Innovation Agency

Background: Atrial Fibrillation is the most common cardiac arrhythmia encountered affecting 1-2% of the population and is the leading cause of stroke in the UK. By treating patients appropriately, we can reduce their risk of complications including stroke. Atrial fibrillation increases stroke risk 5 times (NICE guidance) and Stroke Prevention has been highlighted as a national priority. There are more than 147,000 people in England with AF who are not receiving anticoagulation therapy (QoF 16/17). People with AF are five times more likely to suffer a stroke; an AF-related stroke is more likely to be associated with severe disability or death than any other type of stroke. Anticoagulation drug therapy reduces stroke risk by two thirds; however, half of all people with known AF who suffer a stroke have not received anticoagulation therapy prior to their stroke. The Innovation Agency led an AF Quality Improvement (QI) Collaborative from 2016 to 2018. The Collaborative supported a programme of interventions to identify and better manage people with AF in primary care. We worked with four CCGs, across which there were 6,497 (QOF 16/17) people with undiagnosed AF, plus 4,721 patients with AF who were not anticoagulated (QOF 16/17). Our premise was that using a series of interventions we could accelerate improvements and innovation in GP practice. The Collaborative worked with primary care to improve outcomes for people with AF and prevent AF-related strokes by (1) using innovative methods to case-find unidentified people with AF (2) improve the management of those who are identified to be at a high stroke risk (CHA2DS2-Vasc >1) through appropriate anticoagulation treatment.

Methods: GP practices were approached and volunteered to engage in the programme. Practice support included:

- Kardia Devices – Mobile ECG used as a screening tool to find people with AF
- Clinical Training – Support to increase confidence in managing AF
- AF Card Deck to act as an aide memoire for GPs and clinical staff
- Case-finding support – Use of a third party (Interface Clinical Services and Primary Care – AF) to assist with identifying and reviewing AF patients
- QI Training and Support Programme – Based on the IHI Collaborative Breakthrough Series methodology (ref), plus access to the online QI platform Life
- GRASP AF Training – Training in the GRASP AF tool (optional by CCG).

Practices were able to choose which areas of support they required dependent on the need and confidence in the practice pathways and adequately treating known AF patients. Practices engaging in the QI programme worked to the following aim: (1) To close the prevalence gap between observed AF prevalence and the expected AF prevalence by 50% over a 9 month project period. (2) To have 80% of all high risk AF patients (CHADS2S-VASc>1) on anticoagulation therapy by the close of the project. Practices generated change ideas relevant to their improvement goals which were tested and implemented. Quantitative data was collected every 3 months and charted using QI Life to measure improvement. Qualitative data was collected at month 9 to assess the impact of the Collaborative on sustainable change.

Results: The number of practices selecting each activity is shown in Table 1.

Table 1. Practice activity summary

Activity	Numbers of practices
Case finding support service	33
Kardias – Mobile ECG	68
QI training and support programme	61
Clinical training	68
GRASP training	22
AF card deck	68
Total participating practices	68

As expected, practices engaged with the QI programme to varying degrees. Variation was seen in terms of the achievement against the QI targets set. Of the 68 practices who participated in the QI programme, we gathered sufficient data to analyse for 64. Across all 64 practices, 808 patients were added to AF registers and 1066 high risk AF patients were initiated on anticoagulation therapy over the 9 month project period. Economic analysis showed that the Collaborative had a statistically significant impact on the number of patients placed on anticoagulation therapy compared to control practices. Qualitative data showed that participating in the QI programme led to sustainable changes in the management of AF that led to improvements in patient care.

Implications: The improvement in the management and care of AF patients can be effectively supported by a QI approach and this initiative led to an estimated 32 strokes saved per year (based on one stroke per 25 people not anticoagulated), approximate savings to the health system of £416,000.

There is considerable variation in primary care in the diagnosis and management of people with AF and more can be achieved at a faster rate with a focussed QI approach. This type of improvement work is valuable in accelerating innovation and improvement in patient outcomes. The model could be applied to other conditions.

Poster Board Number: 120

Rapid Fire 2
02/07/2019
15:45-17:00

An investigation into the use of digital technology on improving the quality of life for vulnerable adults and enhancing public service delivery

Sian Cook, Nicholas Caldwell
University of Suffolk

Background: We live in the digital age, a virtual world where being digital is the main access point for public services. However, the distribution of online public services has been unequal because access to digital services is predicated on digital literacy and internet access. According to the UK Consumer Digital Index 2018 (CDI) approximately 11.3 million adults, 21% of the UK population, lack basic digital skills with approximately 4.3 million (8%) having no basic digital skills at all. The 2018 report also concluded that 28% of people aged 65 and over are not online at all, and people with a registered disability are four times more likely to be offline (Lloyds Bank, 2018). In a highly digitised world, digital exclusion contributes to the marginalisation of populations (Cebr, 2018) and quality of life. Connected Together is an 18-month digital inclusion project, being trialled in Suffolk, which aims to provide digital technology and connectivity to those who need them most. By combining multiple services (social care, communities and families services) on a single connectivity infrastructure, Connected Together will determine how an orchestrated and digital approach impacts quality of life for the individual and assess the effectiveness and impact of this approach on public service provision costs.

Method: Over the course of the trial, 200 participants will be given a tablet that enables them to be online and learn essential digital skills reflected in the Essential Digital Skills Framework (EDSF). Cohort selection criteria includes participants be aged 65 or over, who live alone and have limited to no access to digital technology). Through the tablet, participants will have access to online public services, online banking and shopping, video call technology to communicate with family members and health and social care professionals, and online information about local activities. An additional app created by a technology partner will be TRIBE – a volunteering platform aimed at a user creating a request and a volunteer fulfilling that need. The aim of the TRIBE app is to initiate a human connection, enabling users to a) stay independent b) have ownership on who provides everyday tasks for them and c) connect with people in their local communities. To strengthen acceptance and adoption of the technology, training will be given to participants either at a training centre or within the participant's home. Participants' digital skills, feelings of social isolation and loneliness, community engagement and quality of life before, during and after the project will be measured through both qualitative (questionnaires) and quantitative (software metrics) methods. The duration for which data collection will take place for each participant will be between 12 and 24 weeks. Prior to the technology being deployed into participants' homes (expected February 2019), the University of Suffolk has conducted research regarding ways to strengthen technology adoption among older adults. This research includes conducting usability tests with the tablet, running impairment simulators against the hardware and software, and conducting focus group discussions.

Results: Results from the University of Suffolk's research have shown numerous technology adoption barriers exist among older adults. These include security and privacy concerns, and a lack of digital knowledge. Findings have also suggested that adaptations made to the technology, such as colouring the on/off button, changing size of the text or providing a stand if the technology is too heavy to hold, can strengthen technology adoption. Another technology enabler identified is training, particularly intergenerational training programmes. Such training programmes not only assist older adults to learn digital skills but also facilitate access to online public services, strengthen communication with friends and family, increase self-confidence and lead to social interactions. The University of Suffolk's findings have already been used to inform the Connected Together project. These including making hardware and software adaptations to the tablet, informing the alpha build design of the TRIBE app and providing training. These should increase the accessibility of the tablet for vulnerable people. Preliminary results from the Connected Together trial will be available from February 2019.

Implications: Internet adoption among older adults is unlikely to change unless technology is designed and adapted to their needs. Digital services are the new norm but there is an obligation on providers to make them usable by and acceptable to the most vulnerable. Inclusive design techniques must be used in the creation of new products and services, by encouraging end user participation in the actual design and evaluating prototypes against actual user needs and capability constraints, in order to achieve the requisite usability and hence adoption.

Rapid Fire 1
02/07/2019
14:00-15:20

Optimising the design of placebo-controlled surgical trials

Sian Cousins¹, Carmen Tsang¹, Natalie Blencowe², Jane Blazeby²

¹University of Bristol, ²University of Bristol and University Hospitals Bristol NHS Foundation Trust

Background: Randomised controlled trials (RCTs) with a placebo comparator have an important role in the evaluation of health care interventions. However, placebo-controlled trials of invasive surgical procedures are controversial. In addition to ethical challenges, the design and delivery of surgical placebo comparator interventions is challenging because surgical procedures consist of multiple interacting components, including co-interventions. It may also be difficult to determine which components of the procedure are required in the placebo intervention. Blencowe et al (2016)¹ developed a typology that allows the deconstruction of surgical procedures into their constituent components. This methodology may be applied to the design of placebo-controlled RCTs to optimally match the placebo comparator to the treatment intervention. As the typology was originally developed for RCTs without consideration of placebo comparator interventions, the aim of our work was to modify and expand the typology so that it can be used to optimise the design of invasive placebo interventions.

Methods: The original Blencowe typology was applied to 96 placebo-controlled RCTs in surgery identified from a systematic review. Existing typology components were updated using an iterative approach, with ongoing discussion between team members. New components specifically relevant to placebo interventions were added and additional steps were also included during revision of the original methodological framework to optimise the design of placebo comparator interventions in surgical RCTs.

Results: The resultant methodological framework to optimise the design of placebo comparator interventions consists of four key steps, summarised as the DIDO methodological framework:

Step 1: **D**econstruct the treatment intervention.

Step 2: **I**dentify the active component(s). Also known as the “critical surgical component” or “key ingredient” of the treatment intervention.

Step 3: **D**iscard the active component(s) from the placebo comparator intervention.

Step 4: **O**ptimise the placebo comparator using placebo optimisation items. These items may include blocking patients' perception (including auditory or visual masking) or matching timings of treatment and placebo interventions.

Implications: The use of the updated typology according to the DIDO methodological framework will enable placebo comparator interventions to be optimally matched with the treatment intervention in surgical RCTs.

References:

1. Blencowe NS, Mills N, Cook JA, et al. Standardizing and monitoring the delivery of surgical interventions in randomized clinical trials. *Br J Surg*. 2016;103(10):1377-84.

Understanding the use of placebo comparators in randomised controlled trials of invasive surgical procedures: A systematic review

Sian Cousins¹, Carmen Tsang¹, Natalie Blencowe², Jane Blazeby²

¹University of Bristol, ²University of Bristol and University Hospitals Bristol NHS Foundation Trust

Background: Compared with pharmaceutical trials, placebo-controlled trials of invasive procedures in surgery are uncommon. In addition to ethical concerns and unknown acceptability to patients and staff, there are methodological challenges in designing and delivering invasive placebo interventions. For example, there has been uncertainty around when to use placebo comparators, lack of clarity about which components should be included/omitted, and how risks may be minimised. A systematic review on this topic was published in 2016¹ but updated evidence is now required to understand how placebo comparators have been used in randomised controlled trials (RCTs) of invasive surgical procedures.

Methods: A systematic review was conducted on RCTs comparing surgery with a placebo intervention. All RCTs published up to 31st December 2017 were included. Ovid MEDLINE, Ovid EMBASE and the Cochrane Central Register of Controlled Trials (CENTRAL) electronic databases were searched. Pilot studies were included but articles unavailable in English were excluded. Data from all eligible articles were extracted by one reviewer using a standardised data extraction form. A second reviewer extracted data from 20% of the articles to verify data collection. Descriptive trial data including year of publication, clinical specialty, number of trial sites, number of patients randomised, and type of treatment intervention were extracted. Items on reported rationale for the use of placebo comparator, characteristics of placebo comparator and methods to mitigate risk were also collected.

Results: A total of 96 RCTs were included in the current review. A substantial proportion were conducted in two surgical specialties: gastrointestinal (42%, n=40) and orthopaedics and trauma (17%, n=16). The number of sites was not reported for 25 trials. In the remaining 71 trials, 44% were conducted in single sites (n=31/71). Approximately two thirds of all the trials randomised 100 or fewer patients (68%, n=65). The majority (89%, n=85) reported on minimally invasive procedures rather than open surgery. For 56% of trials (n=54), published literature was cited to justify the use of a placebo-controlled design, 11% (n=11) suspected a placebo effect and 25% (n=24) explicitly stated the need to understand the mechanism of treatment action. In 18 trials (19%), the placebo intervention was matched to the treatment intervention in all respects except for the active component. Reported measures to mitigate risk included level of operator skill (23%, n=22), independent data monitoring (29%, n=28) and explicit procedure for unblinding (n=1).

Implications: Placebo-controlled surgical trials remain uncommon and there is published evidence from only a few specialties. The reporting of these trials is inconsistent, especially in stated rationale for the inclusion of a placebo comparator intervention. Future studies of this nature should be guided by standardised criteria for their design and reporting to improve the quality of evidence for informing clinical practice and research.

References:

1. Wartolowska K, Judge A, Hopewell S et al. Use of placebo controls in the evaluation of surgery: systematic review. *BMJ* 2014; 348: g3253.

Evaluating the care received by patients with oesophago-gastric cancer: the value of data linkage

Min Hae Park¹, Tom Crosby², Nick Maynard³, Nigel Trudgill⁴, Alison Roe⁵, Rose Napper⁵, David Cromwell⁶

¹London School of Hygiene & Tropical Medicine, ²Velindre Cancer Centre, ³Oxford University Hospitals NHS Foundation Trust, ⁴Sandwell and West Birmingham Hospitals NHS Trust, ⁵NHS Digital, ⁶Royal College of Surgeons of England

Background: The National Oesophago-Gastric Cancer Audit (NOGCA) was established to evaluate the quality of care received by people diagnosed with oesophago-gastric (OG) cancer in England and Wales. NHS organisations involved in the care of OG cancer patients upload patient information into a secure web-based platform. This small dataset enables the Audit team to produce specific performance indicators. Linkage of the Audit dataset to other national datasets reduces the burden of data collection on hospital staff, enables the assessment of data quality, and provides additional information that allows the Audit to produce a richer set of results.

Method: For patients diagnosed in England, NOGCA data are linked to several national datasets (see Table 1). Data linkage is performed by the relevant data processor for each dataset, using Audit patient identifiers (NHS number, date of birth, sex and postcode) to match patient records. Pseudonymised linked datasets are then returned to the Audit team for analysis.

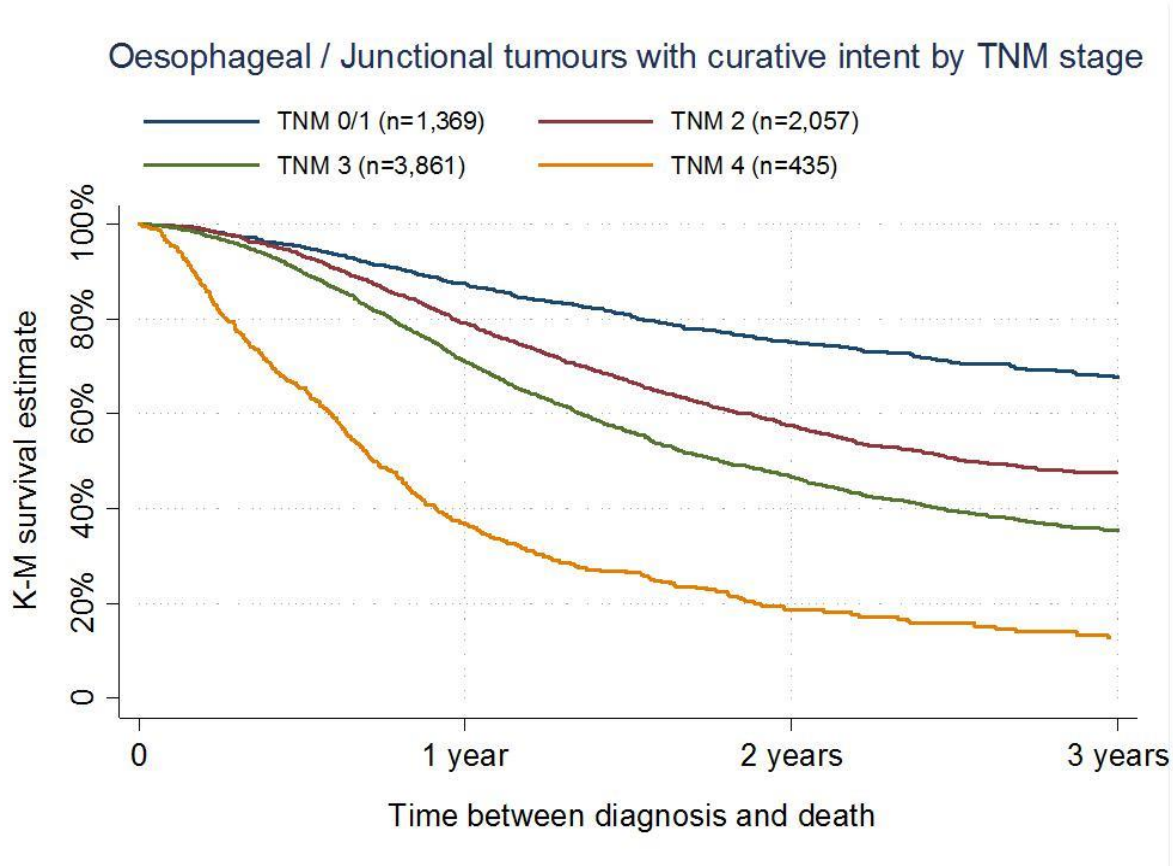
Table 1: Data linkage in NOGCA

Dataset	Implementation of linkage (since current Audit began in 2011)	Purpose of linkage		
		Reducing burden of data collection	Assessing data quality in NOGCA	Additional information
Office for National Statistics (ONS) Death Register	2011	Mortality data, longer-term outcomes of surgery	-	Long-term cancer survival and place of death
Hospital Episode Statistics (HES)	2011	Admissions data, information on procedures (endoscopy, stents etc)	Case ascertainment in NOGCA. Validation of activity data provided by hospitals, e.g. dates of procedures	Hospital care before and after OG cancer diagnosis
National Radiotherapy dataset (RTDS)	2013	Radiotherapy doses and fraction data	Agreement with radiotherapy data in NOGCA	Episodes of radiotherapy received by patients
Systemic Anti-Cancer Therapy (SACT)	2017	Chemotherapy drug regimen and cycle data	Agreement with chemotherapy data in NOGCA	Chemotherapy regimens delivered to patients
National Cancer Registration and Analysis Services (NCRAS) Registration data	2019 (planned)	-	Case ascertainment and representativeness of patients captured in NOGCA	-
NCRAS Cancer Outcomes and Services Dataset (COSD)	2019 (planned)	-	Validation of data on cancer stage and treatments in NOGCA	-

Results: The NOGCA-HES linked dataset enables the estimation of NOGCA case ascertainment, calculated to be 79% for patients diagnosed with OG cancer in England between April 2015 and March 2017. The linked dataset suggests greater ascertainment of patients who have surgery in the Audit, estimated to be 90%. Planned linkage to the NCRAS registration data will provide more accurate information on all diagnosed cases of OG cancer in England, and enable triangulation of data from these different sources.

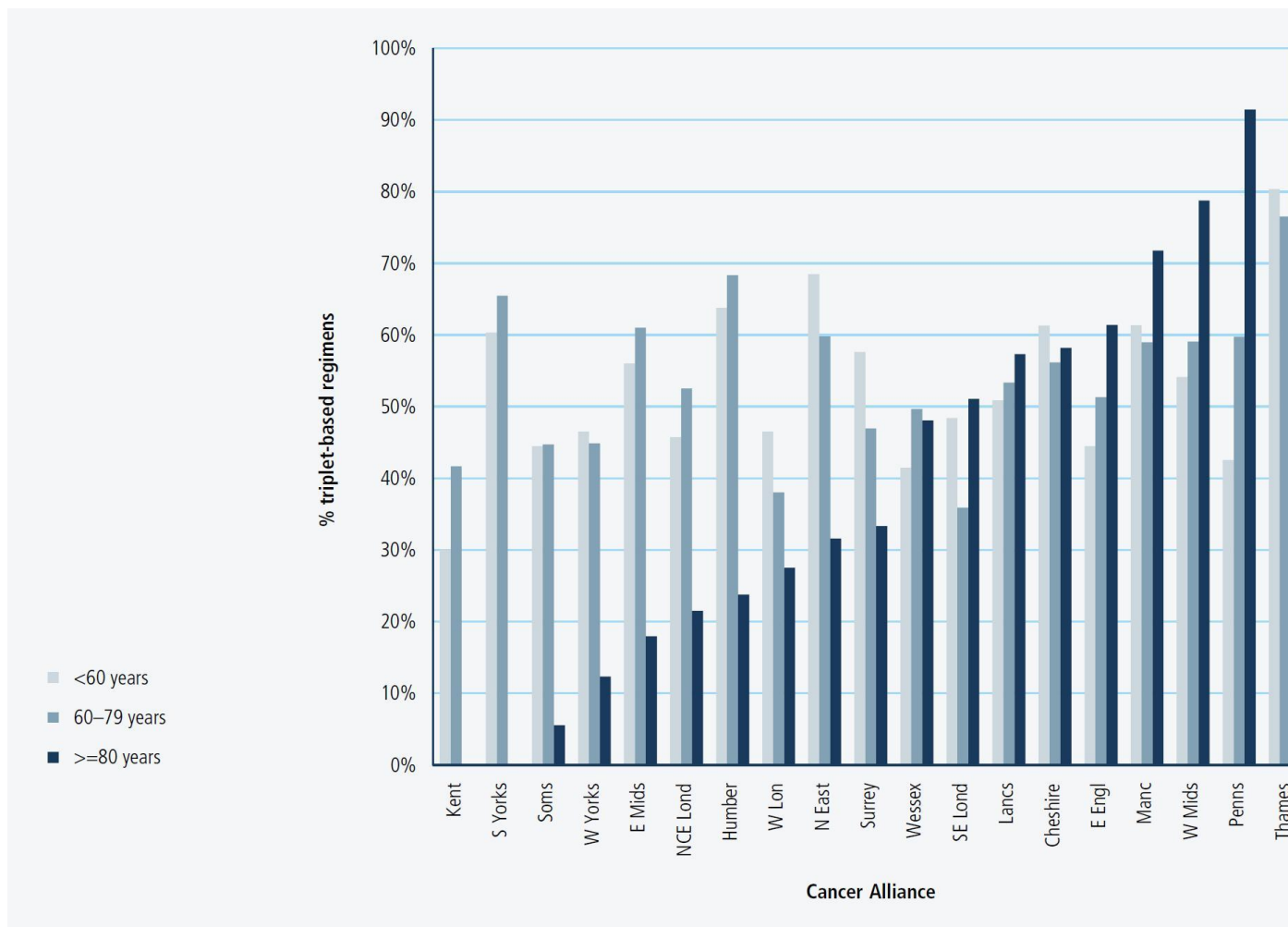
NOGCA-ONS linked data are used to routinely report 30- and 90-day survival for patients undergoing curative surgery for OG cancer and to compare outcomes across NHS organisations. We have demonstrated gradual improvements in surgical safety, with over 96% of patients undergoing curative surgery for OG cancer diagnosed between April 2015 and March 2017 alive 90 days after their operation. All NHS trusts in England achieved similar survival rates. These linked data have also been used to describe longer-term survival among different sub-groups of patients (Figure 1).

Figure 1: Survival among patients with a curative treatment intent stratified by pre-treatment TNM stage, for patients diagnosed with oesophageal cancer in England and Wales between April 2012 and March 2015



NOGCA data linked to the national Systemic Anti-Cancer Therapy (SACT) dataset have shown that there is substantial regional variation in the choice of chemotherapy regimens for patients undergoing palliative treatment, with some regions mostly using triplet regimens (a platinum-based agent, a fluoropyrimidine and an anthracycline) and others favouring doublet regimens (a platinum-based agent and a fluoropyrimidine) (Figure 2).

Figure 2: Proportion of palliative chemotherapy regimens that are triplet based in each English Cancer Alliance, by age, for patients diagnosed between April 2012 and March 2016



Implications: Data linkage enables NOGCA to produce a much richer picture of the care received by OG cancer patients than Audit data alone. These benefits need to be balanced against the extensive information governance requirements in place to protect patient confidentiality, and potential biases due to incomplete or poor linkage between datasets.

Feasible Digital Interventions to improve quality and outcomes in homeless health care: an adapted systematic review

Gavin Daker-White¹, Sudeh Cheraghi-Sohi¹, Stephen Campbell¹, Justin Waring²

¹University of Manchester, ²University of Nottingham

Background: Digital interventions can assist in the delivery of health services to homeless people and are likely to influence care quality and outcomes. The aim of this study was to identify and describe published English language evaluation studies in the international literature.

Methods: An adapted form of systematic review was performed. Standard search methods were used to identify relevant studies. Pilot work revealed that the bulk of included studies were likely to be feasibility studies. The focus of the analysis was in drawing out the implications of the findings for researchers planning to undertake similar evaluations and studies.

Results: Most included studies were set in the USA and 9/15 concerned electronic health records or mobile phone calls and text messaging. Mobile text messaging based interventions appear as most acceptable and feasible. There is wide use of electronic health records in homeless services and they are viewed as a key indicator of service quality in relation to case management. A tension appears between the desirability of a homeless service user's record containing all relevant information and documentation against privacy and ethical concerns raised by clients, some of whom have serious mental illnesses or depend upon criminal behaviour to meet their needs.

Implications: Text messaging is the most feasible digital application in homeless health care. So far as electronic health records are concerned, future work might usefully focus on the integration and ethical management at the interface with other electronic systems, including medical EHRs. Whether or not personal health records would help this group remains an open question. User produced mobile application projects involving homeless people themselves have been used to develop wider life skills and as community development initiatives. Future prospects may lie in extending this work to populations in addition to "young runaways," who have formed the focus to date.

The provision of services in the UK for armed forces veterans with post-traumatic stress disorder: a rapid evidence synthesis

Sian Thomas, Jane Dalton, Hollie Melton, Melissa Harden, Alison Eastwood
Centre for Reviews and Dissemination, University of York

Background: There is increasing demand for psychological trauma services in the UK, particularly for armed forces veterans with post-traumatic stress disorder (PTSD). In November 2018 NHS leaders confirmed that specialist health support for veterans will be available in every part of the health service across the country. Subsequently in December 2018 NHS England reported the expansion of the new 'Transition, Intervention and Liaison Service' and the roll out of veteran-friendly GP surgeries and hospitals.

Objective: To explore what is known about current UK service provision and establish potentially effective models of care and treatments for veterans with PTSD.

Methods: Rapid evidence synthesis combining a rapid evidence review on models of care and a rapid meta-review of treatments, using information gathered from UK service providers as a guiding framework.

Results: Sixty-one studies were included in the rapid evidence review on models of care, with attention focused on twenty-four studies evaluating systems-based models of care. Research was mostly reporting on male veterans in the USA Veterans Affairs setting, limiting the generalisability of the findings.

Promising models of care from more robust studies were collaborative arrangements and community outreach for improving intervention access and uptake; integrated mental health services and behavioural intervention on increased smoking abstinence (although this had no effect on PTSD symptoms); and peer support as an acceptable complement to PTSD treatment.

Seven systematic reviews were included in the rapid meta-review of treatments. There were methodological limitations in the systematic reviews and the underlying primary research was often of poor or uncertain quality. This alongside a lack of clinically meaningful data restricts the conclusions to be drawn from the findings.

Promising treatments were psychosocial interventions (Eye Movement Desensitisation and Reprocessing; Cognitive Processing Therapy; trauma-focused and exposure-based intervention) and pharmacotherapy (antidepressants, anticonvulsants, antipsychotics) for improving PTSD and mental health symptoms.

Conclusions: The evidence tentatively supports the effectiveness of some models of care and certain treatments currently delivered in UK practice. Our findings represent a timely update to commissioners and service providers when developing the present suite of activity in veterans' healthcare.

Implications for healthcare practice: Future practical arrangements to improve veterans' mental health might helpfully focus on:

- Early intervention to improve transition from military to civilian life.
- Improving knowledge and awareness of specialist services available to veterans across primary care (especially GPs) and general mental health services.
- Understanding more clearly the complex needs of veterans and account for these in future service design.
- Addressing challenges for veterans presented by the wider system of care.
- Provision of adequate funding and resources to deliver future services.

Implications for research

A number of implications for research arose from our rapid evidence synthesis:

- More research relevant to the UK setting.
- Routine and continuous evaluation of how interventions work in practice.

For models of care:

- More robust research on models of care, with longer follow-up.
- Explore a wider range of outcomes, including process outcomes (intervention uptake), clinical, patient satisfaction, social functioning, quality of life, disparities in age-related treatment effectiveness; improving access to services by minority populations; and cost-effectiveness.
- More research on the format and structure of group peer support.
- More research on peer support using telephone outreach.

For treatments:

- Use of direct treatment comparisons.
- Investigate the effectiveness of combined therapies (e.g. pharmacological and psychosocial).
- Explore outcomes such as tolerability (including reasons for dropout) and adverse events, quality of life and cost-effectiveness.
- More evaluation of treatments in veterans from a wide range of conflicts and settings.
- Improve the methodological rigour of systematic reviews (including primary study quality assessment).

Poster Board Number: 126

Rapid Fire 2
02/07/2019
15:45-17:00

Implementing a transition pathway into a Paediatric hospital in England: A Realist Evaluation

Julie Feather
Edge Hill University

Background: Delivering well-planned and co-ordinated transition processes for young people with long-term health conditions has become a key priority for healthcare organisations. Within the existing literature transition programmes to improve this process have mostly been evaluated using outcome-based methods, in which programme effectiveness is assessed by measuring specific outcomes to evidence cause and effect relationships. This approach to evaluation fails to acknowledge the complex systems in which health transition programmes are implemented and, the agency of implementers. This study suggests an alternative approach to the evaluation of transition programmes, utilising realist evaluation to explore the implementation processes and the programme's context, and how this determines the success or failure of a programme.

Methods: A realist evaluation, case study design was used to evaluate the implementation of a newly developed transition pathway. Using Pawson and Tilley's (1997) realist evaluation approach, programme theories relating to the implementation of the pathway were firstly developed through a documentary analysis and semi-structured interviews with healthcare professionals (HCPs). Initial programme theories were then tested through semi-structured interviews with HCPs responsible for implementing the pathway across a paediatric trust. Data were analysed using thematic analysis and context, mechanism, outcome (CMO) analysis to refine initial programme theories.

Results: Preliminary findings show variation in implementation of the pathway between different HCPs within the same service. As well as between different services within the same trust. Contextual factors that influence how HCPs reason with the resources offered by the pathway include organisational demands, previous experiences of using transition pathways, availability of technology to support implementation and the historical context of paediatric/adult adolescent care.

Implications: Realist evaluation can make an important contribution towards a better understanding of programme implementation in transitional healthcare services. By identifying important contextual features that affect implementation efforts, it is anticipated that this study will support the future development and implementation of transition programmes for children with complex health care needs in other organisations.

Poster Board Number: 127

Poster Display
00:00-00:00

Evaluation of the Surrey Heartlands Hackathon Project

Julie George¹, Alessandra Denotti¹, Andrew Cross², Charlotte Langridge¹, Julia Jones³, George Anibaba²
¹Surrey County Council, ²Kent Surrey Sussex Academic Health Science Network, ³North West Surrey CCG

Background: The Surrey Heartlands Health and Care Partnership is working across organisational boundaries to integrate and improve how services are delivered. The Surrey Heartlands Hackathon Project aims to develop an analytic community of practice, and bring this community together with local decision makers to co-design new data visualisations that provide the insights required to transform care and improve population health.

The main phases of the project are:

- Development of the analytic community of practice – through joint training in data visualisation skills and software and use of an online collaboration platform to share tips and techniques.
- Data “hackathons” – three day-long events where analysts work intensively with decision-makers to co-produce new and visually engaging displays of data targeted at key questions developed in advance.
- Publishing new data visualisations – sharing final products decision-making boards and gathering feedback on their functionality and ease of use.
- Evaluation and dissemination of learning.

The training phase and two of the three Hackathons have been delivered with the new data visualisations published. The first hackathon focused on cardiovascular disease and the second on new place-focused models of care at the 30,000-50,000 population level. The third and final hackathon being held in March 2019 will focus on children’s services. Analysts involved have come from the Clinical Commissioning Groups of Surrey Heartlands, the social care and public health teams of Surrey County Council and the Kent Surrey Sussex Academic Health Science Network. Data visualisations utilise and layer aggregated data from different organisations to maximise insights possible in the absence of linked person-level data across partnered organisations. The project is running from March 2018-April 2019 and is part of the Health Foundation’s Advancing Applied Analytics Programme.

Method: The project uses an iterative approach to review learning from each project phase to refine and improve processes, with a mixed methods evaluation of the whole project. This end-point evaluation will examine if and how the project has helped to develop an analytic community of practice and if hackathon events are an effective way of producing data products that inform decision making. Repeated surveys of the analysts involved in the project are being used to track self-reported data visualisation skills and confidence working with colleagues from outside employing organisation through joint training events and hackathon events. Feedback surveys of decision makers involved in each hackathon assess their opinion of the usefulness the events in terms of improving the quality of data products available for them to utilise in service improvement. The final evaluation will corroborate survey findings with interviews of a sample of people involved in the project, and data on the uptake of the online collaboration platform for analysts and usage of digital data visualisations for decision makers.

Results: Survey results after analyst training showed that the proportion of feeling confident to collaborate on projects with analysts from organisations outside their own increased from 50% before the training to 90% after the joint training. Qualitative feedback from the first hackathon found both analysts and decision makers thought it was a more effective and efficient method of producing and delivering intelligence compared to traditional approaches. Layering and visualising data made insights from data more immediate and impactful for decision-makers. Analysts particularly liked the opportunity to collaborate on projects outside their normal areas of work.

Survey results after the second Hackathon showed that:

- 100% of the participants agreed the event created an environment where decision makers and analysts can work together
- 100% agreed hackathon events facilitate work with partners from outside their own organisation
- 78% agreed the data visualisations produced during the Hackathon can be used to aid decision making in the future

Our conference presentation would include full findings from the project end-point evaluation, adding feedback from the final hackathon event and corroborating evidence from interviews and usage of new digital products.

Implications: This evaluation will be useful to health and care systems looking to develop integrated intelligence structures. It will particularly demonstrate if participating in joint training and collaborating on defined topic areas can help foster an analytic community of practice between analysts from different organisations. It will also report if hackathon events are an effective and efficient way of providing data products to inform integrated decision making.

Poster Board Number: 128

Rapid Fire 1
02/07/2019
14:00-15:20

Data-driven integrated commissioning for prevention: A study of Clinical Commissioning Groups' use of intelligence and risk prediction tools in decision-making

Julie George, Angus Ramsay, Sonya Crowe, Andrew Hayward
UCL

Background: The *NHS Call to Action: Commissioning for Prevention* (2013), the *Five Year Forward View* (2014) and the *NHS Long Term Plan* (2019) all require organisations with a role in commissioning/planning health services (e.g. Clinical Commissioning Groups (CCG) and emerging Integrated Care Systems) to plan for and invest in services that help keep people healthy, out of hospital and in their own homes. In theory, a better understanding of the local population and the risks they face should result in better planning decisions. That better understanding could be supported by statistical tools such as risk prediction algorithms which can be used to identify individuals or groups at risk of unplanned hospital admissions and other adverse events. However, it is not known whether or how CCGs make use of such tools in planning local services for patients. We undertook a qualitative interview study with CCG personnel to investigate the intelligence used for making commissioning decisions and the role statistical tools such as risk algorithms play in those processes.

Methods: Qualitative analysis of interviews (n=20) with participants from 5 Clinical Commissioning Groups which varied by region, urban/rural split, deprivation and population size. Participants held clinical, commissioning, financial, intelligence, public health and social care roles.

Results: The range of decisions which participants described as commissioning decisions varied from localised operational decisions to transformational or strategic decisions across a broad area involving a range of partners, including acute, community and mental health trusts, local authority, general practice and voluntary organisations. The intelligence sought and used for these decisions varied with focus of the decision.

For the localised operational decisions, multiple participants reported valuing the following intelligence:

- Qualitative intelligence generated by 'walking the shop floor' or speaking to key informants like clinical non-executive members, front-line staff or residents.
- Where quantitative data were sought, near real-time provision of intelligence was cited as important.

For broader strategic decisions, participants reported valuing:

- Evidence of cost-saving or cash-releasing aspect of the service change. For those CCGs with particularly large financial challenges, this was the most important information required for formal business cases put to decision-making fora.
- Evidence from elsewhere of the success of the approach proposed
- Triangulation, i.e. getting similar recommendations from a variety of intelligence sources.

When participants were at early stages of planning strategic work, they reported valuing bench-marking information or other sorts of intelligence to show where potential service improvements or savings could be made. RightCare, a programme budgeting tool produced by NHS England was identified by almost all CCGs as useful. Several participants noted that strategic intelligence findings which kickstart large pieces of work required significant time to work through the practicalities.

Several participants reported having used risk prediction tools to inform their strategic commissioning decisions, including one which used the e-frailty index (Clegg et al 2016) to re-allocate resources between localities based on predictive need. However, for most, the use of risk prediction intelligence was a one-off and not routinely incorporated into decision-making. One participant indicated that the results of risk prediction tools were insufficiently stable, so their CCG were shifting towards the use of population segmentation to inform commissioning. Overall, commissioners appeared to try new intelligence techniques that could be applied to their commissioning problems as they became aware of them but dropped specific approaches quite rapidly if they did not help them make the case for proposed service changes or identify new areas requiring change.

Implications: The intelligence required for commissioning decisions varies by the nature of those decisions. Risk prediction to inform commissioning has been used for strategic commissioning but does not appear to be a routine tool in the intelligence toolkit. Research to understand take up innovation and technologies in health services (Greenhalgh et al 2004; Greenhalgh et al 2017) provide framework within which to understand the limited use of these tools. Features of the tools, such as no relative advantage over other intelligence sources and 'complicatedness' of implementation, were important to non-adoption. The outer or wider context as manifested by NHS England and neighbouring CCGs did not support use of these tools, with limited mandate to use risk prediction tools to inform commissioning and no norm-setting encouraging their use. This contrasts to RightCare, cited by multiple participants, which had significant push to use by NHS England and wide-spread acceptance amongst commissioners. Some participants appear to reject risk tools because they valued qualitative evidence more. Those organisations under significant financial pressure also did not appear to have the absorptive capacity for considering new intelligence techniques. These findings suggest that unless risk prediction tools demonstrate greater ease of implementation and utility for commissioning decisions with more publicised instances of successful use, they are unlikely to be used in commissioning.

Poster Board Number: 129

Rapid Fire 1
02/07/2019
14:00-15:20

How are sustainability and transformation partnerships aiming to improve population health and prevent disease?

Anya Gopfert, Dominique Allwood, Adam Briggs
Health Foundation

Background: Recent integrated care reforms – such as sustainability and transformation partnerships (STPs) and integrated care systems (ICSs) – are highlighted by the NHS long term plan as a way for the NHS to do more to prevent disease and improve population health. Through closer integration of NHS organisations with local councils and community organisations, it is hoped that increasingly limited health and local government resources can be better used to address local health needs by acting on both clinical and wider determinants of health. In this project, we describe how STPs originally intended to improve population health and prevent disease in 2016. We then frame these findings in the current NHS and political context to offer suggestions for how approaches to population health may be developed when STP and ICS plans are updated in Summer, 2019.

Methods: We analysed the 44 STP plans from 2016 to identify content related to population health and disease prevention. Coded data included information on why and how population health and disease prevention priorities were identified, and what approaches different STPs were planning to use to address these priorities. Population health was defined as information relating to the mental and physical health and wellbeing of a defined population for which the STP is accountable, including efforts to reduce inequalities or address the wider determinants of health. Prevention was defined as information relating to the primary or secondary prevention of disease. We used an integrated approach to identify themes arising from the data, with data analysed using QSR NVIVO software. Coding for broad topic area was initially done by two team members for three STP plans, with differences reconciled by discussion. Detailed coding was completed by one team member, with all coded text reviewed by a second team member. Coding discrepancies and queries were identified and discussed to achieve consensus.

Results: Coding of the 2016 STP plans is ongoing. However, initial analysis suggests that all 44 plans included a discussion of their population health needs and their intended population health outcomes by the end of the plan's duration. A majority of the 44 plans included an explicit disease prevention or population health strategy but there was little detail about how STPs were intending to achieve the population health improvements they planned. STP plans with more detail on how they intended to improve population health commonly focused on addressing lifestyle and risk factors such as smoking, alcohol consumption, obesity and diabetes using individual level approaches such as expanding 'Making Every Contact Count' and the National Diabetes Prevention Plan. A wide range of other priority issues and interventions were also mentioned ranging from secondary prevention of disease by managing hypertension and atrial fibrillation to tackling the wider determinants of health such as housing and employment. Analysis of plans will be completed in February 2019 and results will be finalised, including detail of funding commitments to population health and prevention activities.

Implications: STPs and ICSs offer an opportunity for NHS organisations, local government, and community organisations to work together to prevent disease, improve population health and help maintain financial stability. Our preliminary results suggest that the all STPs state intentions to improve the health of their population and prevent disease to varying degrees, but some place a greater emphasis on this than others with few having a well-defined strategy to achieving their population health ambitions. When the 2016 plans were announced, STPs were criticised as being rushed and for not adequately consulting with the public or patients. Given that STPs were newly formed with the contingent organisations often having little experience of working together, it is perhaps unsurprising that many plans lacked detail. The intervening two years have seen significant change to the NHS and political environment, including publication of the Secretary of State for Health and Social Care's prevention vision and the NHS Long Term Plan. Together these have created a strong policy footing for STPs – and now ICSs – to work to improve population health. STPs also now have two years' experience of working together and with the public and patients. Local solutions to data sharing are being developed and population health management has emerged as a tool for understand population health needs and targeting resources. When updating their plans for the coming five years, STPs and emergent ICSs should focus on how they will prioritise, implement, and evaluate specific population health interventions, and how they will share funding and resources between member organisations to improve population health. National policy makers can support this work by formalising the statutory basis of STPs and ICSs and their accountability for population health, and by clarifying the role of STPs as country moves towards being covered by ICSs in 2021.

The effects of care bundles on patient outcomes: a systematic review and meta-analysis

Jacqueline Lavalley, Trish Gray, Jo Dumville, Nicky Cullum
University of Manchester

Background: Research-practice gaps are reported in areas of healthcare and guidelines are often not fully implemented meaning patients may receive sub-optimal care. Evidence-informed practice requires healthcare workers to work and think differently, and providing the evidence is necessary but alone is not sufficient. Research has looked at how we might change the behaviour of healthcare workers to facilitate the uptake of evidence-informed practice in healthcare and an example of this is to use a care bundle. Care bundles are a set of three to five evidence-informed practices performed collectively and reliably to improve the quality of care and healthcare workers' adherence to evidence-informed practices. Care bundles are used widely across healthcare settings with the aim of preventing and managing different health conditions. Capitalising on behaviour change theory is important as the factors that influence the target behaviour and the active components of the intervention can be identified and selected. Behaviour change techniques are the observable and replicable components of behaviour change interventions, often referred to as the 'active ingredients'. Identifying the specific behaviour change techniques employed during the implementation of care bundles could enable researchers and healthcare workers to understand which components were key when the implementation of a care bundle was successful. This is the first systematic review designed to: determine the effects of a broad range of care bundles on patient outcomes. In addition, we aimed to explore healthcare worker adherence to care bundles and identify whether there are plausible factors that modify the effects of care bundles.

Methods: A total of 5796 abstracts were retrieved through a systematic search for articles published between January 1, 2001, to February 4, 2017, in the Cochrane Central Register for Controlled Trials, MEDLINE, EMBASE, British Nursing Index, CINAHL, PsycInfo, British Library, Conference Proceeding Citation Index, OpenGrey. Randomised trials (including cluster-randomised trials) and non-randomised studies (comprising controlled before-after studies, interrupted time series, cohort studies) of care bundles for any health condition and any healthcare settings were considered. Following the removal of duplicated studies, two reviewers independently screened 3134 records and performed data extraction and risk of bias assessments independently. We conducted a GRADE assessment of the certainty of evidence. We compared the care bundles with usual care to evaluate the effects of care bundles on the risk of negative patient outcomes. Random-effect models were used to explore the effects of subgroups further, including health condition, healthcare setting, number of care bundle elements, number of behaviour change techniques, adherence to the care bundle.

Results: In total, 37 studies (6 randomised trials, 31 controlled before-after studies) were eligible for inclusion. Descriptions of the people delivering the care bundles were limited. The duration of the studies varied from 3 months to 7.5 years. 'Feedback and monitoring' was the most commonly reported behaviour change technique used to support the implementation of the care bundles (reported in 22 studies), but no study reported a theoretical basis for choosing the various behaviour change techniques. The effect of care bundles on patient outcomes is uncertain. For randomised trial data, the pooled relative risk of negative effects between care bundle and control groups was 0.97 [95% CI 0.71 to 1.34; 2049 participants]. The relative risk of negative patient outcomes from controlled before-after studies favoured the care bundle treated groups (0.66 [95% CI 0.59 to 0.75; 119,178 participants]). We assessed the certainty of all of the evidence to be very low (downgraded for risk of bias, inconsistency, indirectness).

Implications: Very low quality evidence from controlled before-after studies suggests that care bundles may reduce the risk of negative outcomes when compared with usual care. By contrast, the better quality evidence from six randomised trials is more uncertain. The need for clear and unambiguous reporting has been highlighted during this review especially with regards to who is delivering the care bundle and how the care bundle was developed and implemented. In particular, when reporting the effects of complex interventions such as care bundles, specifying the behaviour change techniques included within the intervention is required to enable the identification of the potentially effective components. The higher quality reporting of the intervention, behaviour change techniques and research findings will enable stronger conclusions to be drawn about the effectiveness of care bundles; and facilitate the production of generalisable knowledge that can inform the development of new interventions and increase the likelihood of success.

Rapid Fire 1
02/07/2019
14:00-15:20

Spatial distribution and temporal trends in social fragmentation in England, 2001 to 2011: a national study

Christos Grigoroglou, Luke Munford, Roger T Webb, Nav Kapur, Darren M. Ashcroft, Evangelos Kontopantelis
University of Manchester

Objective: Social fragmentation is commonly examined in epidemiological studies of mental illness as high levels of social fragmentation are often found in areas with high prevalence of mental illness. In this study we examine spatial and temporal patterns of the index of social fragmentation and its underlying indicators in England over time.

Setting: Data for social fragmentation and its underlying indicators were analysed over the decennial Censuses (2001–2011) at a small-area geographical level (mean of 1500 people). Degrees of social fragmentation and temporal changes were spatially visualised for the whole of England and its 10 administrative regions. Spatial clustering was quantified using Moran's I; changes in correlations over time were quantified using Spearman's ranking correlation.

Results: Between 2001 and 2011 we observed a strong persistence for social fragmentation nationally (Spearman's $r=0.94$). At the regional level, modest changes were observed over time, but marked increases were observed for two of the four social fragmentation underlying indicators, namely single people and those in private renting. Results supported our hypothesis of increasing spatial clustering over time. Moderate regional variability was observed in social fragmentation, its underlying indicators and their clustering over time.

Conclusion: Patterns of social fragmentation and its underlying indicators persisted in England which seem to be driven by the large increases in single people and those in private renting. Policies to improve social cohesion may have an impact the lives of persons who experience mental illness. The spatial aspect of social fragmentation can inform the targeting of health and social care interventions, particularly in areas with strong social fragmentation clustering.

Poster Board Number: 132

Rapid Fire 1
02/07/2019
14:00-15:20

Using evidence synthesis to improve the experience of care for people with dementia in hospital: 3 linked systematic reviews

Ruth Gwernan-Jones¹, Ilianna Lourida¹, Rebecca Abbott¹, Morwenna Rogers¹, Darren Moore², Colin Green¹, Sue Ball¹, Linda Clare¹, Anthony Hemsley³, David Richards¹, Iain Lang¹, Colm Owens³, Jo Thompson Coon¹, David Llewellyn⁴

¹NIHR CLAHRC South West Peninsula, College of Medicine and Health, University of Exeter, ²Graduate School of Education, University of Exeter, ³Royal Devon and Exeter NHS Foundation Trust, ⁴College of Medicine and Health, University of Exeter Medical School

Background: People with dementia in hospital experience longer stays, greater mortality and increased risk of institutionalisation post discharge. Hospital services are intrinsically geared towards fast and effective responses. However, people with dementia are not always able to communicate their needs or to comply with staff, negatively affecting their wellbeing and that of their families and the staff who care for them.

Methods: We undertook three systematic reviews following best practice guidance to explore i) the experience of care in hospital (Review 1); ii) the experience of interventions to improve care in hospital (Review 2); and iii) the effectiveness and cost effectiveness of interventions to improve the experience of care in hospital (Review 3) for people with dementia, their families and the staff that care for them. A Project Advisory Group of dementia specialists, hospital staff, commissioners and family carers advised us throughout the project. Protocol:

http://www.crd.york.ac.uk/PROSPERO/display_record.php?ID=CRD42018086013

Database search strategies (MEDLINE, EMBASE, PsycINFO, Cochrane Database of Systematic Reviews, CENTRAL, CINAHL, BNI, HMC, ASSIA, SSCI, Social Policy & Practice) were developed by an information specialist to capture qualitative and quantitative literature. Forwards and backwards citation chasing was carried out for all included studies. Two reviewers screened each record at title and abstract and full text. Disagreements were discussed in consultation with a third reviewer. For Reviews 1 and 2, quality appraisal and data extraction were performed independently by two reviewers; for Review 3 data extraction and quality appraisal were conducted by one reviewer and checked by a second.

Synthesis: *Reviews 1&2.* Findings from each study were coded in NVIVO software (version 12). Framework analysis was used to further analyse areas of contribution and the relationships between study findings. In order to manage the volume of evidence in Review 1, studies were prioritised according to richness of text, methodological rigour and conceptual contribution. Sensitivity analysis was carried out at the conclusion of the synthesis to ensure findings from prioritised papers adequately represented the remaining included studies. *Review 3.* Data were tabulated and presented narratively categorised by intervention type. Outcomes were presented separately for people with dementia, family, and hospital staff. Standardised mean differences were calculated where possible to support narrative statements and aid interpretation. *Overarching synthesis.* Over the course of the synthesis process, reviewers met to map concepts identified in Review 1 to the interventions in Reviews 2 and 3 (including rationales, content, outcomes, experiences of, effectiveness and/or cost effectiveness of interventions). During the process, conceptual development was recorded by creating and iteratively developing a conceptual model of the experience of care, and approaches to improve the experience of care.

Results: *Review 1.* 64 studies reported in 83 papers were included; approximately one third of the studies (n=27) were conducted in the UK. Observations, interviews and focus groups were conducted with hospital staff (n=938), family (n=478), people with dementia (n=201) and co-patients (4). Twenty one studies reported in 30 papers were prioritised for the synthesis which adequately represented the remaining included papers, with minimal changes following sensitivity analysis. *Review 2.* 14 studies reported by 16 papers were included involving the following intervention types: staff or carer education/training (n=9), activity-based or tailored interventions (n=3) and special care units (n=3). Observations, interviews and focus groups were conducted with hospital staff (n=219), people with dementia (n=91) and family (n=60). *Review 3.* 25 studies reported in 26 papers were included - 3 RCTs, 1 cluster RCT, 4 controlled before-after, 13 before-after, 2 time series, and 2 prospective cohort studies including more than 1800 people with dementia, 800 family caregivers, and 4400 hospital staff; around a third were conducted in the UK. 24 studies addressed effectiveness and 4 studies reported costs or cost-effectiveness. Interventions to improve experience of care included staff education/training (n=10), activity-based or tailored interventions (n=8), special care units (n=4), and palliative care interventions (n=3). Our quality appraisal assessment suggested that the majority of the qualitative studies were of sound methodological quality, however the quantitative studies were less robust.

Overarching synthesis: Our innovative across-review method resulted in a conceptual map depicting problems in the experience of care, approaches to solving those problems and how and why they are likely to help. Our preliminary synthesis suggests that formation of relationships that help staff understand the needs of the patients, and affirm the patients' status as people rather than problems, is at the heart of the need for care of people with dementia. Successful facilitation of such relationships begins at the institutional level and includes changes to ward cultures and environments, as well as staff training.

Implications: Implications from our findings will be developed further during UK regional meetings with providers, commissioners and recipients of services to be held in May. The aim of these meetings is to set the evidence we have identified within the context of current practice, explore potential barriers to implementation and co-develop solutions.

Rapid Fire 1
02/07/2019
14:00-15:20

Assessing lay persons' understanding of head injury and when emergency services might be needed: a mixed methods study

Mary Halter, Stefan Tino Kulnik
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Background: Head injury results in a high use of Emergency Departments (EDs) in the United Kingdom, although most people with head injury do not require hospitalisation. Some evidence suggests that lay recognition of the seriousness (or not) of head injury is problematic. Coupled with the knowledge that confidence and willingness to act as a lay responder (other than call for emergency assistance) is variable and context-specific in conditions other than head injury, reducing ED use may not be easy. However, reluctance to act has been shown to be amenable to change through effective education. In this context the British Red Cross has developed a 'pathway' for lay use in the recognition and differentiation of the seriousness and action required for head injury, aiming to decrease avoidable emergency ambulance and/or ED attendance. This study aimed to investigate lay understanding of head injury and to explore confidence and willingness of lay people to make decisions that might include not using ED services in a head injury scenario.

Methods: A mixed-methods exploratory design was used, recruiting lay people via networks and contacts in six target population groups: parents of young children, school staff, sports coaches, young adults, informal carers of older adults, and other adults. Two data collection methods were used: An electronic and paper, self-completion, closed question survey explored how members of the public – as potential lay-responders, nationally – understood terminology associated with head injury, including differentiation between symptoms. Survey data were analysed using descriptive and inferential statistics against the outcomes of understanding of terminology and selection of clinically recommended action (observe at home, take to the ED or call an emergency ambulance) according to the pathway. Focus groups were conducted with volunteer lay people who may or may not have completed the survey. Focus groups explored understanding, and confidence and willingness to act in head injury, based on hypothetical scenarios. This included application of the pathway, which provided guidance whether to use emergency services or not. Qualitative data were analysed using framework analysis.

Results: The survey received 520 responses overall, with respondents from across gender, age group, ethnicity, region, first aid experience and the six target population groups, with some under-represented groups within this. Focus groups were held with all six target population groups, with 44 participants in total. Survey respondents and focus group participants showed an overall good understanding of the potential seriousness of head injury. Out of 19 given signs and symptoms of head injury, participants could differentiate the most serious (requiring emergency services) from those that could be observed; although correlation was low between actions in response to a number of terms, which we understood to have similar meaning and therefore require similar action. When aligning these symptoms to the actions suggested in the pathway, the proportion of 'correct' actions in response to symptoms ranged from just below half to almost 100%. Those aged 18-24 had a lower percentage of correct answers, and respondents aged 55-64 and school staff had higher correct responses in the survey. Hypothetical scenarios elicited a range of responses, from calling 999 in any instance, to not calling in serious situations. Participants described 'life experience' as influential in the decision whether to call 999 or feel confident to observe, and many participants relied on this experience and intuition rather than the provided pathway materials. Multiple barriers to taking action were presented by participants when considering the reality of the environments they might find themselves in. Barriers included the setting, the presence of others (including first aiders), the characteristics of the injured person, the presence of blood, the confidence and experience of the lay person, and concerns regarding doing harm and the possibility of litigation. Participants agreed on the need for simple, easy to remember guidance.

Conclusion: Head injury is commonly perceived as a serious event often requiring immediate medical attention, but our study also found a good awareness of the range of injury severity possible. Distinguishing the best course of action along the continuum of seriousness was variable in self-report survey and in response to hypothetical scenarios. Despite some critique the pathway was generally well received, and simple, well-advertised, consistent information was sought. The low confidence to act and the situational factors people felt might hold them back from acting at all or in calling for emergency services support in head injury are concerning. But they are also potentially amenable to change through focusing on confidence and motivation to act in addition to 'first aid' knowledge in any training or public health guidance aiming at reducing avoidable emergency service use.

Poster Board Number: 134

Rapid Fire 2
02/07/2019
15:45-17:00

Exploring the determinants of Type 2 diabetes in severe mental illness using longitudinal primary care data from the Clinical Practice Research Datalink (CPRD) and linked health data.

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Background: The average life expectancy for people with a severe mental illness (SMI) such as schizophrenia or bipolar disorder is 15-20 years less than for the population as a whole (Brown et al., 2010; Chang et al., 2011). Diabetes contributes significantly to this inequality, being 2-3 times more prevalent in people with SMI (Stubbs et al., 2015). Various risk factors have been implicated, including side effects of antipsychotic medication and unhealthy lifestyles, which often occur in the context of socio-economic disadvantage and healthcare inequality (Ward & Druss, 2015). However, little is known about how these factors interact to influence the risk of developing diabetes and poor diabetic outcomes, or how the organisation and provision of healthcare may contribute. We aimed to identify the socio-demographic, illness, family history and lifestyle factors that are associated with the development of Type 2 (T2) diabetes in this population. This work is part of a broader study to explore determinants for developing T2 diabetes and poor diabetes outcomes and to identify interventions that might influence these.

Methods: The broader study employs a concurrent mixed methods design combining the interrogation of electronic longitudinal primary care health records from the Clinical Practice Research Datalink (CPRD) and linked hospital records with qualitative interviews with adults with SMI and diabetes, their relatives/friends, and healthcare staff. We explored the impact of key explanatory variables such as socio-demographic, illness, family history and lifestyle factors on the development of diabetes in people with SMI using a CPRD dataset and linked health data (Hospital Episode Statistics, Office for National Statistics mortality data, and Index of Multiple Deprivation) including 14,837 patients with SMI. We applied multi-level mixed effects logistic models to estimate the association between selected risk factors at baseline (SMI diagnosis) and the risk of T2 diabetes diagnosis. For the time to onset of T2 diabetes, we applied Cox proportional hazards models by assuming proportional hazards for covariates.

Results: Compared with SMI patients without T2 diabetes, patients who developed T2 diabetes after SMI diagnosis were more likely to:

be diagnosed with SMI at an older age

- be male
- be from Asian or Black ethnic groups
- live in deprived neighbourhoods;
- have higher baseline Body Mass Index (BMI);
- have higher than average blood pressure, serum cholesterol and HbA1c levels;
- be prescribed with antipsychotics, antihypertensives, antidepressants & lipid lowering drugs.

We found that the risk of developing T2 diabetes is associated with older age. Compared with being diagnosed with SMI between 30 and 40 years old, the risk increased by 71% for age group 40-50 (OR: 1.71; 95% CI: 1.33-2.19), 99% for group 50-60 (OR: 1.99; 95% CI: 1.50-2.65), and 113% for group 60-70 (OR: 2.13; 95% CI: 1.51-3.01). Females had a reduced risk of 22% compared with males (OR: 0.78; 95% CI: 0.66-0.92). Asian ethnicity increased the risk by 121% (OR: 2.21; 95% CI: 1.48-3.30) and Black ethnicity increased the risk by 86% (OR: 1.86; 95% CI: 1.24-2.78), compared to white ethnicity. Living in the most deprived fifth of neighbourhoods increased the risk by 55% compared to living in the least deprived (OR: 1.55; 95% CI: 1.13-2.12).

Baseline BMI was a significant predictor for T2 diabetes diagnosis. Compared with the normal range (BMI 20-24), being overweight (BMI 25-29) increased the risk by 123% (OR: 2.23; 95% CI: 1.53-3.25), being obese (BMI 30-39) increased the risk by 252% (OR: 3.52; 95% CI: 2.37-5.25), and being severely obese (BMI 40+) increased the risk by 815% (OR: 9.15; 95% CI: 5.56-15.05).

Antipsychotic (atypical) and antihypertensive medication were both associated with higher risk of developing T2 diabetes. Other significant predictors include family history of diabetes, baseline systolic blood pressure level higher than 120 mmHg, baseline HbA1c level higher than 6%. We found that serum cholesterol level higher than 6.5 mmol/L

also had an independent significant association with developing diabetes. We did not find significant interaction effects between age and gender, and between typical and atypical antipsychotics.

The Cox proportional hazards models showed very similar predictors for time to onset of diabetes.

Implications: Improving diabetes care for people with SMI is a high priority area for the NHS (NHS England, 2014). However, little is known about how SMI and other risk factors combine to generate high diabetes prevalence and poor diabetes outcomes. Developing a greater understanding of the association between SMI and T2 diabetes, and the factors that are at play, is a necessary first step in developing healthcare interventions to improve outcomes for people living with this co-morbidity. The higher risks faced by people of Black or Asian ethnicity, those who live in poorer neighbourhoods, and older people, for example, need to be addressed by creating accessible services that can reduce inequalities and improve healthcare outcomes for these populations.

Submitted on behalf of the EMERALD research team

Poster Board Number: 135

Rapid Fire 2
02/07/2019
15:45-17:00

Transforming across boundaries: Diabetes Book and Learn in South London

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Background: Diabetes accounts for 10% of the NHS annual spend. The majority of this cost is on complications from high blood sugar. Structured patient education programmes exist for both type 1 and type 2 diabetes. They have proven to improve self-efficacy, reduce use of non-scheduled care, and improve glycaemic control. National audit data (2016) show uptake is poor (8.3% of eligible adults with type 2 and 6.3% with type 1 diabetes). Research suggests many barriers including poor healthcare professional marketing, lack of choice (venue, date, type of course), low motivation to prioritise health over other daily pressures of living. Recent national transformation funding has been available to improve the uptake of diabetes education. The Health Innovation Network (HIN) coordinated a transformation project across 12 Clinical Commissioning Groups (CCGs), serving an adult population of 2,546,000. The Diabetes Book & Learn service provides a centralised booking system with courses shared across commissioning boundaries, offering greater individualised choice and at-scale data capture to tailor provision to fit demand.

Methods:

Developments included:

Mapping current baseline provision to developing a Directory of Services.

Modelling anticipated need, based on prevalent and newly diagnosed population.

Patient engagement to inform decision-making.

Following procurement process, contracts were awarded to Spirit Healthcare, in partnership with Priority Digital Health.

Clinical pathways for the delivery of courses to people with diabetes were created.

Development of online booking system and automated interface with primary care systems

Procurement of additional education in new and innovative forms such as digital courses and attractive locations like sports venues.

Procurement of online learning platform with additional education material aimed at non-specialist healthcare professionals to understand the benefits of diabetes courses.

Results: Population modelling based on data collection from 2016-17 anticipates 13,000 referrals per year to the Diabetes Book & Learn service. Baseline provision suggests lack of engagement with type 2 education courses, with 80% utilisation and 74% completion (after booking) versus lack of capacity for type 1 courses, with 90% utilisation and 6-12 month waiting lists. Online booking systems are used with full integration with GP practices to enable pre-population of referral forms, and automatically collect pre and post course data both for audit/quality improvement as well as clinical care. Self-referral is supported. Telephone support is provided to help people choose the best course for their needs and motivate attendance. Patients can now access courses of various types across all South London in multiple locations, in different formats and at different times. The service uses social prescribing to local services to maximise benefits of course attendance. The service went live October 2018 for type 2 courses and February 2018 for type 1 courses. So far 1446 referrals have been received. The online learning platform proves popular with healthcare professionals in a broad range of sites from GP practices to mental health institutions completing the diabetes education course module.

Implications: The Diabetes Book and Learn service delivers a highly innovative, digitally-led approach, supporting access to diabetes education across 12 CCGs. The service could be expanded to include other long-term conditions e.g. obesity, using an holistic approach to link mind and body and use behavioural insights methods to encourage health and lifestyle improvements. This service has been one of the first of this scale, particularly since changes to data regulations. This has provided multiple challenges especially with integration of the service with existing patient records to enable streamlined data collection and reduce referrer burden. Data collected via the service will enable gap analysis to ensure intelligent commissioning of diabetes courses across South London. It has empowered more collaborative commissioning including centralised funding, via STP, of some more niche courses.

Experiences and lessons of involving the public in the dissemination of the North West Coast Household Health Survey

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Background: Involving the public and patients in health research ensures that research addresses the needs and wishes of people affected by a condition or carers for loved ones having experiences of utilising health services. Members of the public are recommended to be involved in any part of the research process. Whilst a growing body of evidence reports on the contributions of public involvement to the design processes, little evidence has been reported to date on how the public contributes to the dissemination of health services research. Therefore, we report here on lessons learned from involving the public in the dissemination of the Collaboration for Leadership in Applied Health Research and Care North West Coast (CLAHRC NWC) Household Health Survey (HHS).

Methods: We established three writing groups, focusing on different topics of the HHS (physical health, mental health, socio-economic factors). These allowed public advisers to contribute to the dissemination of the HHS. In addition, a public workshop was set up to aid the co-production of the research evidence and discuss the experiences of public advisers involved with the survey. After the workshop, a focus group with public advisers was conducted to understand their levels of satisfaction with their involvement.

Results: In total, 12 public advisers contributed via face-to-face writing groups, by actively interpreting findings and helping in the write-up of research articles, as well as by presenting talks at the public workshop to share their experiences. As a result of their involvement, members of the public have gained new skills. The focus group highlighted that whilst public advisers were generally satisfied with their involvement, they would also like to be involved in more activities.

Implications: Having engaged the public in a multitude of dissemination activities as part of the HHS has greatly strengthened the survey's dissemination. In addition, members of the public have helped identify which topics to prioritise, and provided ideas for future steps – both within research and for the implementation of findings in everyday life. Therefore, one of the major next steps will be to implement findings, where possible, in order to reduce health inequalities in different neighbourhoods across the North West Coast.

Rapid Fire 3
03/07/2019
10:00-11:15

Embedding health inequalities in research and practice: CLAHRC NWC Partner's Priority Programme utilisation of the Health Inequalities Assessment Tool

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Background: Health Inequalities are systematic differences in length of life and quality of life across social groups and areas. They are caused by inequalities in people's access to social and economic resources, to good living and working conditions, to timely good quality treatment and care and to people's opportunities to influence decisions affecting their lives. The North West Coast region faces stark health inequalities. Average life expectancy can vary across Local Authority areas by up to 12 years; for average healthy life expectancy this can be up to 27 years. The Partner Priority Programme (PPP) of the Collaboration for Leadership in Applied Health Research and Care North West Coast (CLAHRC NWC) addresses the identified needs of the 35 healthcare partner organisations (NHS and local authority) for co-produced research evidence to support local service innovation. The programme enables partners to conduct project-level evaluations of local services relevant to reducing hospital admissions, reducing health inequalities, and improving population health and well-being.

Method: The PPP focused on integrating the health inequality perspective throughout all projects, with the aim to build capacity amongst partners for research. As part of the health inequality focus, the CLAHRC NWC developed the Health Inequalities Assessment Toolkit (HIAT) to support all our partners to routinely incorporate an equity dimension into all their activities. Using the HIAT should increase users' awareness of the structural determinants of health and stimulate more thinking about what action on inequalities is possible in their day-to-day practice as researchers, service providers, managers and/or commissioners.

On a logistical level, the PPP consists of a series of evaluation workshops bringing together initiatives from across the CLAHRC NWC region, NHS, and LA Partners, to work together with academics and the public in Collaborative Implementation Groups (CIGs). This included HIAT training, CIGs HIAT case studies activities, completing a HIAT report and receiving expert feedback.

The PPP experience and the impact on the improvement processes are being evaluated qualitatively via semi-structured surveys, focus groups, and follow-up telephone interviews, which are analysed using thematic coding techniques.

Results: To date, two rounds of the PPP have been completed, with the third round currently ongoing. Initial findings highlight the approach in which the PPP uses the HIAT in bringing together partners, academics, and the public to tackle health inequalities. So far, we found that using the HIAT has created a common language and dialogue and created a collaboration between members, whereby each partner project had individual motivations, outputs, and outcomes with different interpretations of health inequalities. It facilitated sharing different perspectives, lived experiences, and knowledge of local health inequalities issues. This enabled teams to reflect on local practice, recognising gaps within their knowledge of inequalities, and start a process of exploring different research methods that will enhance understanding of local health inequalities and improve practice.

Implications: Learning from Round 1 and 2 was used to enhance the approach in embedding health inequalities in Round 3, which is currently being implemented. The PPP approach in using the HIAT has shown to be a good strategy in enabling learning through shared experiences between partners, academics, and members of the public. Through the programme, teams were supported to co-produce health inequalities evidence to enable local service awareness and improvement. Teams are now disseminating the findings from their evaluation projects across individual organisations, conferences, and showcase events to enhance local and national level awareness of health inequalities.

Poster Board Number: 138

Rapid Fire 3
03/07/2019
10:00-11:15

Care Home staff's experience of caring for residents with sepsis

Sevim Hodge
Nottingham University Hospital

Background: Sepsis claims the lives of over 44,000 people every year in the UK. It is a preventable and treatable condition if recognised early. The elderly residing in nursing and care homes are a high-risk group for developing sepsis. Nursing home acquired pneumonia and urinary tract infections are the most frequent causes of sepsis in nursing home residents. Current literature claims increasing co-morbidities, older age, baseline functional reserve and immunosenescence are contributing factors as to why this population are at higher risk of developing sepsis. However, minimal qualitative literature exists that explores nursing homes and nursing home staff's experience of caring for septic residents and the impact this has on sepsis care.

Study Design: Semi-structured interviews with 5 participants from a dual registered nursing home based in Nottingham. Participants all had direct care with residents and were asked about their experiences of caring for septic residents. Interview data was coded and analysed using thematic analysis. Three main themes emerged from the data: Sepsis knowledge and education; Sepsis recognition and escalation and Barriers and Facilitators to providing sepsis care.

Findings: The interview data highlighted that sepsis knowledge amongst nursing home residents is variable and in some cases, 'sepsis' was not a familiar term. Participants reported they had not received or were aware of any sepsis training packages. Whilst participants were unable to define sepsis, their close relationships with residents helped them to notice any changes in a resident's status and escalate concerns. Lack of sepsis knowledge was considered to be a barrier to providing effective sepsis care.

Conclusions/Implications: Nursing home staff are required to provide care that is synonymous with trained health professionals. However, they do not receive training to equip them with the skills and knowledge required to care for residents with complex conditions. Therefore, staff may be at a disadvantage when caring for residents with complex health needs. The term 'sepsis' is not part of some of the participants' lexicon. As a result, participants are not able to describe what they observing. This may mask the severity of situation when escalating concerns to healthcare providers who do not have direct contact with resident e.g. (GP surgeries or NHS 111 triage services). The interviews identified a learning and development need for nursing home staff and access to sepsis education was welcomed by participants. As this was a small pilot study, further research regarding this topic is required to gain a better understanding of this phenomena.

Accelerometer and pedometer-based interventions to increase physical activity and improve health in adults with cardiometabolic conditions: A systematic review with meta-analysis and individual participant data meta-analysis

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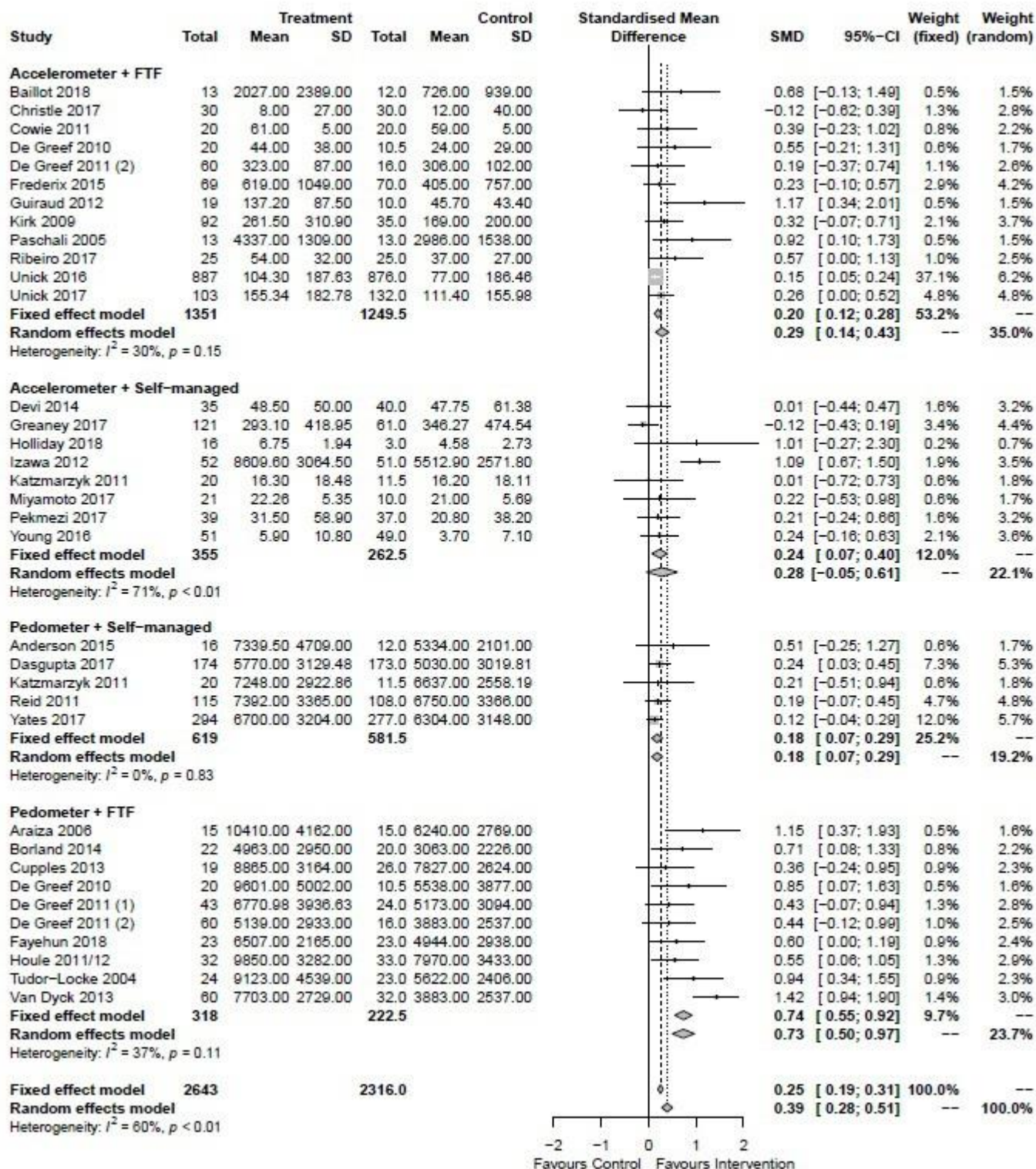
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Background: Physical activity (PA) is one of the major modifiable risk behaviours for prevention and management of cardiometabolic conditions such as diabetes, prediabetes, obesity and cardiovascular disease. Two very popular devices for motivating, monitoring and adapting/increasing PA in these patients are accelerometers and pedometers. However, there is no solid evidence of their effects on PA in participants who experience one or more cardiometabolic conditions. Therefore, we aimed to firstly evaluate their use through a pairwise meta-analysis to determine which characteristics of the interventions lead to increased PA; and secondly carry out a more robust assessment of these interventions in an individual participant data (IPD) meta-analysis which allows the analyses of participant factors. Such analyses will allow for participant and trial-level characteristics to be assessed more rigorously than in traditional pairwise meta-analysis.

Method: Systematic searches of several electronic databases to November 2018 were conducted to identify randomised controlled trials (RCTs) of pedometer or accelerometer-based interventions. The primary outcome was mean difference in PA assessed by random-effects meta-analysis. Where scales differed across studies the standardised mean difference (SMD) was used instead. Heterogeneity was quantified using the I^2 statistic and explored using mixed-effects meta-regression. For the eligible trials, corresponding authors were contacted for their IPD. On receipt of the IPD, quality checks and re-analysis were performed. Data missing at random were imputed using multivariate imputation functions. The one-stage model will be our primary analysis, where all IPD from all trials are analysed in a one-step approach whilst accounting for clustering factors within trials. The two-stage model will be performed as sensitivity analysis.

Results: Thirty-six RCTs involving 5,208 participants (n=20 accelerometers and n=16 pedometers) were eligible for this systematic review. The pairwise meta-analysis involved 32 of the trials (4,982 participants) and showed medium improvements in PA: accelerometers/pedometers combined versus comparator showed a small significant increase in PA overall (SMD = 0.39, 95% CI=0.28, 0.51, I^2 =60%, 95% CI: 41 to 73%) over a mean time period of 32 weeks (figure 1).

Figure 1: Forest plot of consultation (face-to-face vs. self-management)



Multivariable meta-regression showed improved effects for complex interventions which involve self-monitoring and consultation sessions with facilitators ($b=0.36$, 95% CI=0.17 to 0.55, $p=0.0002$). Post-hoc subgroup analysis using the 'enhanced consultation' and 'monitoring device' variables showed increases in PA for both interventions that involved consultations with a healthcare professional (figure 1). For the IPD-MAs we have retrieved up to 70% of the IPD from trial authors, and we anticipate the analysis will start in March 2019.

Implications: We found that accelerometer and pedometer-based interventions lead to significant small-to-medium improvements in PA levels in people with cardiometabolic conditions. We also found no evidence that simple self-monitored interventions using either pedometers or accelerometers can lead to improvements in PA. This study definitively highlights the role of regular consultations as a major driver of the effectiveness of pedometer interventions; this finding warrants further investigations using more robust methods such as IPD-MAs. Such approach will provide the most comprehensive and rigorous assessment to date of the different interventional approaches for accelerometers and pedometers. The findings from these analyses have potential to influence current clinical guidance for the self-management in these 'high priority' conditions.

A patient-orientated hospital discharge summary to promote self-care in older patients: a mixed-methods study to determine suitability and outcome measures

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Background: Patients who are discharged following a stay in hospital are often not well informed on the treatments they have received whilst in hospital and the next steps for their care. This is in part due to the fact that conventional hospital discharge forms are devised with the health professional in mind. [Sorita et al 2017] Patients may be unaware of results of investigations, diagnosis, medication, what they can do to support their health, and where to seek ongoing help. [Pinelli et al 2017] A patient orientated discharge summary (PODS) (<http://pods-toolkit.uhnopenlab.ca/>) developed in Toronto has undergone usability and feasibility studies. A randomised controlled trial is currently underway in Canada of which the primary outcome is patient experience (<https://clinicaltrials.gov/ct2/show/NCT02673892>). Our aim was to determine whether a patient-orientated hospital discharge summary (PODS) developed to promote self-care is appropriate and acceptable to older people and relevant health and social care professionals in the NHS setting.

Methods: We have conducted a rapid review of the relevant evidence on PODS and a scoping search of systematic reviews focusing on older patient self-care/patient activation and relevant outcomes. In addition, we have conducted a focus group with five older patients recruited from general practice and interviews with six relevant care professionals within North Bristol NHS Trust. Our outcomes were a) a recommendation on the implementation of the existing Canadian PODS intervention b) A set of meaningful outcomes for its evaluation c) Understanding of the practical steps needed to facilitate its implementation.

Results: Preliminary reading of these data suggests that both older patients and health professionals consider present hospital discharge summaries to be lacking. There is some evidence for use of a patient-friendly discharge summary and the use of a covering letter to have the potential to influence readmissions, attendance at outpatients and primary care as well as influencing patient outcomes e.g. preparedness for discharge, quality of life. A focus group with patients suggested that a patient friendly discharge summary would be welcome. Qualitative interviews with care professionals suggest that the conventional discharge summary is written in complex language with jargon and abbreviations. They are often produced in a hurry and any patient friendly content is generally little and variable. Carers may not be present when discharge summaries are produced, but that the system generally works well with discharge to nursing/care homes. Care professionals suggest if patient friendly information is produced it needs to be sufficient not to give the wrong message but that some information is technical e.g. medication detail and that even with the best efforts patients are not always in the situation to take the information in. Production of a modified discharge summary is also challenged by patient data protection and lack of connectedness within secondary care and between secondary care and primary/community care IT systems.

Implications: These data are currently being analysed and written up with the aim of designing a feasibility study of a PODS intervention. The full data will be presented in July 2019 alongside the discussion and plans from the research team.

Impact of health and social care interventions on unplanned hospital admissions, timely discharge and well-being of community dwelling older population: A mixed method meta-review of systematic reviews

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Background: It is predicted that by 2020, the population >65 years, >85 years and >100 years will increase by 12% (1.1 million), 18% (300,000) and 40% (7,000) respectively. Hospital episodes for the >65yrs population have continued to increase, rising to £6.3 million between 2016-2017. Whilst some older people need to be admitted to the hospital, evidence suggests that timely care provision in the community is more appropriate for many. Our aim was to identify and examine systematic reviews (SRs) evidence of health and social care (HAS) interventions for the community-dwelling older population regarding unplanned hospital admissions, timely hospital discharge and patient well-being.

Methods: We developed a comprehensive search strategy and searched eight bibliometric medical and social science databases. Searches were restricted to OECD countries and to those published from 2009 onwards to reflect the recent changes to care provision in developed nations (e.g. GP out of hours Contract Changes of 2004). Detailed methods at https://www.crd.york.ac.uk/PROSPERO/display_record.php?RecordID=87534

Results: Searches retrieved 8720 papers. Following title and abstract screening, we identified 134 relevant studies for full-text screening and included 78 reviews in our synthesis.

Data extraction and quality appraisal was undertaken by one reviewer with a random sample of 20% and 10% double screened by two other authors. These systematic reviews have been grouped into reviews which describe a variety of admission avoidance/alternative interventions (n=9), transitional care (n=7), cognitive/psychosocial interventions (n=2), exercise/rehabilitation (n=18), medication review (n=6), seasonal vaccination (n=1), ED-based interventions (n=5), preventative home visits (n=3), integrated HAS care (n=9), Social care services (n=8) and targeting social isolation interventions (n=10). Most of the reviews describe studies that recruited a mixed, older population (n=53), the remaining describe specific patient groups e.g. heart failure & COPD. Ten of the reviews focus on qualitative studies. We are currently writing up this overview comparing the effectiveness of health versus social care versus combined HAS interventions with respect to our three outcome measures

Implications: To our knowledge this is the first meta-review investigating health and social interventions. Our analysis will allow us to comment on the comparative effectiveness of health, social and combined HAS interventions on hospital admissions, timely discharge and patient well-being and comment on appropriate design of health services of the community-dwelling older population.

Rapid Fire 1
02/07/2019
14:00-15:20

Evaluating non-medical prescribing by optometrists in Scotland

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Background: Population ageing and new treatments are leading to increasing demand for eye care. Sight loss in Scotland has been predicted to double by 2030 and it has been suggested that demand is already exceeding capacity [1]. Long-standing eye complaints occur in about 2% of the population across all socioeconomic groups [2]. In order to address the challenges associated with increasing demand for health care and the anticipated decrease in health care staff over the coming years, there is a need to use resources more efficiently, and shifting eye care services into the community has been suggested as one way of maximising efficiency. This includes the introduction of non-medical prescribing, where prescribing authority has been expanded to include professions such as nurses, pharmacists and optometrists – Optometrist Independent Prescribers (OIP). Scotland has been on the forefront of training OIP practitioners, with the aim of freeing up capacity in hospital outpatient ophthalmology clinics by shifting eye care for certain types of acute eye problems and for stable chronic eye conditions such as glaucoma from secondary care into the community. Nearly ten years since granting prescribing rights to optometrists, evidence on impact and reach is very limited. This study aimed to provide a detailed analysis of non-medical OIP practice and to evaluate its impact on the number of hospital outpatient appointments and on GP prescribing for eye problems.

Methods: Monthly prescribing activity of all OIP practitioners working in Scotland was obtained from the Information Services Division (ISD) of NHS National Services Scotland for the period of December 2013 to April 2018.

Prescribing activity was measured as the number of items prescribed per OIP practitioner per month. Routine attendance for ophthalmology outpatient clinics was obtained for the period of December 2013 to April 2018 on a monthly basis. GP prescribing data were available from October 2015 to April 2018 for all general practices in Scotland. Prescribing activity of OIPs and GPs were calculated as a percentage of all eye related prescribing activity (total of items prescribed by OIPs and GPs per month). Descriptive statistics were generated to quantify prescribing activity. Interrupted time series analyses (ARIMA) were used to estimate the effects of two independent variables (OIP activity and number of active OIP practitioners) on the number of patients seen at ophthalmology outpatient clinics in NHS Scotland over a 53-month period.

Results: Prescribing activity of OIP practitioners has increased considerably over time together with the number of active OIPs. Over the 53-month period, a total of 54,506 items were prescribed by OIPs. OIP practitioners issued 1.4% of all prescriptions for eye-related products in April 2018 (based on the total of GP and OIP prescribing activity). This constitutes an almost three-fold increase between October 2015 and April 2018. Time series analysis for the association of ophthalmology outpatient appointments and the number of items prescribed by OIPs per month found a small but clinically unimportant increase (0.02%; CI 0.03% to 0.04% | $p=0.002$) in ophthalmology outpatient appointments.

Implications: This is the first study to provide a comprehensive national level evaluation of the impact of OIP practice in Scotland. It utilised routine administrative data for prescribing activity of both OIP practitioners and GPs and ophthalmology outpatient data over six consecutive years.

Evidence of an increasing trend across NHS Scotland in both the number of eye related items prescribed by OIP practitioners and the number of active OIP practitioners was found. At this stage, there was no clear evidence that the number of items prescribed by OIPs per month or the number of active OIP practitioners per month had a measurable effect on the number of ophthalmology outpatient appointments in Scotland. Due to the ability to manage a range of eye conditions in the community, OIP practitioners provide patients with a range of comprehensive eye care services that are easily accessible. However there are currently only 205 active OIP practitioners working in Scotland, with more undergoing OIP training, and due to the evidence of increasing trends in both practitioner numbers and prescribing activity there are future opportunities for an expansion of service provision including prescribing. There is also emerging evidence of joint initiatives between pharmacists, GPs and OIPs which could further improve prescribing activity and the facilitation of eye care within the community. In addition, detailed research into possible barriers to exercise their prescribing rights is recommended.

[1] RNIB, Royal National Institute of the Blind Scotland. Scottish Vision Strategy 2013-2018. 2013.

[2] The Scottish Government. A national clinical strategy for Scotland. 2016.

Rapid Fire 3
03/07/2019
10:00-11:15

Improving Urgent Suspected Lung Cancer Services in a DGH

Ali B Waqar¹, Shahzaib Shahzaid², Usman Khan³, Daniel Menzies⁴

¹BCUHB health board, ²North Tees and Hartlepool Foundation Trust, ³Betsi Cadwaldr University Health Board, ⁴BCUHB Health Board

Background:

- This project was undertaken by the respiratory department team in Glan Clwyd hospital, BCUHB UK.
- The patient group involved was those referred to the rapid access clinic as 'Urgent Suspected Lung Cancer'. This project involved the respiratory team, oncologists, radiologists and the GP's referring patients from the community.
- Previous to this project, any patient who had a suspicious abnormality picked on a chest x-ray was referred to the rapid access clinic for urgent assessment by a respiratory consultant.
- As chest x-ray is a sensitive but non-specific modality for diagnosing lung cancer, a good percentage of the patient's did not have lung cancer but had some other form of lung problem e.g inflammatory processes, interstitial lung disease etc. The diagnostic modality of choice for assessment of a lung mass is CT scanning. They were seen in the rapid access clinic anyways just to be informed that they did not have lung cancer.
- This pathway was proving to be a burden for the health board and resulted in frustration due to long waiting times for the patient and clinician alike.
- As radiologists, lung cancer oncologists and respiratory physicians identified this problem, this issue was initially raised by the respiratory team at the lung cancer MDT's as this is the time when all the specialties sit together.
- A meeting was arranged after the MDT and the pathway was discussed and the details agreed by all specialties. It was agreed to audit the pathway after a year to measure the effectiveness.

Methods:

- It was mutually agreed at the lung cancer MDT that general practitioners would be able to request an urgent CT scan and also make an urgent referral to the rapid access lung cancer clinic and be placed on the 'Urgent Suspected Cancer Pathway'. The respiratory physicians would then manually go through the referrals by the GP and assess the CT scans by sitting together with the lung cancer team twice a week and decide the appropriate outcome for the patients. The three outcomes would be as follows: If the CT scan was normal then the patient would receive a letter of reassurance at their address indicating that there was no evidence of lung cancer from the CT scan.
- If the CT scan revealed any other abnormality apart from lung cancer e.g Interstitial lung disease, COPD etc. then the patient would automatically be referred to the appropriate sub-specialty clinic.
- If the CT scan revealed a mass/sinister/cancerous lesion then the patient would be given an appointment to attend the rapid access lung cancer clinic.
- The aim was to have the patient assessed quickly after an abnormality was identified on a chest x-ray.
- Two respiratory physicians along with the lung cancer nurses and coordinators would look at the referrals and assess the CT scans and dictate letters as needed.
- The findings were presented at the grand round and feedback was also requested from the patients who had letters of normal scans/ reassurance sent at their addresses.
-
- Two annual audits were performed assess the effectiveness of the project were carried out.
- Some of the major outcomes which were assessed are as follows:
- Proportion of patients who had normal CT scans and were discharged without contact.
- Interval days from date of CT request to actually having the CT scan.
- Interval of days from GP referral to clinical decision.
- Patients were contacted via telephone and asked whether they were satisfied on being informed that they had normal scans via mail.

Results:

- The audits revealed that 70% (audit in 2016) and 61% (audit in 2017) of patients were discharged without ever making contact with the rapid access lung cancer clinic (these were patients that did not have cancer on their CT scans).
- Median time from referral to CT was 11 and 16 days respectively from two different audits.
- Median time from referral to clinical decision was 14 and 21 days respectively.
- All patients contacted were satisfied (we contacted patients through telephone and enquired whether they were satisfied with the whole experience).

Implications:

- These results highlight that the traditional methods of running lung cancer clinics are not as effective as once thought as more than fifty percent of the patient cohort never need to come to clinic and can be dealt with a 'virtual system'.
- It does however translate into more time and effort by the respiratory team. Our team sits down twice a week to look at the referrals/scans and dictate outcomes.
- This pathway can easily be implemented to reduce the stress on an already overburdened system to streamline patient care and ensure that patients are correctly prioritised.

Poster Board Number: 144

Rapid Fire 1

02/07/2019 14:00-15:20

Motivations, experiences, and career aspirations of trainee nursing associates (TNAs) in the North of England: A pilot study

Rachel King, Steve Robertson, Tony Ryan, Emily Wood, Beth Taylor, Angela Tod
University of Sheffield

Background: The nursing associate (NA) role has been developed as one solution to nursing workforce shortages in England. The role aims to fill a perceived gap between health care assistants (HCA's) and registered nurses (RN's) but also offers an alternative route into registered nursing. The role was developed in response to the 'Shape of Caring Review' (Health Education England 2015) which considered the training and education of nurses and health care assistants and highlighted the current variations in standards, and lack of mandatory training for health care assistants in the UK. Policy assumptions have been made that NAs will make a valuable contribution to nursing (Health Education England 2015, Health Education England 2017), that 50% will go on to become registered nurses (Council of Deans of Health 2017), and that the transition into nursing will be smooth with lower attrition rates than other student nurses (Health Education England 2015). However, these assumptions are yet to be tested. While some interim evaluation of the NA role has been conducted (Vanson and Beckett 2018), the new nature of the role means that little empirical work is yet available. This pilot study contributes to this emerging and currently under-researched area of workforce development.

Method: This is a pilot study primarily conducted to guide and inform a larger cohort study that will be established in 2019. The overarching aim is to gain preliminary insight into the motivations, experiences and aspirations of current trainee nursing associates (TNA's). Following ethical approval, TNAs registered on two cohorts at a University in the North of England were recruited via email and took part (in December 2018) in one of three focus groups – two with TNA's approaching completion and one with a cohort six months in to their training. All appropriate informed consent was acquired prior to conducting the focus groups all of which were managed by two researchers - one to facilitate discussion, one to make field notes. The number of focus group participants ranged from three to nine (with fifteen participants in total). Audio-recordings of the focus groups were transcribed verbatim and data analysed thematically (Braun and Clarke (2006). Quirkos v1 computer assisted qualitative data analysis software (CAQDAS) was used to help manage the data extraction and analysis process.

Results: Data is still in the process of being fully analysed but will have been completed by the time of the conference. However, preliminary analysis suggests themes around: barriers and facilitators in training experiences; organisational and personal growth; and role identity ambiguity.

Implications: Due to the new nature of the role, there is virtually no empirical data about NA's to date. The pilot work completed here has implications for ensuring a robust design and focus for the cohort study to be established in 2019. However, it also provides early data for health care provider organisations deploying TNA's, Higher Education Institutes involved in TNA delivery and policy makers regarding recruitment, retention, role identity and likely career development of this emerging nursing workforce role.

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Poster Board Number: 145

Rapid Fire 1
02/07/2019
14:00-15:20

Ambulance paramedics Responding to urgent patient Requests In general practice for home Visits - Evaluation development (ARRIVE)

Mark Kingston¹, Jenna Bulger¹, Grayham Mclean²

¹Swansea University, ²Welsh Ambulance Services NHS Trust

Background: In response to rising demand for health care and limited availability of GPs, paramedics are increasingly working in general practices, most commonly to carry out home visits. UK policy supports this change which involves role substitution across professional groups and sectors of care. In Wales, schemes have recently been introduced with various configuration, employment and governance arrangements. This includes rotational schemes whereby paramedics are employed by the Ambulance service, but rotate between their usual 999 emergency response role, shifts in primary care, and in 999 contact centres. Alternatively, paramedics have been employed directly by general practices or practice clusters. NHS England workforce data shows that so called directly employed paramedics in primary care have increased five fold in the last 20 months [source NHS Digital: General Medical Practice Direct Patient Care Tables 2018]. But we do not know the risks and benefits of Paramedics working in Primary Care (PPC), or which model works best. As well as effects at individual patient level (safety, acceptability, and quality of care), this interface-crossing innovation may have an impact on service and workforce issues including efficiency, costs, professional role development, emergency ambulance availability and 999 response. There is an urgent need to better understand the PPC innovation. We aim to describe the evidence base, theoretical underpinning and current initiatives; and determine the feasibility of undertaking a definitive evaluation of paramedics working in primary care.

Methods: We are carrying out 20 interviews with primary care staff from across each Welsh Health board to identify and describe sites. This will allow us to describe and contrast the design of each service, distinguishing employment models, tasks allocated, and working arrangements. The interviews will yield perspectives of differing stakeholders from Health Boards, and from general practitioners and paramedics. We will then conduct a feasibility study using a controlled before and after natural experiment design with three GP practice sites: one with a directly-employed paramedic; one with a Welsh Ambulance Service employed paramedic; and a control site. We will collect the following outcomes:

1. Number of home visits requested
2. Home visit outcomes – the proportion resolved; further home visit required; emergency admission; 999 call placed
3. Prescribing patterns
4. Subsequent health care contacts
5. Patient satisfaction
6. Serious Adverse Events
7. Cost profile

Results: We will provide an overview of the 20+ sites across Wales where paramedics work in primary care roles. We will summarise findings from our qualitative interviews in our poster/presentation, and present our feasibility study design.

Implications: Both policy and emerging data reveal widespread support and implementation of paramedics in to traditional primary care roles such as undertaking general practice home visits. There are considerable implications for quality and safety of care, and for workforce issues. The ARRIVE study aims to help address the research gap in this area. The ARRIVE study is funded by Health and Care Research Wales Research for Patient and Public Benefit programme.

Drivers and barriers to implementing a Learning Health System: Qualitative evaluation of four sites in the North of England

Sarah Knowles, Stephanie Steels, Ruth Boaden, Lisa Brunton, Niels Peek
University of Manchester

Background: Learning Health Systems (LHSs) aim to revolutionise healthcare systems by reducing the gap between evidence creation from data and implementation of this evidence into practice. LHSs aim to harness routinely collected electronic health data to draw lessons from routine care practice through data analyses, translate this learning into service improvements, and assess their impact in a virtuous cycle between data and action. Building a LHS is recognised as an enormous sociotechnical challenge, requiring not only digital and informatics innovation and expertise but understanding of the cultural drivers and barriers to delivering change. Implementation science, the study of methods to facilitate the uptake of evidence into routine practice, is likely to be a key component of efforts to make Learning Health Systems a reality. Despite international support for the concept of LHSs, to date there is a paucity of evidence of how such systems can be achieved in reality. The CHC pilot programme therefore provides a rich opportunity to explore how a learning health system can be developed and implemented in practice. We aimed to explore how an implementation science framework can aid in understanding barriers and drivers of progress to inform future development efforts. Normalisation Process Theory, a model of how new ways of working can be integrated into existing services, was used to explore buy-in ('coherence'), consensus on who should be involved in delivery ('cognitive participation'), fit with existing systems ('collective action') and stakeholder evaluation ('reflective feedback').

Methods:

Design: Qualitative semi-structured interviews.

Sample: Key informant sampling, recruiting leads at each of the 4 sites and project PIs with experience of delivering themes of work within the sites.

Data collection: 14 interviews conducted June – August 2018 as part of the ongoing evaluation of the pilot programme, exploring progress, outputs, and challenges to delivery. 8 additional interviews with the same sample were conducted Oct -Nov 18 to more specifically explore their perspectives on the Learning Health System concept, with the topic guide informed by Normalisation Process Theory (NPT).

Analysis: Thematic analysis of data, guided by NPT. Drivers of development and implementation reflected the constructs of Coherence and Cognitive Participation, and barriers are captured by the constructs of Collective Action and Reflective Feedback.

Results

Drivers

Coherence: There was significant buy-in to the concept of the LHS, with commitment to the need to more rapidly improve based on insights from data and make better use of data collected in health services. The concept was both ambitious enough to appear novel and familiar enough to be embraced into practice due to its commonality with improvement cycles.

Cognitive Participation: The LHS was recognised as requiring multi-stakeholder input, and all sites had invested in relationship building across various settings, including clinicians, industry, local government and patients and the public. The pilot programme also enabled sites to develop their understanding of the workforce required to deliver an LHS, which required expertise in analytics, information governance, clinical systems, and engagement and communication.

Barriers

Collective Action: Despite high coherence, there were many practical barriers to implementing an LHS within existing services. The primary barrier was often related to the data itself, with challenges including governance and data quality. Projects had to adapt to fit local services and contexts, from tailored analyses based on local Read codes to adapting project outcomes to meet regional service priorities, which poses challenges for translating developments at scale.

Reflective feedback: All sites reported that the programme had not yet reached maturity; delivering improvements into the service, particularly as part of a continuous cycle of change, remained future ambitions. Some projects experienced tensions relating to the time required to invest in establishing appropriate data systems, when clinical partners required more timely outputs to justify engagement.

Implications

- Progress across CHC demonstrates the value of the LHS as an over-arching concept, and also serves to bring into focus the specific challenges faced in building such systems in practice. This included the need for local contextual fit, which can pose a challenge for translation at scale. Consistent with implementation science approaches, LHSs may need to find a balance between replication and adaptation.
- Snapshot learning of specific clinical conditions was necessary to maintain clinical engagement. Demonstration of the benefits of data-driven learning on a smaller scale can be beneficial to leverage investment in broader long-term infrastructure.
- Appropriate data is not easily 'harnessed' even with clinical support and informatics expertise. Sites aiming to develop LHSs should assess whether data is accessible, analysable and meaningful in achieving learning goals. Site readiness assessments may be valuable to assess not only data, but consider workforce capacity, local priorities, and organisational cultures of change.
- Potential for rapid delivery of improvements, and the sustainability of cycles of change, remains to be tested.

The ideal urgent and emergency care system: A qualitative study of public and healthcare professional perspectives

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Background: Increased patient demand in conjunction with increased system-wide pressures such as insufficient staffing and economic constraints, has led to the conclusion that the Urgent and Emergency Care (UEC) system is unsustainable in the long term, unless significant changes are made. There is an increasing body of literature which has focused on asking patients about how they navigate their way through the various UEC services. Other studies have described factors that appear to influence patient satisfaction with UEC services. However, there is no known published research about what patients and/or the public's ideal UEC system would include. The views of health professionals on an ideal system are also under-researched. The aim of our study was to identify from the public and healthcare staff perspective what their ideal UEC system would look like and to explore the key priorities for this new system.

Methods: The project was undertaken in a large urban English city with a population of approximately 720,000 people. Four focus groups were undertaken with members of the public who had been in contact with the ambulance service, walk-in centre, Emergency Department (ED), Minor Injuries Unit, out-of-hours GP, or NHS 111 within the last 12 months and who fell into one of four specific cohorts: (1) working age (under 45 years); (2) elderly (aged 75 years and over); (3) adults with young children; (4) long-term conditions. One focus group was undertaken with healthcare staff who were currently employed in any of the UEC services described above. During the first part of the workshop participants were invited to share their positive and negative experiences of accessing (patients) or delivering health care (staff) within the current UEC system. During the second part of the workshop, participants were asked to design their 'ideal' UEC system and to discuss the key priorities for this system. The workshops were undertaken between September 2018 and December 2018. Data from the workshops was video-recorded, transcribed verbatim and is currently being analysed using Thematic Framework Analysis.

Results: 30 members of the public and 8 healthcare staff from across the UEC system (four ED staff; one GP; one GP practice manager; one minor injuries unit; one ambulance service) were recruited. Themes relating to positive and negative experiences of accessing UEC services include: (1) Communication; (2) Awareness of different UEC services; and (3) Linked medical records were identified. With regards to the theme of 'communication', from the public perspective when they arrive at services there was frustration about a perceived lack of information about how long they would be waiting, where they were in the system and what care they would receive. Following discharge, patients remarked that there was often limited information provided to community services that were expected to take over their ongoing care. From the healthcare staff perspective, they highlighted that different UEC services often worked in isolation of each other and as a result they were unaware of the types of problems being experienced in different parts of the system and what other services and treatments patients may have already accessed. There was an appetite for health professionals from across the UEC system to work more closely together to design innovative solutions to address problems associated with increasing demand. In relation to the second theme, 'awareness of different services', from the public perspective there was confusion about what services were available to them and more specifically, what the services would actually 'see.' This was mirrored in the responses made by health professionals, who further stated that patients often attended the ED inappropriately because they didn't know where else to go. Finally, both public and healthcare staff participants emphasised the importance of 'linked medical records'. Public participants expressed frustration at having to repeat their medical history on a number of occasions whenever they accessed UEC services with many expressing shock when they were informed that UEC services did not share medical records, particularly GP records. Health professionals working in UEC services often talked about 'working blindly' as they only have limited access to information about a patients past medical history, relying mostly on patient recall.

Implications: Public and healthcare professionals agreed that services need to work more closely together in order to provide a more efficient and joined up service. In order to do this there needs to be greater communication between health professionals both within services and between services, particularly in relation to discharging patients back into community services. Centralised medical records, which all services can access, should be seen as priority. This will ensure continuity of care for patients across the whole healthcare system. There should also be more clarity around what UEC services are available in the local area, what health conditions are appropriate for these services and how people can refer into these services.

Rapid Fire 3
03/07/2019
10:00-11:15

Can PROMs from population surveys provide accurate pre-admission estimates for emergency hospital admissions?

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Background: The use of PROMs for assessing the outcomes of emergency hospital admissions requires a means of estimating patients' pre-admission health status. A possible alternative to asking patients to recall how their health was before the incident causing admission is to use estimates derived from matched samples from population surveys. Our aims were to explore the impact of different methods of matching and to compare the results with estimates based on retrospective reporting.

Methods: First, elective hip arthroplasty patients were matched to respondents to the General Practice Patient Survey using age, sex, socioeconomic status and number of comorbidities. The impact of restricting matching for locality and specific co-morbidities was explored. Second, the best matching method was applied to emergency admissions for laparotomy and for percutaneous coronary intervention (PCI) after acute myocardial infarction. Data were stratified by patient characteristics. Differences in mean EQ-5D scores between the patients and matched population respondents were tested using z tests.

Results: Modifying the most basic form of matching by also taking locality and the specific comorbid conditions into account made no significant difference to the mean EQ-5D score for hip arthroplasty patients. Even using the most detailed matching possible, patients' mean EQ-5D score was significantly lower than that of the general population for all three cohorts. The difference was greatest for elective hip arthroplasty (0.22 v 0.77), less so for emergency laparotomy (0.55 v 0.88) and least for PCI (0.79 v 0.88). This reflects hip arthroplasty patients having a long-standing condition characterised by pain and limited mobility, whereas the other two cohorts may have enjoyed reasonable health until an unexpected acute episode led to their emergency admission.

Implications: Routine PROMs data acquired from population surveys cannot be used as an accurate alternative to retrospectively reported PROMs by patients during their emergency admission episode.

Rapid Fire 3
03/07/2019
10:00-11:15

Perinatal outcomes of gestational diabetes regarding management protocols

Khawla Lamlum¹, Prof Jan Miletin², Micheal Newell³

¹UCC, ²UCD, ³NUIG

Background: Gestational diabetes (GDM) is a state of carbohydrate intolerance which is induced by pregnancy. Infants of diabetic mothers (IDMS) risk for a variety of medical complications in the newborn period such as macrosomia, asphyxia, respiratory distress, hypoglycemia, hypocalcaemia, jaundice, cardiomegaly, and in some cases central nervous system disruption as a secondary implication. Furthermore, pregnancy induced hypertension is usually associated with GDM, such as hypertensive disease, preeclampsia and (HELLP) syndrome Hemolysis, Elevated liver enzymes and Low platelets which is a life threaten condition usually considered to be variant or a complication of preeclampsia. In addition, potential risk of exposing the mother and foetus to induced labour and further interventions, for instance instrumental delivery, birth trauma and in some situation ends by emergency caesarean section. The early diagnosis and treatment of GDM reduce the associated complications of this disease; however there is currently no conclusive evidence on the best therapeutic approach.

Methods: This was retrospective cohort study of randomly selected mothers and their babies (n = 447). These mothers were divided based on the diagnosis of GDM into GDM and non GDM groups. The infant charts were collected from the medical records department in the Coombe Women and Infants University Hospital (CWUIH) in Dublin, Ireland. CWUIH is a tertiary maternity hospital with an average of 8,500 deliveries a year. The diagnosis of GDM follows a positive Oral Glucose Tolerance Test (OGTT) results. There is currently targeted GDM screening in CWUIH at between 24 and 28 weeks of pregnancy. Following a positive diagnosis, women received either dietary management or started pharmacological therapy (metformin or insulin) based on maternal glucose level. The recorded perinatal outcomes were maternal hypertension diseases induced by pregnancy, mode and onset of labour. The following neonatal outcomes were recorded: macrosomia, jaundice, hypoglycaemia, prematurity, congenital malformation, congenital heart disease and birth injuries.

Result: Two groups were comparable regarding (OGTT) results in to non GDM (n = 369) & GDM (n = 77). The GDM group was subdivided in to three sub groups which were namely regarding the treatment modality diet (n = 34), insulin (n = 22) and metformin (n = 21). The perinatal outcomes of the four groups had no significant differences for neonatal outcomes except for resuscitation while maternal outcomes and mode of delivery were significantly higher in insulin group p = or < 0.05

Conclusion: Glycaemic control is the overall aim of GDM management. Whether pharmacological therapy is introduced, no evidence was found about the most effective GDM management strategy. However, the evidence from our study suggested further investigation on the role of each treatment on maternal hypertensive diseases, particularly preeclampsia. Metformin has more benefits than insulin in reducing emergency caesarean section (C S), hypertensive diseases and new-borns resuscitation rates.

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Rapid Fire 3
03/07/2019
10:00-11:15

Optimising the delivery of clinical pharmacy services: development of the Adult Complexity Tool for Pharmaceutical Care

Penny Lewis¹, Meshal Alshakrah², Aseel Abuzour², Gillian Hoad-Reddick³, Douglas Steinke², Mary Tully², Steven Williams²

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Background: Hospital pharmacists play an essential role in patient care, ensuring medicines are used safely and effectively. However, current financial pressures within the NHS mean that there may not be resources for some patients to be reviewed daily by a pharmacist, with potential deleterious consequences. The ability to accurately screen and identify which patients would need the greatest pharmacy input, and which would not, could mitigate risk to patients and benefit hospital pharmacy teams, enabling appropriate allocation of costly staff resources. Some hospitals have implemented locally developed screening tools to prioritise patients for pharmaceutical care. These have not been methodically developed for routine use and there is a lack of agreement as to what such a tool should comprise. The aim of this study is to develop a screening tool rigorously and systematically, which can be used by the hospital pharmacy team to triage new patients according to the complexity of their pharmaceutical needs. The care of those patients at greatest risk of preventable harm due to medication would then be provided quickly by an appropriately experienced clinical pharmacist, targeting the deployment of resource limited clinical pharmacy services.

Methods: Development of the tool was a multistage process, using a survey to describe what currently exists and two Delphi techniques to gain consensus as to its content. An online survey was distributed to chief pharmacists of all UK acute hospital trusts to identify existing prioritisation tools and processes. Non-responders were followed up via telephone. Pharmacists that indicated that their hospital used a tool were invited to participate in a semi-structured interview to discuss the development and application of their tool and also asked to share copies of relevant documentation. Documentary analysis was performed on existing tools and qualitative data analysed using a thematic approach. Tool components identified from this analysis and from our previously published systematic review¹ were refined and included in the first two-round Delphi study. The Delphi survey was distributed to invited experts including pharmacists, academics and clinicians. The expert panel was asked to rank each component on importance, using a nine-point Likert-scale. Once consensus was achieved, a second Delphi study was conducted with chief pharmacists and clinical service pharmacy managers to seek agreement on the clinical appropriateness and practicality of the draft tool, including the appropriate frequency and competency of pharmacist input for each level of complexity incorporated in the tool. Consensus for both Delphi studies was set at 67%.

Results: The response rate to the initial survey was 76% (130/170). Seventy hospitals (54%) stated that they had processes to prioritise patients for pharmaceutical care. Thirty six interviews with pharmacists revealed a wide variation in the tools and processes used by hospitals. Tools were often developed in house by a small number of pharmacists or based upon tools used by other hospital trusts. There was very little evidence of systematic development, testing or evaluation of tools and processes. Interviewees described multiple advantages to the prioritisation of patients including surveillance of pharmacy service demand, improved management of resources and they believed it improved patient care. Disadvantages related to the potential impact of the tools on pharmacists, such as deskilling, reduced use of professional judgement and accountability. Over 300 tool components were extracted from the documentary analysis and systematic review and grouped into 109 components for inclusion in the first Delphi study. Delphi study 1 was completed by 33 experts and consensus reached on 92 components. Components were then grouped into three types (demographic, clinical and medication components) and shortened to 31 items which were then included in the first draft of the Adult Complexity Tool for Pharmaceutical care (ACTPC). The ACTPC tool stratifies patients into highly, moderately or least complex. Delphi study 2 was completed by 40 expert panel members and consensus reached on the clinical appropriateness and feasibility of review frequency and pharmacy practitioner experience for each of the patient levels. These decisions were then incorporated into the final version of the ACTPC tool.

Implications: This study has systematically developed a comprehensive pharmaceutical care complexity screening tool containing 31 agreed components based on robustly collected data with input from national and international experts.

- ACTPC could provide a solution for the prioritisation of patients in hospitals currently without a tool or those seeking to reflect and refine their current processes.

- ACTPC could lead to greater patient-centred pharmaceutical care, improve patient safety and assist in workforce planning and resource utilisation by ensuring that the right pharmacists see the right patients at the right time.
 - The ACTPC tool will be implemented within the admissions wards of three acute hospital trusts to assess its acceptability and inform the design of a future randomised control trial.
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Rapid Fire 1
02/07/2019
14:00-15:20

MEMORABLE: MEdication Management in Older people: Realist Approaches Based on Literature and Evaluation

Ian Maidment¹, Sally Lawson²
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Background: The number of older people is increasing, matched by an increase in co-morbidities and polypharmacy (1). Adherence to prescribed medications is variable. Associated risks include ineffective treatment, waste, poorer health and increased risk of hospital admission or death.

Using realist methodology (2), MEMORABLE (3; MEdication Management in Older people: Realist Approaches Based on Literature and Evaluation) explores how medication management works and proposes interventions to improve outcomes. This presentation focuses on how medication management was scoped in the research and how, against this background, the researchers targeted reviewing/reconciling medications as a significant stage in that process. The presentation will also explain how and why two proposed interventions were generated: risk screening and individualised information.

Methods: The research was carried out in three linked work packages to identify how medication management works: a realist review of the literature; a realist evaluation of interview data; and data synthesis into theory-informed, explanatory patterns of factors, combining evidence and experiential data for intervention development. The literature search (work package 1) generated 140 articles, a sample of which informed the understanding of medication management, captured as a five stage process. Twenty-four articles were then identified for any causal accounts embedded in them e.g. a theory or framework. Significant factors were then identified and configured. Supplementary searches also were carried out on emerging topics e.g. burden, shared decision making. The researchers were then able to evidence how medication management might work and to focus on reviewing / reconciling medication as a topic of interest within it. Interviews (work package 2; n=50) were carried out with older people (n=13), practitioners (n=21) and informal carers (n=16). The practitioner group extended from front line staff to managers, including doctors, nurses, pharmacists, a social worker and formal carers. Collectively they contributed to a network of interest across health and care. The interviews explored participants' experiences of medication management as a process. They included the outcomes that mattered to participants and how they thought they might be achieved, or not. Analysis integrated the data sets from work packages one and two, mapped into explanatory patterns, theorising about the way medication management worked and more specifically, reviewing / reconciling medication. This was the evidence-experience base from which interventions were prioritised.

Results: Medication management is a complex intervention. It can be understood as a five stage implementation process. This implementation process is generative: what is done in each stage informs sense making and actions in others. This work is underpinned by enduring, collaborative relationships that engender mutual trust between practitioners and older people. Trust can be extended to the involvement of informal carers although there are challenges for them in such a complex area e.g. role ambiguities, becoming expert by experience, feeling unsupported. Interpersonal work is limited to two stages of the medication management process. Reviewing / reconciling medication is one of those stages. Nonetheless, what is done interpersonally needs to have sufficient reach to mitigate the burden on individuals across the three other stages. These stages are where older people are at home, making day to day decisions and carrying out the actions by which they control medication management routines to fit with their lives. From the analysis, proposed interventions are: a simple risk screening tool to identify those who are struggling to cope and who might benefit from access to a face-to-face review/reconciliation; and individualised information, collaboratively produced. The information should accommodate the complexity of older people's lives, health, co-morbidities and medications in a way that is meaningful to them, practical and able to be shared.

Implications:

MEMORABLE was designed to accommodate the complexity of medication management, engaging older people, practitioners and informal carers, working individually or together. Articulating evidence and experience, theory and data, it also addresses real world challenges in practical and practicable ways. From this study, the researchers intend to undertake a collaborative realist evaluation to scope and implement these interventions to contribute to further knowledge generation and shape improvements in medication management with all those involved.

Funders: This paper presents independent research funded by the National Institute for Health Research (NIHR) under its Health Services and Delivery Research Programme (Grant Reference Number 15/137/01). The views

expressed are those of the author(s) and not necessarily those of the NHS, the NIHR or the Department of Health and Social Care.

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Poster Display
00:00-00:00

MEDREV: feasibility study of a combined pharmacy-health psychology intervention to limit the inappropriate use of psychotropics for behaviour that challenges in people living with dementia

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Background: Behavioural and Psychological Symptoms of Dementia (BPSD) also known as Behaviour that Challenges are common in people living with dementia in residential care facilities. These behaviours have been managed with anti-psychotics. However, the use of anti-psychotics is associated with 1,800 potentially avoidable deaths annually in the UK, and the National Dementia Strategy recommended that such usage should be reduced by two-thirds. However, focussing just on anti-psychotics may drive prescribing to equally risky treatments such as antidepressants, sedating antihistamines and benzodiazepines. MEDREV investigated the feasibility of a clinical trial of a specialist dementia care pharmacist clinical medication review, combined with a health psychology intervention for care staff, to limit the inappropriate use of all psychotropics. This presentation focuses on feasibility; including recruitment and retention, implementation of medication change recommendations, and the experiences and expectations of care staff.

Methods: Care homes in the West Midlands, UK were recruited. Individuals, within these homes, meeting the inclusion criteria (dementia diagnosis; medication for behaviour that challenges), or their personal consultee, were approached for consent. A specialist secondary care dementia pharmacist reviewed each person's medication with full access to their notes and undertook a full clinical review. Care home staff received an educational behaviour change intervention, developed from the evidence, in a three-hour session. The overall aim of the training was to promote person-centred care and reduce the reliance on medication. Primary healthcare staff received a modified version of the training, which focused on the use of medication (benzodiazepines and anti-depressants in addition to anti-psychotics) for the treatment of BPSD. The primary outcome measure was the Neuropsychiatric Inventory-Nursing Home (NPI-NH) version at 3 months. Other outcomes included cognitive functioning, quality of life, current medication including implementation of recommendations and health economics. Qualitative interviews explored the expectations and experiences of care staff.

Results: Five care homes were recruited; the target was six. Originally, 82 care homes meeting the inclusion were contacted; of these three were recruited (conversation rate = 3.7%). One care home was recruited via the Enabling Research in Care Homes Network (ENRICH) and one via personal contact. It took a mean of 236.6 days (standard deviation [SD]: 127.2) to recruit the homes. There were 295 potential participants, across the five recruited care homes, for eligibility screening. Of these 108, met the inclusion criteria (36.6%). In total 34 of the 108 eligible residents were recruited (conversation rate = 31.5%). This represented 75.6% of the original target of 45 residents (across 6 care homes). In total, 164 care staff received training and 21 were interviewed. Both care home staff and GPs reported benefits. Qualitative research data identified that after the training, care home staff reported adopting a more holistic approach with less use of medication. GPs appreciated the quality and safety focus of the medication reviews, and that the reviews provided knowledge to support appropriate prescribing. Medication reviews were conducted for 29 residents (85.3% of the 34 recruited). Medication reviews were not carried out for five participants due to participant death (n=2), primary care engagement issues (n=2), and the pharmacist being unable to access primary care records (n=1). The pharmacist recommended stopping or reviewing medication in 21 cases (72.4% of the 29 who received a medication review). Of the recommendations made, 57.1% (12 of 21) were implemented. Implementation of the recommendations took a mean of 98.4 days (SD = 42.5).

Implications: MEDREV consisted of two key aspects; staff training and specialist medication review. It was feasible to implement the staff training aspect, both in the care homes and in primary care. The training appeared to increase the ability and confidence of care staff to manage behaviour that challenges without relying on psychotropics. The medication review would require significant modification for any clinical trial due to the delay in implementation of any recommendations and the relatively limited uptake of these recommendations.

Funders: This paper presents independent research funded by the National Institute for Health Research (NIHR) under its Research for Patient Benefit (RfPB) Programme (Grant Reference Number PB-PG-0613-31071). The views expressed are those of the author(s) and not necessarily those of the NHS, the NIHR or the Department of Health and Social Care.

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Rapid Fire 1
02/07/2019
14:00-15:20

Evaluation of the Macmillan Integrated Therapy Service

Tim Markham
MEL Research

Background: In 2018, Macmillan Cancer Support commissioned M-E-L Research to provide an independent evaluation of an Integrated Therapy Service for cancer patients. The Service delivers a range of therapies for cancer patients, in the community, outpatient clinics and inpatient wards at two hospitals in the Shrewsbury and Telford NHS Trust. The Service is well established and has been operating in various formats for almost twenty years, providing patients with a single point for triage, assessments and referrals for four therapies; physiotherapy, occupational health, speech and language and dietetics. The Service faces a number of challenges, including the increased demand from the rising number of cancer patients and those with complex needs. A service redesign in 2015 marked a turning point for the service. The service moved from offering a specialist therapy service to all cancer patients to focussing on those with complex needs and expanding the service from inpatient wards to include outpatient clinics and community settings. Simply employing more specialist therapists was not a realistic or sustainable option. To deliver this service there was a need to build capacity within the team, the wider organisation and partners. The service took a new approach, designed to free up time for specialist therapist to deliver treatment and to build capacity through delivering training for generalist therapists working in the hospitals and community. To achieve this the service recruited Assistant Practitioners. The 2018 evaluation was required to inform decisions around the future of the service. Is it the most efficient and effective model? Does it work across inpatient, outpatient and community settings? Should it continue to offer specialist therapies to those with complex needs or move to a more general level of service for a wider range of patients? Is it really an integrated service? What is the impact of the Assistant Practitioners? Recommendations for the development of the Service?

Method: The evaluation was undertaken over a four month period, with a report delivered in January 2019. The evaluation sought to measure and understand the outputs, outcomes and impact of the integrated service for patients, carers, staff and stakeholders. Stakeholders included MDT leads, Cancer Nurse Specialists, GPs and commissioners. Researchers worked closely with the Service team to undertake primary and secondary research, using a combination of qualitative and quantitative methods. The patient experience research included the design of a self-completion questionnaire, focussed on integrated care, with follow up telephone interviews to exploring particular elements of the patient journey. For staff, the research programme involved an introductory session at a team meeting, followed by the development of a topic guide and feedback by email and telephone. Feedback from stakeholders was undertaken by a combination of telephone and face to face interviews.

Results: The evaluation showed that the service is effective, in providing integrated therapies for cancer patients with complex needs. The patient and carer experience of the service clearly shows that it is delivering integrated and well-coordinated care. There are opportunities to improve specific elements of the service for patients. The education/training element of the service has increased for therapists and Assistant Practitioners, but not to on the intended scale. The service has improved efficiencies, making the best use of available resources – the staff. The referral criteria and processes have taken longer than expected to get right. The service has been able to increase its capacity, absorbing an increase in the number of patients, referrals and has significantly increased the number of contacts with patients. The introduction of Assistant Practitioners has had the intended effect of enabling therapists to deliver more therapy and education sessions. The service will need to adapt to provide community-based service in homes, care homes, local clinics etc. Although progress has been made in this area, it has been less developed than for inpatients or outpatients.

Implications: The key lessons from the evaluation are that it has taken time, commitment and effort from staff to get to this point. From 2015, implementation of the redesigned service has been helped by engaging members of the team. Critical success factors are the ability to take on more patients, while maintaining a high standard of care. Building up capacity is key to the long term success of the Macmillan Integrated Therapy Service. The Assistant Practitioners and education role of the team will underpin the long term success of the service. The evaluation set out recommendations for the development of the service. The recommendations are grouped under the following themes:

- Operations Policy review and approval
- Reviewing the referral criteria and processes
- Working with Multi-Disciplinary Teams

- Developing education and training activities
- Developing the role of Assistant Practitioners
- Improve the Community element of the service
- Improving the patient experience of integrated care
- Measuring outcomes
- Improving patient records
- Linkages psychological therapies
- Good practice from other integrated care services
- Introducing an annual service review

Rapid Fire 2
02/07/2019
15:45-17:00

Patient and Public Involvement in Health Services Research: What is the Impact?

Elspeth Mathie¹, Julia Jones², Graham Rhodes³, Diane Munday⁴, Penny Vicary³, Lorna Jacobs⁵, Fiona Poland⁶

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Background: Patient and Public Involvement in the UK is now a mandatory requirement of many health and social care research funders. Members of the public, patients, carers and those with lived experience (experts by experience) or Patient and Public Involvement (PPI) contributors help to shape, design and carry out research, are members of funding panels and research ethics committees. The rationale for involving PPI contributors combines a moral standpoint that there should be “nothing about us, without us” with a methodological rationale, to improve the quality of research, e.g. recruitment, dissemination, impact and outcomes by ensuring connections with the lived experience of those likely to be affected by research processes and results. The impact of involvement can be on the research itself, on the researcher(s), the PPI contributor or the wider community. Involving those with experience of a health condition is now becoming an integral part of research practice. However, PPI contributors often report they do not know whether their contributions have made a difference or if they have any impact (Mathie et al, 2018).

Method: The aim of the poster will be to provide and characterise examples of the different types of impact of patient and public involvement. Examples will be drawn from the research funded by the Collaboration for Leadership in Applied Health Research and Care (CLAHRC) East of England, which was funded by the National Institute for Health Research (NIHR) from 2014-2018. The CLAHRC, East of England has a PPI in research theme (with six research projects) which focussed on understanding and improving PPI within research. As well as conducting research together (researchers and PPI contributors) we have carried out reflective discussions and informal evaluations to collect further information about patient and public involvement and impact. Activities with impact have also been comprehensively documented in quarterly reports from all CLAHRC-funded projects and in regular project entries to the CLAHRC East of England Key Performance Indicator system.

Results: From this programme of research, our studies have demonstrated the value of involving PPI contributors in extensive and diverse aspects of the research process. We aimed to involve those often excluded from research, for example care home residents (Backhouse et al, 2016), younger people in care, from LGBTQ groups and from socio-economically-disadvantaged groups. An important impact here was to find out in more detail what were the specific support needs of different types of individuals from different backgrounds or experiencing particular conditions. These included using different ways of communicating in meetings or in research when people had communication or cognitive impairments or different educational backgrounds, and income levels. PPI contributors have generated research ideas, contributing to data collection (leading to more lay-accessible peer-to-peer discussions), data analysis (again bringing a public rather than a narrower research perspective) and disseminated research findings (through a range of media – You-Tube, short-films, co-authored papers (Marks et al, 2018) and presentations). They have co-designed guidance resources, which are now being used in training for health professionals and researchers. In our poster presentation, we will identify what worked well and also highlight several specific challenges to involvement for example: involvement at the pre-funding stage, bureaucratic and financial barriers when working across organisations and keeping PPI contributors informed of their impact (through ‘Feedback’ processes).

Implications: PPI contributions have had a marked impact on our research work in the CLAHRC East of England PPI in Research theme. Co-designing study designs, and resources to ensure useable research findings such as guidance and training materials, could not have happened without the more systematic inclusion enabled through PPI commitment and project planning, of those with ‘expert experience’. Their involvement has helped to shape materials to be more user-friendly and relevant to health and social care practice. Throughout the five years of CLAHRC funding, making PPI contributions more visible has encouraged a significant shift from ‘proving’ to ‘improving’ PPI which has fine-tuned the promoted and documented process of embedding PPI more into everyday health and social care research practice. Noting where PPI has had impact on projects, services and on research and service participants has highlighted further where PPI is missing, may have been biased and therefore needs to be extended or more sensitively enabled by new methods and resourcing.

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Rapid Fire 3
03/07/2019
10:00-11:15

Community-based support for people affected by young onset dementia: a mixed method study

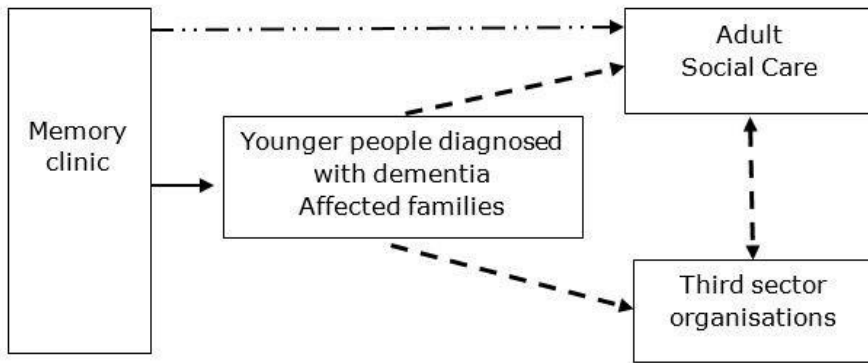
Andrea Mayrhofer
University of Hertfordshire

Background: Of the approximately 850 000 people diagnosed with dementia in the UK, an estimated 5% ($n=42,500$) are under the age of 65. Their support needs differ considerably from those of people living with dementia much later in life, and a cumulative body of literature has called for services that are age-appropriate. More recent literature focuses on creating dementia care pathways that link pre-diagnostic and post-diagnostic support as studies aim to understand which types of services are best placed to enable younger people with dementia, and their families, to live as well as possible. The most recent findings show that, whilst there are a range of dementia services offered across the UK, they are not coordinated and people struggle to find continuity of support. **Aim:** To provide an evidence base of age-appropriate services and to review the perceived effectiveness of post-diagnostic dementia care and support in two study sites.

Methods: The mixed methods approach included a scoping review, discussions with public involvement groups ($n=31$), interviews with memory services ($n=3$) and non-profit service providers ($n=7$) in two study sites, and a systematic review. Findings from the scoping review were analysed thematically and discussed with people living with younger onset and their carers to elicit whether literature reflected their lived experience. The groups were consulted as patient and public involvement (PPI) contributors/discussants, also referred to as 'experts by experience', to shape the research. Results from these discussions informed interviews with service providers and the focus of the systematic literature review. The objectives of the systematic review were to provide an evidence base of age-appropriate services and to indicate the perceived effectiveness of current interventions. Included papers ($n=10$) published over a 25 year period from 1990-2016 reported from five countries, discussing 195 participants (persons diagnosed with YOD [$n=94$], caregivers [$n=91$] and others [$n=10$]). Included papers were synthesised qualitatively. Primary studies were critically appraised.

Results: Findings from the scoping review and discussions with PPI contributors confirmed that a variety of services are provided in the UK, but showed that many are short-term funded, often not well co-ordinated and then discontinued. Discussants also highlighted the difference of post-diagnostic care pathways between individuals diagnosed with young onset dementia, and those diagnosed with other neurodegenerative conditions such as Parkinson's Disease (PD), for example. Whereas individuals with a diagnosis of PD remain in the health care system, individuals diagnosed with YOD are discharged from health care and have to fend for any social care support they might require. However, social care assessors often did not have the training required to recognise and assess the support needs a younger person with dementia might have. Different sub-types of young onset dementia and their differentiated symptomology complicate assessment. PPI contributors in our study felt that, whilst they might not have any influence over the early care pathway from pre-diagnostic referrals to being discharged from the memory clinic, they are well placed to work with social care and third sector organisation to improve social care assessments, and to contribute to co-designing community-based dementia care and support that affects their everyday lives.

Implications: This study shows that post-diagnostic support for people affected by younger onset dementia is fragmented and lacks coordination. The dashed lines in Figure 1 show where co-ordination is required to improve continuity of care. It is imperative for younger people affected by dementia to become involved in the conceptualisation and design of post-diagnostic support services that are flexible, accessible, and offer continuity in the longer term. The study demonstrates that this kind of involvement is achievable and valued and can inform and guide the commissioning of services.



Key: *Dashed lines indicate need for developing co-ordination and networking at the community level*

Fig 1: Involving younger people with dementia in shaping community-based support

Rapid Fire 2
02/07/2019 15:45-17:00

You say patient, I say citizen: A qualitative study of the process of integration of health and social care

Claire Mitchell¹, Abigail Tazzyman¹, Susan Howard², Damian Hodgson³

¹University of Manchester, ²Salford Royal NHS Foundation Trust, ³University of Manchester

Background: The integration of community health and social care services has been widely promoted nationally as a vital step to improve patient centred care, reduce costs, reduce admissions to hospital care and facilitate timely and effective discharge from hospital (Barker 2014; Department of Health 2008). Precisely what this means in practice is less clear: integration can be defined at team, service and organisation level and involving different combinations of services (Stokes, Checkland, and Kristensen 2016). It can also be defined as outcome based, measured through the impact on the individual receiving care, or process based, measured through the change to the system delivering care (Robertson 2011). Questions remain about the practical challenges of integrating health and care given embedded professional and organisational boundaries in both sectors. This study examines a single partnership organisation, established in 2018, formed around twelve integrated neighbourhood teams across a major English city, combining and co-locating community health and social care professionals. This study draws on a process evaluation commissioned to inform integration, specifically of community health and social care at this neighbourhood level in the city, to examine the contextual enablers and obstacles to integration in practice.

Method: Across three localities 24 face to face semi-structured interviews were conducted to investigate the perspectives and experiences of staff involved in the integrated organisation. Eighteen interviews were conducted with those delivering services as part of an integrated neighbourhood team including; newly qualified to experienced staff in leadership roles and equal numbers of health and social care professionals. We also gathered contextual information by interviewing six strategic level staff with equal numbers from a community health and social services background. Sampling was purposive for maximum variation. Data collection was informed by a rapid scoping review of the UK integration of health and social care literature. Data were transcribed verbatim, organised in NVivo 11 and analysed using thematic analysis to identify key enablers and obstacles to integration while drawing on the contextual factors. Results: For all staff, at operational and strategic level there was a widely shared understanding of what integration should mean. Despite concerns about the integration process and the acknowledgement of widespread challenges, there was a general conviction that integration would benefit those using community health and social care services and the professionals involved in delivering those services. Staff were less convinced about the attention paid to the detail of integration and the practicalities, some arising from the fundamental challenges of different funding models and conflicting professional approaches, priorities and accountabilities. These concerns were underpinned by a feeling that community health had been underfunded and held in lower regard historically compared to acute hospital health services; social services were also felt to have been underfunded and now dominated by the much larger community health services. These tensions had specific implications for a range of team-related issues.

Implications: Given the long-term policy focus on integration of community health and social care at a national and regional level these findings raise a number of implications for health and social care professionals, leaders, policy-makers and those accessing services. The united, positive vision of integration and the perceived benefits to those needing health and social care in the community was tempered by a lack of confidence about how the integrated teams would work in practice. Conflict around professional identity and boundaries continues to present challenges although there is wide anticipation this will improve through inter-professional working. Although there was a strategic level view that distributed leadership means teams will be encouraged to make decisions locally, operational staff views did not reflect this. In particular, this sheds light on some of the more intractable tensions which are central to the integration of health and care and opens up a discussion of the balance between top-down and bottom-up change in this context.

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Poster Board Number: 157

Rapid Fire 1
02/07/2019
14:00-15:20

To Each According to Their Need: Evaluating a Fresh Approach to Offering Support to Children with Mental Health Problems

Anna Moore¹, Meghan Davis², Elizabeth Simes², Sophie Howell², Bethan Morris², Rachel James³, Peter Fonagy²

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Background: As many as 12.5% of children and young people (CYP) experience a mental health problem in the UK. However Child and Adolescent Mental Health Services (CAMHS) face significant challenges, including difficulties in access, long waiting times, fragmented service provision and services which don't always include CYP in decisions about their care. This leads to inefficiency, poor outcomes and poor patient experience for CYP and their families. In response, the THRIVE Framework was developed by Anna Freud National Centre for Children and Families and the Tavistock & Portman NHS Foundation Trust in 2015 as an integrated, person-centred, needs-led approach to mental health services for CYP (Wolpert et al, 2017). An accompanying evidence based 'i-THRIVE Approach To Implementation' and 'Implementation Support Team' were developed with additional support from UCL Partners and CLAHRC North West Thames, called 'i-THRIVE' (www.implementingthrive.org). As part of the current National CAMHS Transformation programme, now almost half the CYP in England live in sites using i-THRIVE as the basis of their implementation programme. Despite this, there is no evaluation of i-THRIVE compared to other transformation approaches. This study aims to: (1) create a baseline of current CAMHS functioning; (2) evaluate the effectiveness of THRIVE principles in delivering improvements in CYP MH services; (3) evaluate if the accompanying implementation support programme, i-THRIVE, is effective; (4) identify barriers and facilitators to whole system transformation; and (5) understand the resources required.

Method: This is a case-control study comparing 10 i-THRIVE implementors to 10 controls using alternative transformation approaches. Sites are defined by CCG locality and are located across England. Data is being collected between 1 April 2015 to 31 March 2019.

In accordance with MRC guidelines on the evaluation of complex interventions, data collection is being carried out in the following domains:

1. **Outcomes:** Clinical and service process measures are being collected at patient level annually, including PROMs, PREMS, clinical outcomes and data on access, waiting times and patterns of service use.
2. **Fidelity:** Fidelity to the THRIVE Framework is being measured using the THRIVE Assessment Tool (TAT). Semi-structured interviews based on the domains of the TAT are being undertaken with nine individuals from each locality (three from each of the macro, meso and micro systems), including health, local authority and education, at two timepoints.
3. **Service and pathway structure:** to understand changes to service and pathway structures, an in-depth document review, interviews and workshops are being undertaken to map pathways of care across the system at each site, including health, local authority, education and third sectors. This includes the resources required to deliver pathways.
4. **Context:** The Consolidated Framework for Implementation Research (CFIR) and a panel of experts were used to identify the contextual factors most likely to affect THRIVE implementation. A review of quantitative measures of context is being undertaken to inform data collection for each factor. Qualitative data collection will include a staff survey and semi-structured interviews with three individuals from each site.
5. **Implementation:** The Reach, Effectiveness, Adoption, Implementation and Maintenance (RE-AIM) framework is being used to quantify the effectiveness of implementation within sites. This will include analysis of resources required for implementation.

Results : Data collection is ongoing. Preliminary findings indicate that:

- Pathway mapping illustrates that baseline CYP MH pathways are highly complex with over 150 services contributing to each localities' pathway.
- Sites find it helpful to have access to a structured approach to implementation and accompanying toolkit.
- Staff at THRIVE-implementing sites report feeling more confident providing advice and signposting to young people.
- Implementing THRIVE in one site has led to statistically significant improvements in waiting times including a significant reduction in the number of CYP breaching the 18-week target.

- A key barrier to implementation is a difficult CCG-provider relationship. Key facilitators include favourable policy climate, dedicated implementation resource, increased funding and good historical relationships between agencies in a locality.

Implications: This study will provide:

- An analysis on the efficacy and efficiency of THRIVE and its accompanying implementation approach, i-THRIVE.
- Quantitative analysis of the contextual factors that enable and hinder implementation and their consequences for outcomes achieved.
- Qualitative analysis of the barriers and facilitators of whole system CAMHS transformation.
- The first national baseline of CAMHS services, including analysis of performance, structure and resources. This is timed at the beginning of the national transformation programme and provides a baseline for use in future CAMHS evaluations.

This study provides a practically useful learning opportunity enabling sites to compare their local system to others, to inform local transformation efforts. For dissemination, each site will receive a full report on their transformation process and findings. A conference will allow participants to learn about best practice in implementation and explore the approach used by other implementors.

Prioritising novel and existing national care standards for emergency departments in Wales.

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¹NHS Wales National Collaborative Commissioning Unit, ²Public Health Wales, ³Swansea University/NHS Wales National Collaborative Commissioning Unit, ⁴Swansea University

Background: Current emergency department (ED) performance indicators, such as the 4- and 12hr targets, do not reflect the wider scope of care that the ED provides. Currently, for ED's in Wales, there is limited opportunity to measure the quality and performance of the service due to a lack of information about what happens to patients whilst they are in the ED. There is also a lack of consensus about which outcomes are important as measures of good-quality care. Without standards related to current practice that reflect the patient pathway, there is little opportunity for identifying problems of care delivery, good practice or evaluating service developments. Using a conceptual framework for decision-making (Snowden & Boone, 2007), this project aimed to identify a novel set of national care standards for emergency departments that represent the patient perspective and can be mapped across a patient pathway. The project is part of a wider programme of work to develop and implement a national Quality and Delivery Framework for Emergency Departments in Wales. The work has been supported by the National Programme for Unscheduled Care.

Method: A rapid review of current standards for emergency departments, a national emergency medicine multi-stakeholder consensus event, and eight expert consensus workshops. Participants included staff from emergency departments in Wales, patient and public involvement groups, emergency care clinical academics, commissioners and policymakers.

Results: Although numerous clinical care as well as time standards were identified through the rapid review there was not one area where these were condensed into a set of care standards across a patient pathway. At the national emergency medicine multi-stakeholder consensus event, participants were asked to identify standards which they considered important for patients care in an emergency department. A total of 218 standards across a four to eight step patient pathway were recorded by the event participants. Standards related primarily to timely patient experience and included items such as appropriate greeting upon arrival, appropriate time to triage, and managing discomfort. Sixteen emergency medicine experts participated in eight workshops to further refine and prioritise standards; 20 service-related standards across a five-step patient pathway were identified as important. A further 16 core requirements were identified, relating to governance, patient and staff engagement, equity, quality and safety, workforce development and management of risk.

Implications: Using a conceptual framework for decision-making, a shortlist of national ED care standards that are important to ED staff and management, service users, commissioners, and clinical academics was identified. The standards are not intended to layer additional requirements on ED's, but rather to provide a framework for how the service is organised, managed and delivered on a day-to-day basis. The standards can be used to attribute activity, resources and performance across the patient pathway. Under the National Programme for Unscheduled Care and through wider implementation of the ED Quality and Delivery Framework, ED's in Wales will be expected to understand where they are currently in relation to meeting these standards. This can then be used to assess quality and performance over time, with most calculated using routinely available data.

Reference: Snowden, D.J. & Boone, M.E. (2007) A leader's framework for decision making. Harvard Business Review. 85 (11). pg. 68-76.

Poster Board Number: 159

Rapid Fire 3
03/07/2019
10:00-11:15

The development of a framework for the collaborative commissioning of health and social care.

Kayleigh Nelson¹, Julian Baker², Jaynie Rance¹, Ceri Phillips¹
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Background: Policy makers and commissioners across settings broadly agree on the aims that public services in health and social care should pursue; improving the health and wellbeing of service users, providing quality assurance and improvement, and demonstrating value for money. However, this clear-cut consensus is often not observable at a service level. In response, NHS Wales have developed a template for collaborative commissioning. This approach, known as CAREMORE®, involves the systematic consideration of a series of different aspects of service provision to ensure that quality is maintained whilst reducing costs. To date, CAREMORE® has been implemented in seven settings across health and social care. The aim of this evaluation was to evaluate the utility of the framework to date, and assess the extent to which the findings can be used to inform wider implementation.

Methods: Multi-method approach using qualitative interviews with key stakeholders, documentary analysis and non-participant observation. A thematic analysis was performed on data.

Findings: CAREMORE® was assessed as having clear alignment with national and international policy. Moving away from previous commissioning methods permitted the development of standardised ways of working, improved processes to deliver high-quality and consistent care, and more efficient use of resources. Stakeholders were able to create a shared vision for their service, setting national care standards, developing clear governance structures, and promoting consistency in information sharing and performance monitoring - all of which were previously lacking in Wales.

Implications: With health systems under significant scrutiny, this research presents an innovative method for collaborative commissioning and reveals activities that appear to contribute to more effective commissioning processes.

Poster Board Number: 160

Rapid Fire 2
02/07/2019
15:45-17:00

Opportunities for linking research to policy: lessons learned from implementation research in sexual and reproductive health within the ANSER network

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Background: The uptake of findings from sexual and reproductive health and rights research into policy-making remains a complex and non-linear process. Different models of research utilisation and guidelines to maximise this in policy-making exist, however, challenges still remain for researchers to improve uptake of their research findings and for policy-makers to use research evidence in their work.

Methods: A participatory workshop with researchers was organised in November 2017 by the Academic Network for Sexual and Reproductive Health and Rights Policy (ANSER) to address this gap. ANSER is a consortium of experienced researchers, some of whom have policy-making experience, working on sexual and reproductive health and rights issues across 16 countries and 5 continents. The experiential learning cycle was used to guide the workshop discussions based on case studies and to encourage participants to focus on key lessons learned. Workshop findings were thematically analysed using specific stages from Hanney et al.'s (Health Res Policy Syst 1:2, 2003) framework on the place of policy-making in the stages of assessment of research utilisation and outcomes.

Results: The workshop identified key strategies for translating research into policy, including joint agenda-setting between researchers and policy-makers, as well as building trust and partnerships with different stakeholders. These were linked to stages within Hanney et al.'s framework as opportunities for engaging with policy-makers to ensure uptake of research findings.

Conclusion: The engagement of stakeholders during the research development and implementation phases, especially at strategic moments, has a positive impact on uptake of research findings. The strategies and stages described in this paper can be applied to improve utilisation of research findings into policy development and implementation globally.

Poster Board Number: 161

Rapid Fire 3
03/07/2019
10:00-11:15

Developing a measure to assess the quality of care transitions for older people.

Eirini Oikonomou¹, Eleanor Chatburn², Helen Higham¹, Jenni Murray³, Rebecca Lawton⁴, Charles Vincent¹

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Background: Care transition is defined as a series of pre- and post-hospital discharge activities aiming to ensure the coordination and continuity of care for patients who transfer across healthcare settings [1]. The transition of older patients from acute inpatient care to their own home is a time when patients are at high risk. In the United Kingdom the transition of a patient from hospital to home is a variable and complex process and care can be fragmented; patients may be uncertain about who is coordinating their care needs [2, 3, 4], and may not receive instructions for follow-up or clear medication directions [5]. Patients and their caregivers often do not feel prepared to manage their own care after discharge [6]. No measure currently exists to assess the experience, quality and safety of care transitions relevant to UK population. We aim to describe the development and pilot testing of the Partners at Care Transitions Measure (PACT-M) for evaluation of the quality and safety of care transitions from hospital to home in older patients.

Methods: We used an established measure development procedure of four stages, as described by DeVellis [7]. We started by (i) developing a conceptual model; defining the time period and type of transition we wanted to explore. We then defined the core components of transition and found 8 critical aspects of the experience of the transition process. We identified these through a literature review on existing transition measures, transition interventions, and emerging findings from qualitative studies of patient experience. Second, we carried out a thorough process of (ii) item generation incorporating feedback from patients and their families, followed by a (iii) Delphi process. Finally, we carried out (iv) pilot testing with 15 patients. The final measure (PACT-M) administered within a week of discharge consists of: (i) eight items rated on 5-point Likert scales, reflecting the eight transition components of our conceptual model (ii) six questions around potential issues with participants' healthcare and (iii) one open text question around additional information patients wish to disclose.

Results: Pilot testing of the PACT-M suggests that the components identified cover the issues of most importance to patients. Although the majority of participants were satisfied with the preparation for discharge, 3 participants reported not feeling able to ask questions about their care in hospital and expressed concerns about being ready to manage medication at home. Six out of fifteen participants reported having some problems managing care since their return home. Face validity testing showed that the measure is acceptable to older patients; participants found the measure "easy to respond" to and "straightforward" with no difficulties in understanding individual items. Phone calls were shorter for people who had an uncomplicated transition and longer for those with more complex problems. Some participants requested the response scale options to be repeated and the difference between 'agree' and 'strongly agree' was often unclear.

Implications: The pilot testing of the PACT-M supports the usability and face validity of the PACT-M for measuring patient perceptions of factors central to safety of transitional care namely; patient involvement, information sharing and medication management. The measure components could be of value for identifying problems during the post discharge period. Such information could be useful to those involved in planning discharge care and for hospitals who want to improve the safety and continuity of care. Further work is needed to explore the psychometric characteristics of the tool. We are currently testing the measure in a large measure validation study which we will discuss in a future report.

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Rapid Fire 3
03/07/2019
10:00-11:15

NEST@home: The Neonatal Early Supported Transfer home project

Karen Whittaker¹, Philippa Olive¹, Richa Gupta², Louise Richards², Philippa Olive and Louise Richards¹

¹University of Central Lancashire, ²Lancashire Teaching Hospitals NHS Trust

Background: Global statistics indicate that rates of preterm birth are at 10% and rising, and this has important implications for ongoing child health, health service resources and parenting care and practices (Lee et al 2018). Premature babies often require lengthier in-patient hospital care than those born at term. If the baby needs admission to the Neonatal unit, separation of mother and infant can negatively impact on breast feeding (Gill and Boyle, 2017). To address these needs transitional care arrangements are recommended to enable mothers to be the primary carers of their babies, whilst supported by professionals. However, transitional arrangements across the UK are poorly defined and inconsistent (Boyle et al 2016). The NEST@home initiative is a project designed to address health inequalities (owed to lengthier hospital stays, mother-baby separation and challenge to establishing breast feeding) faced by late preterm babies and their parents. The project is supported by the Collaboration for Leadership in Applied Health Care Research North West Coast (CLAHRC-NWC) partner priority programme. The aim was to evaluate and learn from existing local discharge practice for late-preterm babies to inform the development of a transitional care pathway known as NEST@home. The evaluation considered the existing service structures, processes and outcomes and involved lay and professional stakeholders in the examination of parent experiences, clinical expectations and desirable outcomes for babies and families.

Methods: Data were collected using multi-methods and included: a parent questionnaire survey (n=24), a parent discussion group (n=6) and two transdisciplinary consultation events, each involving up to 25 stakeholders representing perspectives from nursing, midwifery, paediatric medicine, dietetics, health visiting, commissioning, social care and the regional neonatal professional network. Participatory methods were used within the consultation events and included a health needs prioritisation exercise and a pathway resource exercise. Questionnaire data were analysed using simple descriptive statistics whilst qualitative data were analysed for emerging themes. The participatory exercises worked towards consensus building and creation of a visual display of the proposed pathway.

Results: Questionnaire results indicate that parents would like a timely and well-prepared discharge for their baby and most (91%, n=21) would be happy to take their babies home earlier with support from a home visiting neonatal nursing team. The qualitative data of parents' existing experiences of having a baby in the neonatal unit, evidenced their feelings of *guilt, role juggling, stagnating and normalising*. Guilt was particularly associated with leaving the baby in hospital and meeting demands of hospital and home-life meant they had to juggle roles. Demands included the achievement of satisfactory infant feeding to achieve discharge. Feeling stuck or stagnating was also a feature of existing experiences as parents expressed dismay when projected discharge dates were set either as 'expected dates of delivery' or achievement of breast feeding. Parents' overriding aspiration was to get their baby home and wanted to learn how to manage tube feeding if this meant earlier discharge. The project can conclude that parents are supportive of the development of an early supported transfer home pathway and identified it as a positive step to managing the challenge of guilt, role juggling and feeling stuck. Establishing an appropriately skilled neonatal nurse outreach service was identified by all stakeholders as a key structural requirement for the pathway to operate to achieve the outcome of reduced mother-baby separation.

Implications: Examination of the local evaluation findings using the consolidated framework for Implementation research, sheds light on the organisational strengths and challenges, stakeholder readiness and resource requirements for delivering a new transitional care pathway for later preterm babies. There are implications for the care provider with regard to:

- supporting realistic parental expectations for taking their baby home,
- making investments in support arrangements to help parents learn key skills,
- providing training and investment for the neonatal outreach team and
- supporting an ongoing culture for networking necessary for appropriate engagement of key stakeholders whose involvement will impact on pathway adherence.

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Damschroder, L. J., Aron, D. C., Keith, R. E., Kirsh, S. R., Alexander, J. A., & Lowery, J. C. (2009). Fostering implementation of health services research findings into practice: A consolidated framework for advancing implementation science. *Implement Sci*, 4 doi:10.1186/1748-5908-4-50

Gill, J. V., & Boyle, E. M. (2017). Outcomes of infants born near term. *Arch Dis Child*, 102(2), 194. doi:10.1136/archdischild-2015-309584

Lee, A. C. C., Blencowe, H., & Lawn, J. E. (2019). Small babies, big numbers: Global estimates of preterm birth. *The Lancet Global Health*, 7(1), e2-e3. doi:10.1016/S2214-109X(18)30484-4

Burns Patient Segmentation via Data Analytics

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Background: The use of payments by results by the NHS through the National Tariff Payment System resulted in the creation of the concept of a patient casemix that describes the activities of Trusts and thus underpins the reimbursement systems. The National Casemix Office (NCO) ascribes several meanings to the term casemix, from the composition of the population of patients seen by a consultant or hospital, to the way patient care and treatments are classified into groups (NHS Digital, 2018). For reimbursement and performance comparison, the latter is adopted. The NCO are commissioned to develop and maintain a set of casemix groupings, called Healthcare Resource Groups (HRG). HRGs describe groups of patients that are similar in terms of clinical presentation and length of stay (LOS), and can therefore be assumed to be associated with similar resource consumption.

HRG groups are generated using patient-level data that are nationally mandated (primarily age, complications and comorbidities, ICD diagnosis and OPCS procedure) and submitted by relevant service providers such as Admitted-Patient Care, Non-Admitted Consultations, Emergency Medicine, Adult Critical Care, Paediatric Critical Care, Neonatal Critical Care or National Renal Dataset (HSCIC, 2014). The groups are generated with expert advice from clinicians, and these classifications are turned into if-else rules aimed at capturing the severity of cases.

Any reimbursement methodology that is based on generalizations across patient groups will have some weaknesses and HRGs are no exception. However, as the design of current models did not explicitly consider patient-level cost data, it is unclear to what extent they cover the most significant relationships and interactions in the data. This research aims to shed some light on the accuracy of HRG classification, in the context of burn units. Burn units are selected as an example of a specialized service, which deals with rare and complex conditions and by necessity operates at high expenditure: they are to be open regardless of number of patients admitted with a minimum number of staffs and use specialist equipment and interventions. We expect that the complex characteristics of this setting makes burn units particularly sensitive to the impact of weaknesses in the current HRG classification. To capture the complexity of care provided by such services, we hypothesize that expert input as well as in-depth analysis of available data is needed to develop an evidence-based model that accurately classifies patients into homogeneous groups with respect to costs and patient characteristics. This was previously not possible due to a lack of availability of patient-level cost data, and the resulting primary dependence on expert advice.

Method: This research uses comprehensive data which is nationally mandated for all burn units and contains a wide range of patient information. This is summarised in table below.

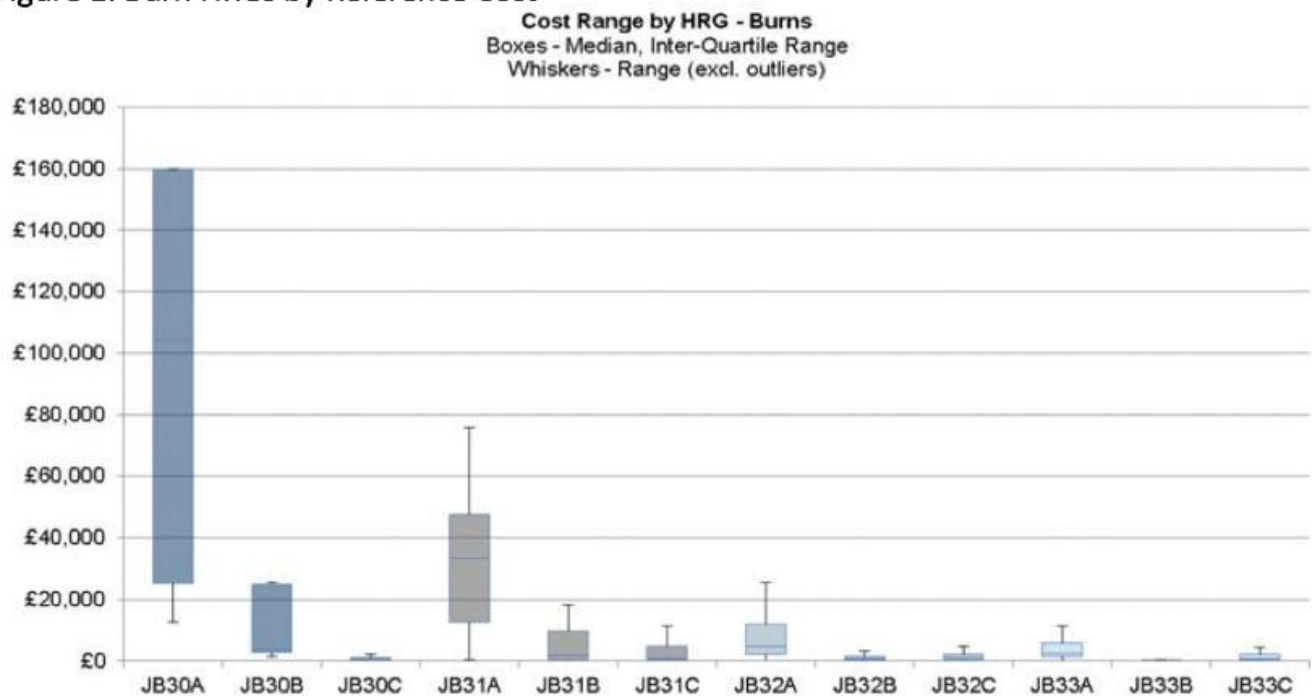
Name	The International Burn Injury Database (iBID)
Data from	2003
Number of contributing Burn Units	23
Features	Demographic data (age, gender....) Burn characteristics (total burn surface area, burn depth.....) Pre-existing conditions (ADHD, Self-harm, clotting disorder,...) Others (index of multiple deprivation, patient level cost.....)
Number of cases	Over 200,000 and counting

We investigate if the existing patient groups have cases that are dissimilar. Our aim is to use machine learning techniques to identify alternative groupings that better reflect patient similarity in terms of both injury/intervention profile and resource usage. The methods currently employed include a combination of well known clustering algorithms such as k-means and hierarchical clustering, supervised learning and multi-view clustering approaches. The latter method simultaneously optimise separate aspects of cluster quality (Bickel and Scheffer, 2004), namely the homogeneity of clusters with respect to both cost and patient characteristics.

The following analysis focuses on survival cases, to remove any non-linearities associated with non-survival. Feature selection was informed by the significance of features as a predictor of patient-level cost in a linear regression model.

Results: Our exploratory analysis demonstrates that there is need for better classification system for burn cases (see Figure 1 and 2a). Comparing HRG4+ with 2014/15 Reference Costs, it can be seen from Figure 1 that groups JB30A, JB30B and JB31A have a very wide range in cost - this indicates the limitations of the current grouping, as an ideal classification would provide groups associated with similar costs as well as patient characteristics.

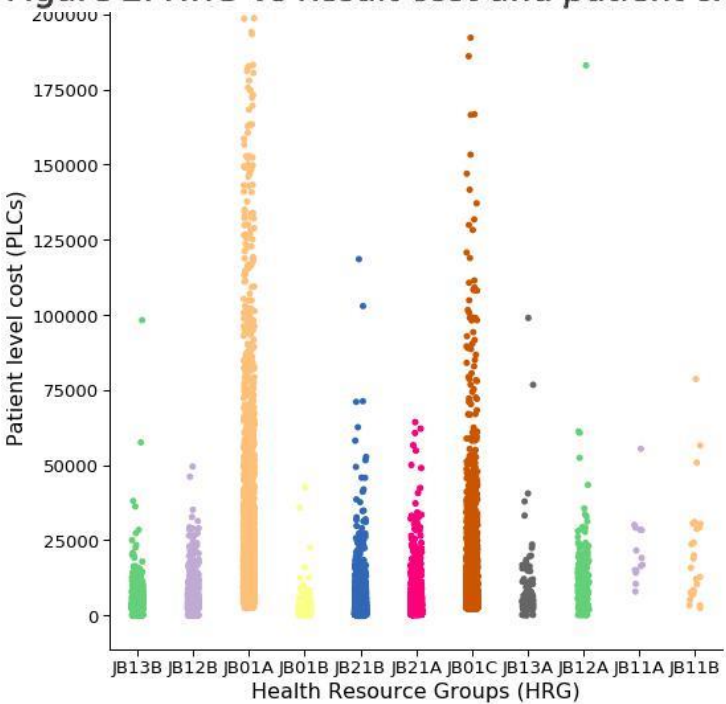
Figure 1: Burn HRGs by Reference Cost



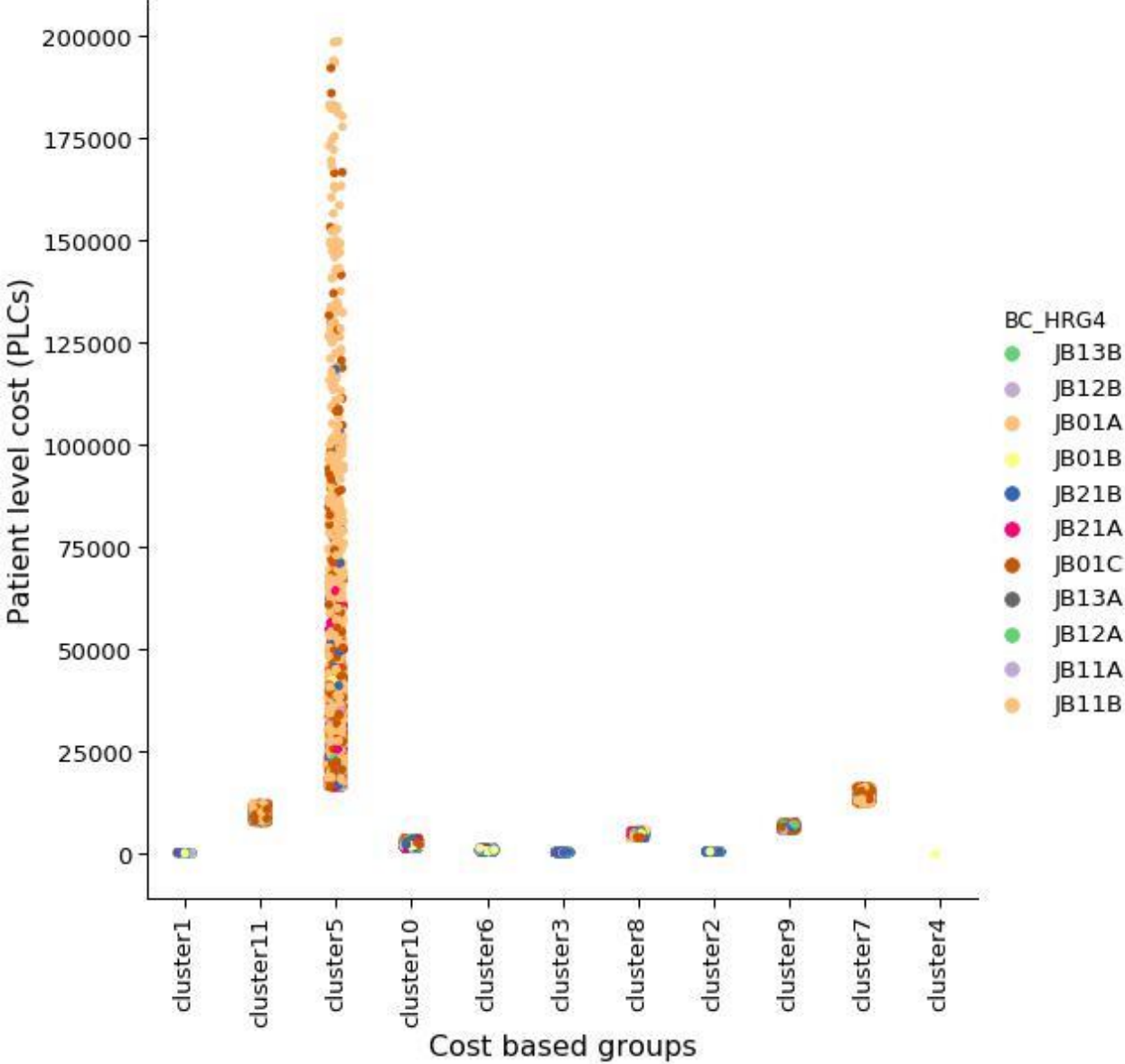
Source: HSCIC (2016) 'HRG4 + 2014 / 15 Reference Costs: Appraisal of Subchapter JB Burns Procedures and Disorders' (April, 2016).

Figure 2b illustrates the ideal grouping of patients from a cost perspective, i.e. a minimum variance grouping by cost - the colour coding further emphasises the point that there is only a weak correlation between current HRGs and a direct cost segmentation.

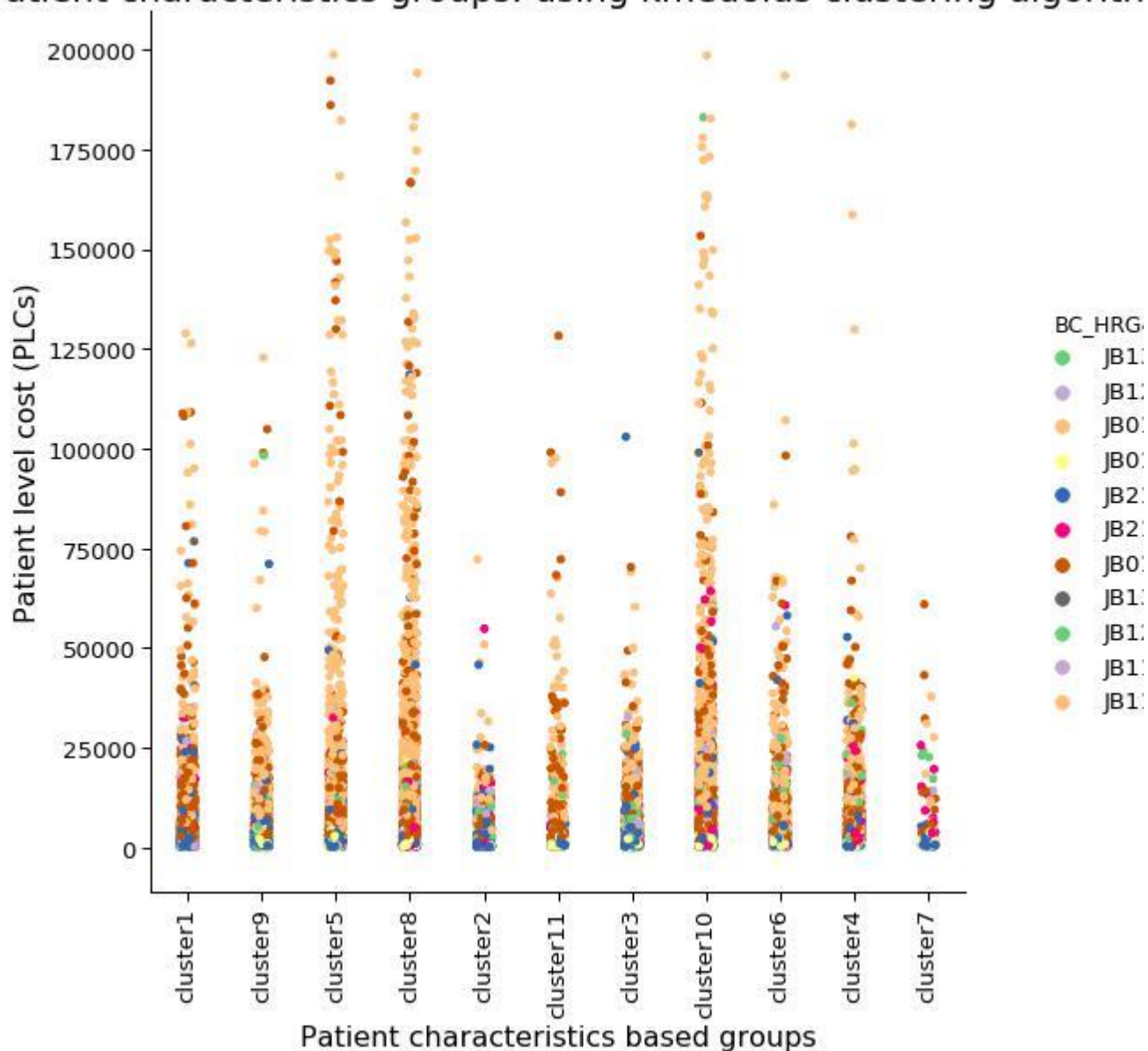
Figure 2: HRG Vs Result cost and patient characteristics based models



B: Cost based groups: using kmedoids clustering algorithm

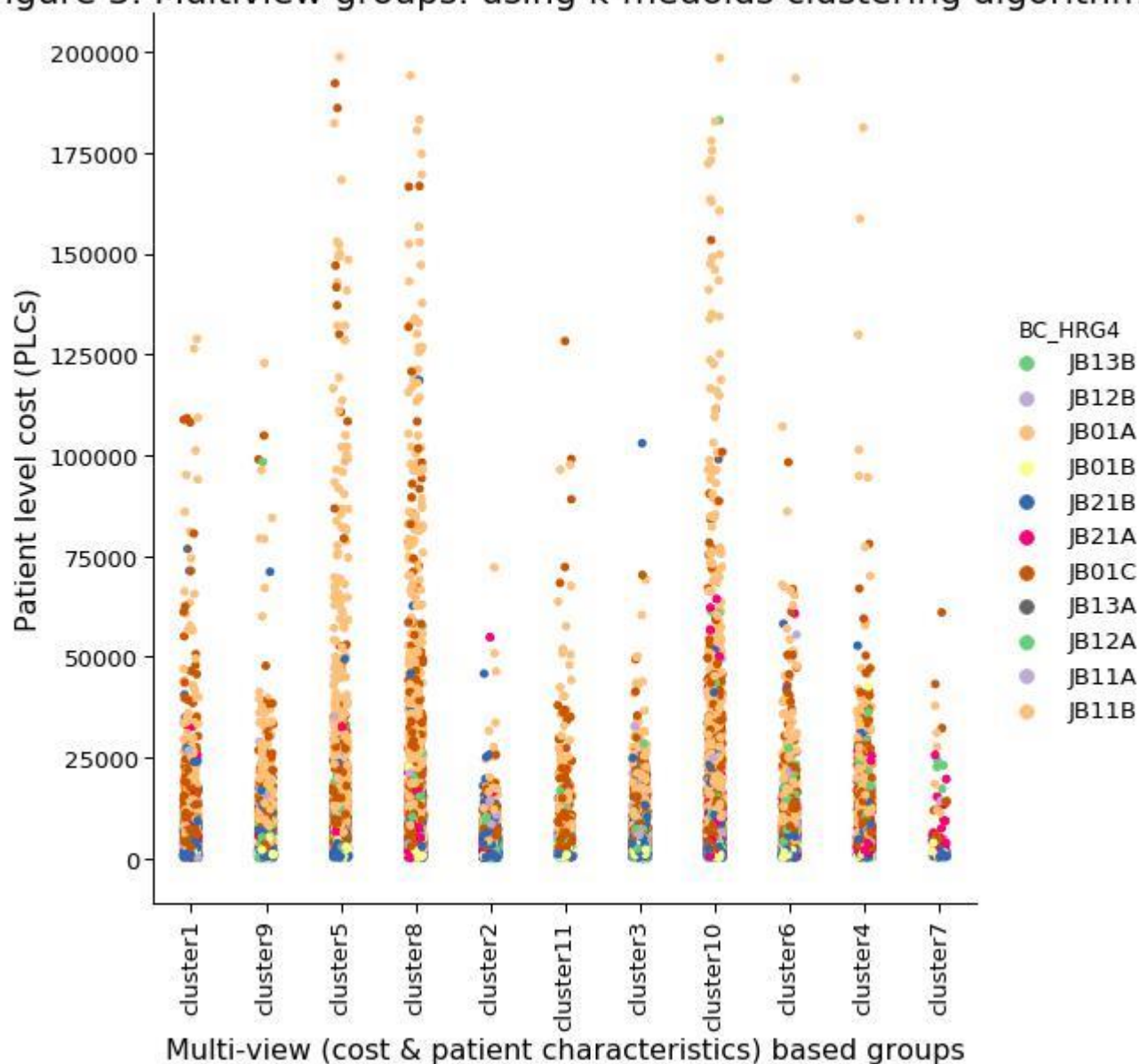


C: Patient characteristics groups: using kmedoids clustering algorithm



The HRGs however contain patients that are clinically similar, and this is not guaranteed by a cost-segmentation alone. To achieve a balance between both aspects of grouping quality, a multi-view approach needs to be adopted. A preliminary result, based on the assumption of equal importance of both aspects, is shown in Figure 3.

Figure 3: Multiview groups: using k-medoids clustering algorithm



Implications: Our results suggest that there is a limited correlation between current HRGs and actual, patient-level costs. We argue that improvements to this classification model can be made when expert-designed models are refined through the use of detailed patient-level cost data. A better classification of patients in terms of cost implies that reimbursement received by Trusts would more accurately reflect the actual cost of care.

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Poster Board Number: 164

Rapid Fire 2
02/07/2019
15:45-17:00

Organising Support for Carers of Stroke Survivors (OSCARSS): a national Cluster Randomised Controlled Trial (cRCT) exploring innovative carer support.

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¹University of Manchester, ²University of Cambridge

Background: Stroke is a leading cause of chronic disability, with partners and family members often taking on the role of informal *caregiver*. These informal carers provide invaluable support for stroke survivors, often at great personal cost. The Carer Support Needs Assessment Tool (CSNAT) is an approach to carer support that was developed in the context of palliative care and includes a staff training package and implementation toolkit (Ewing and Grande, 2013). Research in palliative settings suggests that the CSNAT reduced carer strain and was valued by carers and staff (Grande et al, 2015). Through multi-disciplinary collaboration, including Patient and Carer Public Involvement (PCPI), we adapted the CSNAT intervention, including staff training and implementation package, to make it suitable for stroke. The resultant CSNAT-Stroke intervention provides a structured approach to offering an evidence-based needs assessment for carers, which is distinct from the stroke survivor. The aim of the OSCARSS study is to investigate the clinical- and cost-effectiveness of CSNAT-Stroke relative to current practice. The primary research question is: does the intervention reduce caregiver strain, when compared to control? Secondary research questions address whether the intervention:

- reduces perceived caregiver distress;
- improves: carer perceptions of their health and well-being; positive caregiving appraisals; and satisfaction with services;
- leads to less economic burden for carers and society.

Methods: OSCARSS is a longitudinal, pragmatic multi-site cluster randomised controlled trial (cRCT) with health economic analysis and embedded mixed-methods process evaluation. Clusters are Stroke Association services delivering stroke specialist support throughout the UK. Clusters are randomised to either CSNAT-Stroke approach and trained (intervention) or usual care (control). Adult carers who receive at least one face-to-face support contact from cluster staff are invited to participate in OSCARSS. Carer participants provide demographic data at study entry and outcome data at three and six months, through self-reported postal questionnaires. Outcomes are: caregiver strain and burden, mood, experience of caring, satisfaction with services, and economic burden (care provision and service utilisation). The primary outcome is caregiver strain at the three month data collection point. Clusters provide additional study-specific data, including the amount of support contacts delivered by staff. These data are used to derive service delivery costs for each consented carer, to be included in health economics analysis. The process evaluation collects quantitative and qualitative data from staff and purposively-sampled carers to explore the processes of delivering - and experiences receiving - support, respectively. The process evaluation additionally explores intervention sustainability and scalability. An abstract describing the OSCARSS process evaluation has been separately submitted by Sarah Darley to HSR UK and is not described here.

Results: 35 clusters across England and Ireland were randomised and participated (18 intervention; 17 control). 414 carers were recruited with a 66% consent rate; exceeding our target of 400. Recruitment to the cRCT closed in July 2018. There is good balance between intervention and control arms of the trial in terms of the demographic and clinical characteristics of recruited carers. Our sample is predominantly female carers (77% overall) and White British (89% overall), with an average age around 62 years old. These data are similar to other stroke carer studies (e.g. Forster et al, 2013) and representative of the wider caseload of the Stroke Association across the UK. Attrition was lower than expected, with 349 carers returning primary outcomes data; exceeding our target of 320. 266 carers have provided follow up outcome data at six months. Outcomes data collection was completed in December 2018 and the data are currently being cleaned for analysis to begin in February 2019.

Implications: By HSR UK conference, data cleaning and analysis will be complete and the findings of this important national trial can be reported.

OSCARSS will contribute to knowledge of the unmet needs of informal stroke caregivers and inform future stroke service development.

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Poster Display
00:00-00:00

Patient and staff experiences of follow-on peer support groups after pain management programmes.

Heather Brant¹, Michelle Farr¹, Rita Patel¹, Penny Whiting¹, Myles Jay Linton¹, Nick Ambler², Sareeta Vyas³, Hannah Wedge², Sue Watkins², Jeremy Horwood¹

¹NIHR CLAHRC West and Population Health Sciences, University of Bristol, ²North Bristol NHS Trust, ³University of Sheffield and Sheffield Health & Social Care NHS Trust.

Background: Chronic pain is a major cause of impairment and suffering in the UK - 40% of people experience chronic pain and 10% of the population experience moderately or severely debilitating chronic pain. This can lead to reduced mobility, loss of independence, a strain on relationships and social interactions, and low mood including suicidal ideation. In addition, there are financial implications through care costs and inability to work. Clinical treatments include analgesics or physiotherapy, but for 40% of patients chronic pain is not adequately managed. Pain Management Programmes (PMPs), provided across the NHS, a form of group-based cognitive behavioural therapy (CBT) treatments, help patients understand and better manage chronic pain. PMPs can improve mobility, activity levels, independence, mood, sleep, and reduce analgesia dependence. However, benefits gained during PMPs diminish after 6 to 12 months. In 2012 a group of PMP patients at North Bristol NHS Trust (NBT) challenged pain professionals to help them find a way of extending the benefits gained. The issue was how to provide this within existing limited resources. Together they co-designed a strategy to improve long term resilience through peer-support by continuing to meet after the PMP had finished whilst still adhering to the core principles of the PMP treatment, known locally as 'follow-on groups'. A protocolised approach is now embedded into NBTs PMPs whereby trained patient tutor volunteers (PTVs) introduce and facilitate the development of a patient-led follow-on group towards the end of each PMP.

Method: The aim of this study was to investigate the implementation and impact of the follow-on groups in Bristol, and to explore how the groups were developed and run. An ethnographic study was conducted comprising; the identification of follow-on groups that had formed, observations of 6 of these follow-on groups and interviews with; 7 clinical staff who deliver the PMP, 10 PTVs and 17 patients who attended a follow-on group and 11 who did not. Thematic analysis was used to analyse the data with the support of NVivo 11.

Results: As this intervention was patient led peer-support no formal records were kept of the follow-on groups that formed. The groups were being facilitated by the PTVs who are encouraged to withdraw after two or three meetings. The meetings were held in a variety of venues, such as local halls, cafes or pubs, at varying intervals and were often organised by one person identified as the coordinator. Additionally, some patients were in regular contact digitally with those they had met during the PMP (telephone or social media). Furthermore, some of follow-on groups who remained in contact comprised only two or three members. For those patients that continued to stay in contact with people from their PMP they reported that one of the main benefits was 'Being with people who understand' and 'not having to explain themselves'. They described receiving emotional, social and practical support from the other members of the group and could rely on the other members for additional support during pain flare-ups and crises. Meeting also acted as a reminder and reinforcement of strategies learned in the PMP but could also be a reason to get up and go out to engage in a social activity, something that was challenging to many of the group. Because the groups were patient led this meant that they could arrange meetings to accommodate the requirements of the group and one of the over-arching themes that emerged was that of fun and enjoyment which helped improve mood. These groups were not without challenges. The organisation of the meetings was often the responsibility of one person that could be a burden, particularly to someone who is unwell. Finding a venue and a time to meet that suited every-one was also a challenge and often this meant making uncomfortable decisions about who to include and who not to. There was also the risk of exacerbating negativity within the group and several patients told us that they had not joined or continued meeting because of this. Conversations with the clinical staff revealed expectations of how follow-on groups could provide a benefit but there was an acknowledgement that they lacked evidence to support this.

Implications: A peer-support group following a PMP can provide emotional, practical and social benefits to those who attend. These benefits can result in maintained benefits gained from the PMP and can reduce financial care costs to the NHS. However, it must be acknowledged that this is not without its challenges, including a risk of unintended negative outcomes. The results from this study can be used to guide future follow-on groups for other group-based psychological interventions for the self-management programmes of long-term conditions such as with COPD, diabetes, chronic fatigue, coronary heart disease, and for recovery and self-care after cancer treatment. Further research is required to explore the benefits in other settings.

Drug use in street sex workers (DUSK) study: a feasibility and acceptability study of a complex intervention to reduce illicit drug use in drug-dependent female street sex workers

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Background: The majority of female street-based sex workers (SSWs) in the UK use drugs such as heroin and/or crack cocaine. For most of these women heroin and crack use entrenches involvement in sex work and contributes to the morbidity and social instability typically seen in this group. Drug-dependent SSWs find mainstream drug services challenging and typically do not benefit from these services as much as other drug users, due to issues such as stigma associated with street sex work. For drug using SSWs, the need to finance their drug use, and often that of a partner, reinforces their involvement in sex work, and drug intoxication impairs their ability to protect themselves. Problem drug use amongst sex workers is a complex issue often arising against a background of multiple traumas and many drug-using SSWs are affected by post-traumatic stress disorder (PTSD). Individual trauma-focused therapy with drug treatment may provide the best outcomes for PTSD and reduce longer term levels of drug use, however this has not been demonstrated in SSWs. We developed a novel complex intervention involving NHS and third sector services working together to improve drug treatment outcomes for SSWs by also addressing trauma. The intervention involved: female SSW drug treatment groups in a female SSW charity setting provided by female-only staff, PTSD treatment with eye movement desensitisation and reprocessing (EMDR) therapy. The study aimed to evaluate the feasibility and acceptability of the intervention and describe the feasibility of three services (NHS, drug and SSW charities) working closely to provide a complex intervention for drug-dependent female SSWs.

Methods: A single site mixed methods feasibility study which included (Figure 1):

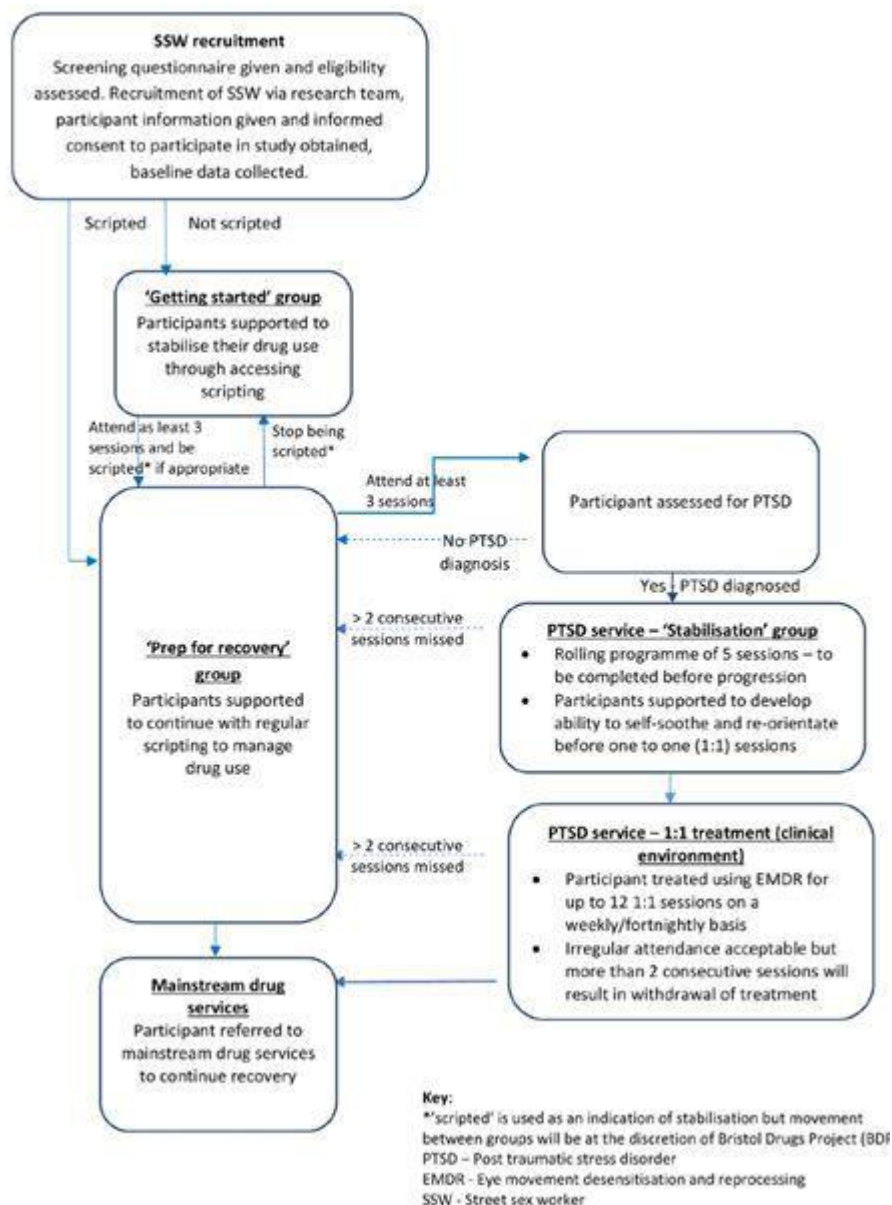
1. A SSW-only drug treatment group service provided by a drug treatment service, run in a female SSW-only environment (a charity supporting women selling sex on the street) instead of usual drug service premises. ('Getting started' and 'Preparation for recovery' drug treatment groups).

In parallel:

1. SSWs were screened for PTSD by a female clinical psychologist from a local specialist NHS mental health service. If PTSD symptoms were present, participants were offered a place in a 'Stabilisation' group, to equip them with the necessary skills to prepare for one-to-one EMDR treatment.

One-to-one EMDR treatment with a female clinical psychologist. The intervention's ultimate aim was to support entry into mainstream drug services to continue recovery. We aimed to recruit up to 30 participants to fully evaluate the intervention processes, with 10 women expected to complete the intervention. To evaluate the recruitment and retention of participants to the intervention, researcher-administered questionnaires were used to screen for study eligibility, and once recruited, to collect baseline data. Attendance was logged by the drug treatment group facilitators and clinical psychologist delivering PTSD treatment. Costs were obtained for all aspects of the intervention. Descriptive statistics were used to summarise the data using STATA. To examine the experience and acceptability of the intervention interviews were conducted with 11 service providers and 7 participants. Thematic analysis was used to analyse the data with support of QSR NVivo 11. Participants were eligible if they were female, aged 18 years or older, sold sex on the street in the UK at least once a week in the last calendar month and had used heroin and/or crack cocaine at least once a week in the last calendar month.

Figure 1 Participant pathways



Results: Of the 125 contacts with women, 41 women accepted screening of which 11 were eligible and gave consent to join the study. These 11 women were invited to drug treatment groups. Of these 11, four women were suitable to take part in PTSD screening. All were found to have symptoms of PTSD. All four attended stabilisation groups with the clinical psychologist in preparation for the one-to-one EMDR treatment. Two women had EMDR treatment. Service providers thought the intervention was worthwhile, well-designed and they valued working in collaboration with the other services. Participants viewed the recruitment approach as acceptable and valued the intervention. Drug use, sex work and mental health issues presented barriers to attendance. Selecting participants currently using drugs and street sex working meant our intervention targeted those with the most complex needs. This posed a challenge to delivering the intervention, and additional measures had to be introduced.

Implications: Despite slightly lower rates of recruitment than anticipated, we demonstrated that some women were able to ultimately access EMDR therapy. The intervention was aimed at those women with most need, however these were women with the most complex situations making it a challenge for them to engage with this intervention. In response, the eligibility criteria may need broadening for future studies to those with more stability. The three agencies working together was not only feasible but highly beneficial to the support the women received.

Participatory modelling with stakeholders to inform health and social service design and implementation: A systematic scoping review of descriptions and empirical research

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Background: Action-oriented research commonly proposes that understanding complex problems and collaborating to achieve change in policy and practice requires the active involvement of research users as active partners. Participatory approaches include mode 2 research (Nowotny et al. 2001), engaged scholarship (Van de Ven & Johnson 2006), integrated knowledge translation (Gagliardi et al. 2016), and co-production (Beckett et al. 2018). Modelling (or 'operational research') is widely used in healthcare, but participatory modelling's role in implementing evidence-based practice is under-explored. Participatory modelling engages people (e.g. service users, health and social care professionals, managers) in the diagnostic (problem-framing and structuring), prognostic (model-building and exploration of scenarios), and motivational (organization of collective action) stages of modelling (Black 2013). Whilst model development methods are well-documented, the social processes which enable participatory modelling to be conducted are not well-understood. There is a risk that modellers never develop these participatory facilitation skills, or learn them in a haphazard way 'on the job' rather than by design.

Methods: Systematic scoping review, reported in accordance with PRISMA Extension for Scoping Reviews (PRISMA-ScR) reporting standards (Tricco et al. 2018), to address the following research questions:

- 1.What descriptions exist of participatory modelling processes?
- 2.What empirical research (evaluation) of participatory modelling has been conducted?

A structured, free text search strategy was run in major databases spanning the area of health services and operations research. Backwards and forwards citation chaining of the final included articles. Inclusion criteria: descriptive or explanatory studies reporting modelling (e.g. System Dynamics, Discrete Event Simulation, Agent Based Modelling) where users were involved. 25% of screening decisions were checked by a second reviewer. Types of participation ('structured', 'involving') were classified using the de Gooyert et al. (2017) criteria. Modelling and study characteristics (including approach, field of inquiry, research methods, data collection and analysis, depth and robustness of evaluation) were extracted and narratively and graphically summarised.

Results: Of 3172 potentially-relevant studies, 85 sources in healthcare, social care, public health, and community development were included (7 explanatory, 69 descriptive, 8 theoretical, 1 review). Studies were predominantly conducted in North America, Western Europe, and Australasia. A minority of included sources reported using a fully-developed participatory modelling approach. The majority of included sources described (theoretically or practically) rather than evaluated participatory modelling processes. Of the seven studies that evaluated participatory modelling processes, only three were conducted by researchers outside of a modelling team, and the majority were small-scale and used reflection or perceptions on (rather than measurements of) changes in understanding, behaviour, implementation or health outcome. Whilst modelling activities were mostly described in detail, and a number of studies acknowledged the important role played by group management processes in participatory modelling, there was little empirical exploration or evaluation of these processes.

Implications : Our review provides a map of knowledge that differentiates between participatory modelling (which problematizes service issues and manages conflict between diverse stakeholders) and more conventional forms of modelling (where the perceptions and goals of a limited group of stakeholders are used to 'optimise' between different scenarios). However, the current state of knowledge about participatory modelling is that:

1. Understanding of participatory modelling processes is not organised into coherent theory that can be tested.
2. It is unclear when resource-intensive participatory modelling is warranted, and when a more conventional optimising or balancing approach is preferable
3. It is unclear what structures and processes are needed to support modellers (and facilitators) to manage diverse groups of people in participatory modelling activities

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Qualitative Research exploring education and training in relation to older people's health and social care

Sarah-Ann Burger, Harriet Hay, Alan Poots, Anna Perris, Carolina Casanas i Comabella
Picker

Background: The rapid transformation of the UK's demographic mix and the resulting increasing demand on health services for the older populations means that the health and social care system has to increasingly support vulnerable people with complex needs. Consequently, the models of care and the skill sets necessary to care for older patients must adapt to meet these needs. Several major reports and studies have noted the sluggishness of policy and practice to respond to the growing demand, including the need for education and training to correspond with the needs of health and social care staff in order to prepare them for providing care to the population they serve. The extent to which knowledge, skill mix and attitudes of those who work in health and social care, and the culture within which staff operate are adapting speedily enough to this transformation, is unclear. To gain a deeper understanding of the extent to which health and social care staff are equipped to provide high quality care to older people, research into the extent to which the health and social care workforce is equipped to manage the demographic transition was conducted to identify potential deficiencies in education or training, and the impact on the care of older people.

Methods: The methodology involved three components: a knowledge audit involving desk research and telephone interviews with eight stakeholders; qualitative telephone depth interviews with 41 health and social care staff; and a systematic review. A patient and public involvement (PPI) advisory group was consulted throughout the project.

Results: Findings demonstrated that education and training can impact outcomes in care of older people, however existing research is scarce. Although there are some positive signs of change, there is evidence of variation and inconsistency in education and training across geographies and professions. *"...every home you go into is different, the way it's run is different, the leadership is different, so it's very hard to come out with a generalised statement of within the care home sector this is what training or learning and development looks like because it's different everywhere."* (Stakeholder) *"I think training should be a big issue, it's paramount to delivering care for the elderly... especially because our population's growing so much, the elderly, they're living longer and it's not just basic care that you have to give now."* (Senior geriatric nurse) Multidisciplinary and interdisciplinary learning and working was viewed as an incredibly important tool for gaining knowledge and skills required for providing high quality care to older people. This would enable staff to gain a better understanding of the services available: many staff felt that silo-working exists between different sectors which, coupled with the lack of knowledge of other services, resulted in challenges in delivering quality care. Thus, teaching staff the skills to work in partnership and utilise the expertise of colleagues is crucial: *"I mean that would be a really good sort of opportunity for us to get together as different professions, all part of a multidisciplinary team if we were able to have a session like that I think that would be really, really useful. It would also make everyone aware of what kind of services we'd be able to offer patients, because often when you're just seeing patients you don't really know what's out there and how we can be offering the best services to patients."* (Senior GP, #5)

Implications: Older people comprise a significant and increasing proportion of those who access health and social care services. The issue of providing high quality and care to older people is complex and multifaceted. Consequently, the model of care and the skillsets necessary to care for older patients must adapt in order to meet their needs. Particular areas of focus include ensuring that there is adequate and continuous training for staff in the care of older people, and that there is a more multidisciplinary and interdisciplinary approach to learning and working, to ensure that care is truly patient-centred. The findings of this study serve as a first step in understanding how the health and social care workforce can be better equipped to provide high quality care to older people. As a consequence of the research, Dunhill Medical Trust are sponsoring a new category which celebrates excellent team-based and person-centred care for older people at the 2019 British Medical Journal Awards.

Poster Board Number: 169

Rapid Fire 2
02/07/2019
15:45-17:00

Project Proposal: What impact have inspections, reports and ratings had on the quality of care in general practice?

Luisa Pettigrew
London School of Hygiene & Tropical Medicine

Project Proposal: Background: Since October 2014 GP practices in England are inspected, reported on and rated by the Care Quality Commission (CQC). This doctoral research project aims to investigate the impact of inspections on quality of care, and identify lessons to inform how general practice is regulated.

Methods: Existing evidence on inspections in general practice will be reviewed to understand what has/has not previously worked, in what circumstances, for whom, how and why. Data from GP practices in England will be analysed to understand if there is a link between GP practice characteristics (e.g. practice size, location) and CQC rating. Trends in measures of quality of care (e.g. patient satisfaction, appropriate prescribing) will be examined over time to understand what effect inspections may be having. Patients, GPs, practice staff and local GP leaders will be interviewed to understand their views on inspections in poorly performing practices.

Results: When available, findings will be published in academic journals, presented at national and international conferences, as well as policy-making and patient events. Patient, public, and other key stakeholder involvement in this project will help ensure the remains relevant. Findings aim to help shape the future of quality assurance and quality improvement in general practice.

Rapid Fire 1
02/07/2019
14:00-15:20

Uncharted territory: mixed-methods systematic review to map, characterise, and evaluate respite care for young adults with complex healthcare needs

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Background : As the number of children with complex conditions who survive to adulthood increases, the number of young adults (18-40 years) with complex healthcare needs (CHCN) due to a life-limiting condition (LLC) or complex physical disability continues to rise; with an estimated population of >55,000 and 100,000 respectively in the UK. Young adults with CHCN require continuous healthcare from multiple service providers across a range of conditions. Respite care and short breaks are an essential and beneficial element of care for children with CHCN, their carers, and families; however, as they become young adults and transition to adult services the provision of respite care can be inadequate and/or inappropriate. Poor service provision has a significant negative impact on the wellbeing and quality of life of young adults with CHCN and their families, and may shorten lives. Commissioners and service providers have a statutory duty to provide appropriate services, however future service planning requires the systematic characterisation and evaluation of current provision. Funded by the NIHR Health Services and Delivery Research Programme, this mixed-methods systematic review aims to identify, characterise, and evaluate respite care provision for young adults with CHCN by: mapping types of respite care available; evaluating the evidence on the effectiveness and experiences of respite care, analysing UK policy and guidelines; and developing a conceptual framework.

Methods: A results-based, convergent synthesis utilising a 2-stage mixed-methods systematic review design to identify, select, evaluate and synthesise evidence relating to respite care provision for young adults with CHCN. Stage 1 (mapping): multiple electronic databases, grey and unpublished literature searched from 2002-current; evidence selected based on a priori inclusion criteria by two reviewers; data extracted into bespoke piloted forms; evidence categorised and described to form a knowledge map of available respite care service types.

Stage 2 (in-depth review): evidence from Stage 1 assessed for inclusion based on a priori criteria by two reviewers; evidence appraised for methodological quality using appropriate tools; data synthesised and analysed according to service type and evidence stream (effectiveness, economics, experience and attitudes, policy and guidelines) using appropriate methods; overall strength of evidence assessed using GRADE and GRADE-CERQual approaches; overall synthesis achieved using framework method to integrate data across the evidence matrix. The knowledge map and overarching synthesis of the evidence contribute to the conceptual framework, enabling recommendations for empirical research to inform future service development of respite care and short break provision for young adults with CHCN. The systematic review is guided by an advisory group of young adults with CHCN and parents/carers, and a steering group with professional representatives from a range of services.

Results: Stage 1: to date we have identified nine service types across five categories of respite care: planned residential, day care, home-based care, emergency care, and holidays. We will present the results of the full knowledge map, with a summary of the identified evidence including gaps for each service type and evidence stream. Stage 2: we will present the nature and extent of the evidence found, including methodological quality of the evidence and research gaps. We will discuss preliminary findings of the in-depth review in the context of the evidence matrix (service type/evidence type).

Implications: Researching service development for this growing population is challenging, despite the escalation in care service demand; data collation is problematic due to the nature of service provision (public/private providers, independent services) and the different funding methods available (commissioned care, local authority, charity funded, personal budgets). Current provision of respite care available to young adults with CHCN (including cost and service types) has not been evaluated at a national level – this systematic review will comprehensively and cohesively address these issues and will have significant implications for future research agendas.

Rapid Fire 2
02/07/2019
15:45-17:00

Optimising neonatal service provision for preterm babies born between 27 and 31 weeks of gestation (OPTI-PREM) using national data, qualitative research and economic analysis: a study protocol

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Introduction: The overarching aim of this project is to improve neonatal service delivery for babies born between 27 and 31 weeks of gestation in England, by providing evidence-based data for the development of national policy, on the optimal place of care for such babies. Supported by the neonatal advisory body within the Royal College of Paediatrics and Child Health, the British Association of Perinatal Medicine, the Neonatal Clinical Reference Group, and BLISS, the UK parent support group and charity for sick and preterm babies, study outcomes will be used to produce national recommendations, which will assist in guiding the commissioning and delivery of future neonatal health services in England. New evidence shows that for babies born at 23-26 weeks, care in one of two types of neonatal units, i.e a NICU as opposed to a LNU improves survival to discharge; this is informing policy that shapes their services. In contrast, there is no evidence to guide location of care for the next most vulnerable group (born between 27-31 weeks) whose care is currently spread between 45 NICU and 84 LNU in England. This group accounts for 4 times more neonatal unit admissions than those born at 23-26 weeks, and 12% of all preterm births in England. They utilise twice as many NHS bed days/year compared to those born at 23-26 weeks, and over a third of all neonatal unit care days.

Methods: In this mixed methods study, our primary objective will be to assess, for babies born at 27-31 weeks and admitted to a neonatal unit, whether care in a NICU vs a LNU impacts on survival and key morbidities (to age 1 year), at each gestational age in weeks. This will be achieved through analysis of routinely recorded data extracted from real-time, point-of-care patient management systems and held in the National Neonatal Research Database (NNRD), Hospital Episode Statistics (HES) and Office for National Statistics (ONS) for admissions over the period 01 January 2014 to 31 December 2018 in England. We will also assess the impact of postnatal transfers between neonatal units (after postnatal day 1) on gestation-specific survival and major morbidities. The time horizon for outcomes (survival and major morbidities) will be up to one year of age. Our secondary objectives are to assess a) whether differences in clinical care provided, rather than a focus on LNU vs NICU designation, drives gestation-specific differences in outcomes, b) where it is most cost-effective to provide care, and c) parents' and clinicians' perspectives on place of care, and how these can guide clinical decision-making. The information will be used to develop recommendations, in collaboration with national bodies, to inform clinical practice, commissioning and policy making. The project is supported by a parent advisory panel, recruited from across the country, and a study steering committee.

Five work streams address the above objectives:

1. A clinical outcomes study: statistical analysis using data routinely recorded data held in the NNRD for all births at 27-31 weeks gestation admitted to neonatal care and who died on or were discharged from neonatal units between 01/01/14 and 31/12/18, in England; with linkage to Hospital Episode Statistics and Office for National Statistics databases to determine gestation specific survival and morbidities up to 1 year of age.
2. A study on clinical care addressing differences in care between neonatal units that may impact on neonatal outcomes
3. An economic analysis of care provided between LNU and NICU, within the NHS setting
4. A qualitative, social ethnographic study: with parents and clinicians, exploring service user perspectives on place of care for this group.
5. Establishment of a working group in collaboration with the British Association of Perinatal Medicine and national parent groups to set framework documents and national recommendations on place of care. These will be used to inform commissioning for health service delivery nationally.

Regulatory approvals and project registration: Research ethics approvals have been obtained (Integrated Research Approvals System reference 212304). The Research is registered on the Clinicaltrials.gov database (NCT02994849) and the ISRCTN registry (ISRCTN74230187).

Rapid Fire 1
02/07/2019
14:00-15:20

Exploring the Long-term Impact of Post-Sepsis Syndrome (ELIPSS)

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Background: Sepsis is a severe illness characterised by an uncontrolled reaction of the immune system in response to infection, leading to malfunction or failure of one or more organs. Following their initial recovery, people who survive sepsis can experience a variety of physical, psychological and emotional problems. Sepsis survivors and healthcare professionals may not recognise these consequences of sepsis due to the diverse range of non-specific signs and symptoms.

Methods: A rapid literature review was carried out to identify relevant publications, specifically in relation to the recovery and long-term impact of sepsis on survivors. Due to the diversity of study types, research questions and reporting styles, findings were reported as a narrative review. A comment on study quality is available. Searches were limited to MEDLINE and EMBASE databases. Descriptive analyses were carried out on anonymous survey data collected by the UK Sepsis Trust. These included both quantitative and qualitative methods. These findings were supplemented by additional anonymised qualitative data obtained (with permission) from survivors at a UK Sepsis Trust support group meeting.

Results: A total of 11 full text papers and four abstracts contributed to the narrative summary of the literature. There were 836 responses to the UK Sepsis Trust survey. All three of the methodological approaches revealed similar themes, including:

- Survivors reported a wide variety of physical, psychological and emotional symptoms, which were often distressing for the individuals and those who care about them. Survey participants selected an average of 17 symptoms each (from a total list of 34 response options).
- The negative consequences of sepsis were not limited to those patients who had been admitted to a critical care unit.
- One of the most commonly-reported issues was a fear of sepsis recurrence; this affected 71% of the survey sample.
- Sepsis can impact on quality of life and activities of daily living long after hospital discharge, although most patients feel better over time.

Implications: Sepsis survivors and their families have a wide range of different experiences, and can be negatively impacted for months or even years after initial recovery. Despite increased attention being given to the recognition and prompt treatment of sepsis during an acute episode, there is a lack of information about recovery processes after patients are discharged from secondary care. There is a need for funding to support robust, targeted data collection activities and research into this important, yet neglected, area. Other recommendations include provision of better information and support to patients and families at the point of discharge from hospital, as well as raising awareness of the needs of sepsis survivors in primary care and amongst the general public.

Rapid Fire 3
03/07/2019
10:00-11:15

Challenges facing people affected by cardiovascular disease: a mixed methods observational study.

Alan Poots¹, Sarah-Ann Burger¹, Susanne Kaesbauer¹, Helen Thorne¹, Anna Perris¹, Sally Hughes², Judy O'Sullivan², Laura Roberts², Jacob West²

¹Picker, ²British Heart Foundation

Approximately 7 million people live with cardiovascular disease (CVD) in the UK.[1] In 2014, CVD was the second main cause of death; however, between 1990 and 2013, the death rates in England declined by 52%.[2] Progress made in reducing deaths from CVD means more people are living with these diseases long term, but are facing associated challenges. To optimise support given to people affected by CVD, the main challenges and unmet needs should be typified.

Methods: A mixed-methods study was adopted to investigate the challenges faced by people living with CVD, their carers and family members, and people living with risk factors for CVD. We conducted rapid review, social media analysis (SMA), focus groups and interviews, and an online survey. The rapid review used a modified systematic review procedure. Qualitative research that provided information about the experiences and challenges of people affected by a condition was prioritised. SMA used Meltwater, a commercially available platform, to query key terms. Content over time and most frequently used words were analysed. Topic guides for focus groups and interviews were informed by the rapid review and SMA findings. Telephone interviews with people living with heart failure were conducted (n = 8), alongside five focus groups (n=37 participants) with people living with particular types of CVD, or risk factors. Interviews and focus groups were conducted between July and August 2018, and data were analysed using a qualitative framework analysis to explore themes within the needs described. Informed by focus groups and interviews findings, questions for an online survey were developed and implemented on the platform Snap Webhost, from August to September 2018. Adults affected by a heart or circulatory condition or risk factors, including friends or family (carers), were invited to take part via British Heart Foundation contact lists. Analysis of responses was conducted using SPSSv24, R 3.5.0, and Nivio11.

Results: People's lives are affected by CVD, with psychological, social, and physical consequences. Fragmentation of care and variable access to information and support compound these issues, as distinct from the illness itself. The rapid review identified 167 articles, finding themes of exercise and lifestyle; management of condition; psychosocial; patient experience and quality of life; and challenges for carers. The SMA found 223,960 mentions. Heart attack, heart disease, and cardiac arrest were the most common terms. Information sharing and provision, mental health concerns, and difficulties for carers were challenges identified in focus groups and interviews.

"But the two [hospitals] don't talk with each other... There isn't an easy method of communication between the two, which seems to be silly really."

"I don't think I did suffer from depression, while I can understand how easy it would be to do so. The person who really did was probably my wife, and I've heard that so many times that it's the partners or close family members who suffer as much if not more from anxiety than the patient themselves."

There were 13,885 useable survey responses. Emotional wellbeing was a strong challenge: approximately one quarter of respondents indicated a need for help with feeling depressed (24%), or had fears about the future (23%). More help with making changes to exercise was a common theme (24%). Respondents felt they needed one member of staff with whom they could speak about all aspects of the condition (20%), and wanted more information about side effects of medications (19%).

Implications: Overall, there is a need to address fragmentation of services. Poor information sharing across care providers is detrimental to experiences and care provision. This is compounded by people not being made aware of what services are available. People want tailored advice to their specific circumstances (including age and location) from specialists who are knowledgeable about the conditions. There is a need for accurate information, in written material, online resources, and outputs from Apps and devices. This includes information about appropriate exercise and specific medications. Psychological support (including overcoming isolation) should be improved, and account for differences in mental health needs over time. An exploration of how to make support groups more beneficial for younger patients and carers would be useful. Carers experience psychological challenges, and additional

complexities or concerns of providing care and support. Services should extend to carers, in particular young carers and those in rural locations.

References

[1] <https://www.bhf.org.uk/what-we-do/our-research/heart-statistics>

[2] Bhatnagar P et al. 2016 *Heart* 102:1945–1952.

Poster Board Number: 174

Poster Display
00:00-00:00

Electronic records in ambulances – an observational study (ERA)

Alison Porter
Swansea University

Background: The introduction of information technology (IT) in emergency ambulance services to electronically capture, interpret and store patient data can support out of hospital care. Although electronic health records (EHR) in ambulances and other digital technology are encouraged by national policy across the UK, there is considerable variation across services in terms of implementation. We aimed to understand how electronic records can be most effectively implemented in a pre-hospital context, in order to support a safe and effective shift from acute to community-based care.

Methods: We conducted a mixed-methods study with four work packages (WPs): a rapid literature review, a telephone survey of all 13 freestanding UK ambulance services, detailed case studies in four selected sites, and a knowledge sharing workshop.

Results: We found considerable variation in hardware and software. Services were in a state of constant change, with services transitioning from one system to another, reverting to paper, or upgrading. Ambulance clinicians were dealing with partial or unclear information, which may not fit comfortably with the EHR. Clinicians continued to use indirect data input approaches such as first writing on a glove. The primary function of EHR in all services seemed to be as a store for patient data. There was, as yet, limited evidence of their full potential being realised to transfer information, support decision making or change patient care.

Implications: Realising the full benefits of EHR requires engagement with other parts of the local health economy, dealing with the challenges of interoperability. Clinicians and data managers are likely to want very different things from a data set, and need to be presented with only the information that they need.

Rapid Fire 2
02/07/2019
15:45-17:00

The epidemiology and determinants of non-diabetic hyperglycaemia and its conversion to type 2 diabetes, 2000-2015: cohort population study using UK electronic health records.

Rathi Ravindrarajah¹, Evangelos Kontopantelis², David Reeves¹, Matthew Sutton³, Peter Bower¹

¹University of Manchester, ²University of Manchester, ³University of Manchester

Background: Individuals with higher than normal glucose levels are termed as having Non diabetic Hyperglycaemia or prediabetes. Previous studies have shown that they are at increased risk of developing type-2 diabetes (T2DM)

Objectives: To study the characteristics of individuals identified with Non-diabetic Hyperglycaemia (NDH) during the study period from 2000 until 2015 and their conversion rates to T2DM during the study period.

Methods: We used primary care electronic health records to generate a cohort of 14,272 participants identified with NDH during the study period, in the UK Clinical Practice Research Datalink. Baseline characteristics and trends of conversion from NDH to T2DM were explored. Covariates such as BMI, age, smoking, total serum cholesterol; Charlson comorbidity score and depression were measured at the diagnosis of NDH or 12 months prior to the diagnosis of NDH. Socio economic status was assessed using the linked Index of Multiple Deprivation (IMD) score updated in 2010. Cox proportional-hazards models were used to evaluate predictors of progression from NDH to T2DM.

Results: Data were analysed for 73,903 men and 67,369 women. The prevalence of NDH increased with age, with the highest proportion of individuals with NDH observed in the 65-74 age group (39,178/141,272; 28%). NDH prevalence was the highest in people with a BMI greater than 30 (42456/141272; 30%). The crude conversion of NDH to T2DM was 4% within 6 months, 7% annually, 13% within 2 years, 17% within 3 years and 23% within 5 years. We observed a decreasing trend in conversion from NDH to T2DM, from 8% in 2000 to 4% in 2014, for 1-year conversion. Individuals aged 45-54 were at the highest risk of developing T2DM with a HR of 1.2 (95%CI: 1.2, 1.3) compared to the reference age group (18-44 years). Obesity was strongly associated with progression from NDH to T2DM, with those who had a BMI greater than 30 having a hazard ratio of 2.0 (95% CI: 1.9, 2.1), compared to those with a normal BMI. Residing in an area in the most deprived quintile was associated with a hazard ratio of 1.2 (95% CI: 1.1, 1.2) in terms of conversion, compared to residing in an area in the most affluent quintile.

Conclusions: The rate of conversion from NDH to T2DM decreased in the study period. However, this does not imply a reduction in T2DM in the population, since previous studies using primary care data have shown that incidence of T2DM has been stable from 2005.^{1,2} Likely explanations for the conversion reduction include changes in the cut-off points for defining NDH and changes in recording practices, with more people of lower conversion risk being associated with NDH over time. Age, BMI and deprivation are important parameters in progression of NDH to T2DM, and behavioural interventions aimed at reducing the risk of developing T2DM may need to be prioritised in certain subgroups to maximise their benefits.

References:

1. Gonzalez EL, Johansson S, Wallander MA, et al. Trends in the prevalence and incidence of diabetes in the UK: 1996-2005. *Journal of epidemiology and community health* 2009;63(4):332-6. doi: 10.1136/jech.2008.080382 [published Online First: 2009/02/26]
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Rapid Fire 3
03/07/2019
10:00-11:15

A multi-stakeholder approach to evaluation of social franchising as a mechanism for scale in health and care

Daphne Amevenu¹, Diane Redfern-Tofts¹, Usha Boolaky¹, Lucy Asquith², Stephen Boxford²

¹The Health Foundation, ²Cordis Bright

Background: Scaling innovation in health and care across multiple settings is challenging, and contextual factors can influence the relative success or failure of an intervention[1]. Social franchising is designed to overcome these challenges by codifying a proven intervention in such a way that other teams and organisations can deliver it to agreed standards, under a franchise agreement, to maximise social benefit and replicate outcomes across multiple sites. Social franchising has been used extensively in global health, but is relatively unexplored within the UK health and care context, and there has been little or no evaluation of it as a method of supporting scale. The Health Foundation is working with four health and care teams to test the ability of social franchising to support the sustainable scale and spread of evidence-based improvements[2]. Spring Impact, a charity with expertise in social franchising and other scaling models for the social sector, are providing teams with coaching and technical support to design and implement social franchise models. Here we present our findings from the first stage of the process evaluation of the development and implementation of social franchising, and share our learning around evaluating highly complex innovative programmes in 'real-time'.

Method: The first stage of this qualitative process evaluation was carried out across four sites, over a period of three months. This included a literature review covering the evidence base for social franchising in health care, with a primary focus on the UK, and a documentation review relating to the development of the programme and the four sites. A workshop was held to introduce the sites to the evaluation and begin exploring key questions. 26 semi-structured interviews were undertaken, 14 with staff from the sites and 12 with key stakeholders with knowledge or expertise in NHS scaling and/or social franchising. A further outcome evaluation will be undertaken to understand how social franchising might support greater fidelity to the outcomes of the original improvement across multiple sites.

Results: Social franchising presents a new approach to the adoption and spread of improvement within the UK health and care sector and has the potential to improve quality assurance between sites, build sustainable income models for the ongoing improvement and refinement of the original intervention, and develop a better evidence base for the intervention across more than one site. However, our evaluation of the set up and design phase of the social franchising programme suggests there are a number of challenges which need to be taken into consideration when choosing to develop this approach. These include:

- The importance of a strong evidence base for the impact of the original innovation, to support a broader narrative for adoption and spread and attract new implementer sites as the model spreads.
- Senior level engagement at the implementer site to support the adoption of the innovation with enough fidelity to the original model.
- The importance of clarifying the role that implementer sites (in particular early implementers) have in jointly codifying the model with the originator site, and using the learning from early adoption to support its ongoing refinement.
- The impact of slow decision-making and funding flows within the NHS, which may inhibit the adoption of semi-commercial approaches, and have an impact on the process of recruiting implementer sites to the franchise model.
- The criticality of engaging with implementers "on their terms", understanding local problems and working collaboratively to find local solutions, rather than bringing a ready-made solution.

The research also revealed many contextual factors that impact how an intervention is replicated, and we are developing a model to demonstrate their impact on using social franchising as an approach. These factors include the benefit of having a well-known brand and the right credibility, national or political priority, and reliance on wider system actors.

Implications: Social franchising has a number of potential benefits which may support the adoption and spread of improvements across the sector. This evaluation is the first step in understanding the ease with which it can be applied to NHS and care settings, and identifies some of the challenges of associated with its implementation. Early

findings suggest that it is most likely to suit improvements with a well-established evidence base and support from broader networks, but it is not yet clear whether this will overcome some of the broader challenges of scaling.

[1] Albury, D., Beresford, T., Dew, S., Horton, T., Illingworth, J. and Langford, K. (2018) *Against the odds: Successfully scaling innovation in the NHS*. Health Foundation and Innovation Unit

[2] *Exploring social franchising and licensing*, 2017, The Health Foundation, viewed 17 January 2019, <<https://www.health.org.uk/funding-and-partnerships/programmes/exploring-social-franchising-and-licensing>>

Police-related mental health triage interventions: a rapid evidence synthesis

Mark Rodgers, Sian Thomas, Jane Dalton, Melissa Harden, Alison Eastwood
Centre for Reviews and Dissemination, University of York

Background: The volume of crisis calls related to people with serious mental illness but where no crime has been committed is an increasing challenge for police services. Police officers are often the first responders to mental health-related incidents and consequently become a common gateway to care. This has raised concerns about inappropriate use of police resources and police officers' relative lack of knowledge, skills and support when handling the mental health needs of individuals in crisis. Mental health street triage schemes were established in England in a Department of Health pilot in 2013. Police-related mental health triage (PRMHT) or "Street triage" – as piloted in England – typically takes the form of mental health professionals supporting police officers when responding to emergency calls that involve a person who may be suffering from a mental illness.

Methods:

Objective

A rapid evidence synthesis using the following criteria:

To establish the evidence base for models of PRMHT interventions.

Participants

Individuals who are perceived to be suffering from mental illness or in mental health crisis and who come into contact with the police.

Interventions

Police officers responding to calls involving individuals perceived to be suffering from mental illness or mental health crisis, in the absence of suspected criminality or criminal charge.

Main outcome measures

Inclusion was not restricted by outcome.

Data sources

Eleven bibliographic databases (plus multiple online sources) were searched for relevant systematic reviews and qualitative studies from inception to November 2017. Primary studies reporting quantitative outcome data published from January 2016 were also sought.

Review methods

The three-part rapid evidence synthesis of PRMHT interventions incorporated:

1. Meta-synthesis of the effects of PRMHT intervention models
2. Rapid synthesis of UK-relevant qualitative evidence on implementation
3. Overall synthesis

Results: Five systematic reviews, eight primary studies reporting quantitative data, and eight primary studies reporting qualitative data were included. Most systematic reviews and primary studies were at risk of multiple biases due to their designs and/or lack of reporting of methods.

The schemes evaluated in UK studies were typically described as "Street Triage", however these incorporated aspects from a range of different models, including co-response, information sharing agreements, co-location, and

consultation approaches. A key difference among UK PRMHT schemes was the role and/or location of mental health professionals (MHPs). There is little robust evidence on the effectiveness of PRMHT models. The limited evidence available from the quantitative studies suggests fewer formal detentions, higher hospital admission rates, increased likelihood of follow-up by secondary mental health services if patients are not admitted, and an increase in the use of health based places of safety. However, the results were not entirely consistent. There is minimally reported, heterogeneous and conflicting evidence on the effects of PRMHT interventions on quality/timeliness of assessment, referral and treatment, access to services, demand for police resources and number of repeated contacts with individuals. There is an absence of reliable quantitative evidence for other relevant outcomes. Qualitative evidence on PRMHT models in the UK primarily consists of the views of a relatively small number of police and mental health staff directly involved in delivering pilot interventions. Findings were reported on acceptability, feasibility, and on barriers and facilitators relating to implementation.

Limitations

All included primary research evidence was conducted in England so may not be generalisable to the whole UK. Discussion of health equity issues was largely absent from the existing evidence.

Conclusions: While there is published evidence that aims to describe and evaluate various models of PRMHT interventions, most evaluations are limited in scope and methodologically weak.

Implications for future research: Several systematic reviews and recent studies have called for prospective, comprehensive and streamlined collection of a wider variety of data to evaluate the impact of PRMHT interventions. This rapid evidence synthesis expands on these recommendations to outline detailed implications for research, including:

- Clearer articulation of the objectives of PRMHT; measurement of quantitative outcomes beyond section 136 rates, places of safety, and process data, to include outcomes that are most important to the police, mental health and social care services, and individual service users. Evaluations should take into consideration the short-, medium- and longer-term effects.
- Where possible, study designs should have an appropriate concurrent comparator; there may be an interest to compare the pragmatic implementation of street triage against “pre-arrest diversion” models that emphasise specialist training of police officers over ongoing collaboration with mental health professionals.
- Further collection of qualitative data should capture dissenting views as well as those of advocates.
- Any future cost-effectiveness analysis of PRMHT should evaluate impact across police, health and social services.

Digital-first primary care: a rapid responsive evidence synthesis

Mark Rodgers, Gary Raine, Sian Thomas, Melissa Harden, Alison Eastwood
Centre for Reviews and Dissemination, University of York

Background: In 'digital-first primary care' models of health care delivery, a patient's first point of contact with a GP or other health professional is through a digital channel rather than a face-to-face consultation. Patients are able to access advice and treatment remotely from their home or workplace via a number of different technologies. The greater use of technology and digital tools and services in UK health care has been advocated by various stakeholders on the basis of the potential benefits to the National Health Service (NHS) such as improving service delivery, decreasing demand, and greater financial efficiency.

Methods:

Objective

This rapid responsive evidence synthesis was undertaken to inform policy on 'digital-first primary care'. It was conducted in two stages: (i) scoping and summary of the evidence (ii) a more detailed evidence assessment, addressing a refined set of questions produced by NHS England on the basis of stage one findings.

Participants

Alternatives to face-to-face communication between any primary care medical staff and i) patients (or their caregivers) of any age and/or (ii) other medical professionals.

Interventions

Any form of non-face-to-face interaction including e-mail, online/video, messaging, or AI-led systems. Telephone consultations were included where evidence could be of relevance to digital consultations.

Main outcome measures

Any reported outcomes related to impacts on patients, medical staff or service delivery including effectiveness, safety and costs/cost-effectiveness; patient access.

Data sources

Searches were conducted of five electronic databases, relevant research/policy and government websites, as well as the NIHR HS&DR programme database of ongoing and completed projects. No date or geographical limitations were applied.

Results: Evidence was synthesised from seven reviews and eight primary studies (five conducted in a UK primary care setting) on the following technologies: telephone consultations; video; email; e-Visits; digital/online symptom checkers and health advice/triage services. Themes relating to the benefits of digital modes and models of engagement between patients and primary care included: absence of reliable evidence; uptake of alternative consultation models; impact on clinical practice and patient health outcomes; safety, harms and quality of care outcomes; impact on consultation dynamic; financial costs and cost-effectiveness; diagnostic accuracy; information, triage and signposting; and health and patient professional experience and satisfaction. Themes relating to integration of digital-first models within wider existing face-to-face models included: Health professional concerns about alternative consultation models; infrastructure and logistics; patient-professional relationships; professional identity; policies and procedures around the implementation of alternative consultation models; and unintended consequences. Evidence suggests that uptake of existing digital modes of engagement is currently low. There exists very little evidence on outcomes related to quality of care, service delivery, benefits or harms for patients, or on financial costs/cost-effectiveness. No studies examining how to contract and commission alternatives to face-to-face consultations were identified.

Limitations

The quality of the included reviews was variable. Poor reporting of methodology and a lack of adequate study details were common issues. Much of the evidence focused on exploring stakeholder views rather than on objective measurement of potential impacts.

Conclusions: Patients who use digital alternatives to face-to-face consultations are likely to be younger, female and have higher income and education levels. There is some evidence that online triage tools can divert demand away from primary care, but results vary between interventions and outcome measures. A number of potential barriers exist to using digital alternatives to face-to-face consultations including inadequate NHS technology and staff concerns about workload and confidentiality. There is currently insufficient empirical data to either substantiate or allay such concerns. The impact of alternative consultations on the number and duration of follow-up consultations is not well established. The most recent UK studies recommended that future evaluations specifically measure any 'knock on' effects in the two weeks following a digital consultation.

Implications: There is a rapid profusion and evolution of digital technologies aiming to change the traditional primary care consultation model; this provides a challenge in terms of evaluation, particularly in relation to understanding the effects of these technologies on patient health outcomes.

Rapid Fire 1
02/07/2019
14:00-15:20

The use of a data calculator to facilitate the introduction and use of a standardised outcome measure (Musculoskeletal Health Questionnaire) within the Musculoskeletal Physiotherapy Services across a Trust in Staffordshire

Panos Sarigiovannis¹, Annette Bishop²

¹Midlands Partnership NHS Foundation Trust & Research Institute for Primary Care and Health Sciences, Keele University, ²Research Institute for Primary Care and Health Sciences, Keele University

Background: The Musculoskeletal Health Questionnaire (MSK-HQ) is an outcome measure specifically developed for MSK conditions. It contains 14 items that capture key outcomes that patients with a range of MSK conditions have prioritised as important across the clinical pathway. It has been shown that this outcome has excellent test-retest reliability and strong convergent validity with reference standards, including the EQ-5D-5L, and Oxford Hip, Knee and Shoulder scores. NHS England, the Chartered Society of Physiotherapy (CSP) and the Royal College of General Practitioners have endorsed the MSK-HQ. The need for physiotherapists to use standardised Patient Reported Outcome Measures (PROMs) has been recognised and is recommended in clinical guidelines. Although the importance of standardising the use of PROMs within the physiotherapy profession is well recognised, this has largely failed to be delivered in practice. A number of barriers for implementation of standardised outcome measures have been reported including the lack of knowledge and the lack of instructions in relation to the application, scoring and interpretation of the outcome measure(s). Musculoskeletal (MSK) physiotherapy teams within Midlands Partnership NHS Trust (MPFT) used a variety of outcome measures including the EuroQoL (EQ-5D-5L) alongside condition specific PROMS and a patient experience-reported experience measure, in line with CSP recommendations. Nevertheless, the teams did not use the same outcome measure and data collection, inputting and analysis methods varied considerably. Therefore, it was decided to introduce the MSK-HQ as a standardised MSK PROM across MPFT. A data inputting and analysis calculator was developed following a consensus group exercise with the clinical and operational leads of MSK physiotherapy teams to facilitate the implementation of the MSK-HQ. Once piloted, the calculator was available to the MSK physiotherapy teams within MPFT.

Methods: The calculator was made available to all MSK physiotherapy teams within the Trust's intranet system. Access was granted to designated administrative staff and the clinical and operational leads for each team. A standard operating procedure, in relation to using the calculator, and a data collection sheet were produced to facilitate the implementation process. Information about the MSK-HQ and the calculator was presented to clinicians in all participating teams. The MSK-HQ and the calculator were introduced gradually to all MSK teams: implementation started in May 2017 and teams with administrative support were the first implementers.

Results: Since the introduction of the MSK-HQ, in excess of 5,000 complete data sets i.e. pre & post treatment questionnaires (5,223 in December 2018) have been recorded. Overall completion rates across MPFT are 10.1%; these vary considerably between teams that have administrative support (18.7%) and teams that do not have administrative support (3.7%). Data is consistent across all teams and demonstrates that over 80% of patients achieve a significant clinical improvement following physiotherapy treatment. Specifically, 4417 patients (84.6%) achieved an improvement equal to or greater than the minimal clinically important difference for the MSK-HQ, whereas 749 patients (14.3%) had no clinically significant change and 57 patients (1.1%) had a clinically important deterioration. Implementation of a standardised MSK PROM facilitated by the calculator has provided a large dataset on outcomes of physiotherapy care and allow comparisons of different services across a large Trust.

Implications: The calculator enhanced the implementation and clinical use of a standardised outcome measure by providing clear guidance on data collection and interpretation of results. Additionally, it assisted the services achieve their key performance indicators (KPIs) for outcome measures reporting to the Clinical Commissioning Groups. The tool is freely available to other NHS Trusts and it has been shared with over 30 NHS Trusts to date. Additionally, it has been shared with Trusts in Scotland, Wales and Northern Ireland. Researchers and outcome measures developers should consider providing such tools when new outcome measures are released to increase clinical uptake and implementation.

A systematic review of on-screen design factors related to safe use of hospital electronic prescribing systems

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¹Imperial College Healthcare NHS Trust, ²Imperial College London

Background and Rationale: Research in marketing psychology and behavioural science has shown that user interface design features have an impact on navigation through complex (online) systems (Kushniruk, Triola et al. 2005). Less is known of the value and use of these features for electronic prescribing (EP) systems in healthcare. However, user interface design features within EP systems such as screen layout, density of information, position of messages on the screen, and use of colour are related to the usability of an EP system, and usability problems have previously been found to be associated with medication errors (Reckmann, Westbrook et al. 2009).

Aim/Objectives: To conduct a systematic review to identify on-screen design factors or features that influence the safe and effective use of hospital EP systems.

Methods: This review followed the PRISMA-P reporting guidelines and was registered with the PROSPERO database (CRD42018089561). Studies were eligible for inclusion if they were primary research or reviews that focused on user interface design features and the safe and effective use of hospital EP systems. Literature that focused on other aspects of EP systems, primary care EP, and grey literature were excluded. We generated a list of MeSH terms and text words and searched in MEDLINE, EMBASE, CINAHL, and PsycINFO in March 2018. A customised data extraction form was used to capture pertinent information from included studies and the Critical Appraisal Skills Programme tool used to appraise their quality (CASP, 2014). A descriptive and narrative thematic synthesis of the data was conducted through discussion among the researchers to identify and explore key on-screen user interface design factors or features reported to influence the successful use of electronic prescribing systems. In addition, we used the thematic framework provided by Phalsankar et al (2010) as a guiding principle, and added new context from our thematic analysis approach where needed. The heterogeneity of outcome measures and study designs in the selected articles precluded meta-analysis.

Results: A total of 100 articles were identified initially. We then removed 15 duplicates. Following review, 71 were excluded at each of the title (49), abstract (20) and full text (2) stages, thus leaving 14 articles in our analysis (9 research studies, 5 reviews). Most of the research studies were conducted in USA (n=3) and Europe (n=3) followed by UK (n=2) Canada (1) and Malaysia (n=1). Of these nine empirical studies, four used qualitative methods; one quantitative, and four mixed-methods. Thematic clustering revealed three emerging themes: (1) User interface features; (2) Measures of effectiveness related to usability; and (3) General recommendations for on-screen design. Studies highlighted that user interface features such as alerts should be displayed as early as possible in the process of prescribing; the number of alerts should be kept low; and that alerts should be displayed in an active rather than passive language. Some studies highlighted that placement, visibility, and prioritisation of information on the screen should be customised to the setting in which the system is used. In addition, we under reporting of evidence that specifically focuses on outcome measures related to user ability and/or the effectiveness of a given EP system. The few EP usability evaluations conducted have generally been specific to particular EP systems and/or settings, providing few generalisable outcomes.

Implications: The findings from this review provide information about the impact of specific interface design factors that may relate to the usability of EP systems and improve the accuracy of prescribing. This information will inform future research on the design and implementation of EP systems, which will help determine which design factors make EP less prone to error and aid in making safe prescribing decisions.

References: Critical Appraisal Skills Programme (CASP). CASP Checklist 2014 [cited; Available from: http://media.wix.com/ugd/dded87_29c5b002d99342f788c6ac670e49f274.pdf] doi 20/04/2018

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Poster Board Number: 181

Poster Display
00:00-00:00

SUPRACONDYLAR FRACTURES OF HUMERUS IN CHILDREN. S SHAHZAD. UNIVERSITY HOSPITAL NORTH TEES.

Shahzaib Shahzad
University Hospital North Tees

Supracondylar fractures of the distal humerus are the most common fractures about the elbow seen in children. They may be difficult to manage and can be associated with significant complications including nerve injury, vascular compromise, malunion and compartment syndrome. The purpose of this audit was to assess the compliance of our trusts Orthopaedic department against the BOAST (British Orthopaedic Association Standards for Trauma) 11 guidelines for supracondylar fractures of the humerus in children. All trauma admissions with elbow fractures under the age of 18 from 01/04/2018 to 31/9/2018 were selected. The type of fractures were identified by reviewing admission X-rays. The sample size was a total of 10 patients. The age group ranged from age 4 to age 12. The practices audited ranged from pre-operative documentation to post-operative management. Our findings suggested that pre-operative individual nerve documentation was below 16% indicating the lack of proper assessment of individual nerves by the admitting doctor. Similarly discrepancy was also found in the selection of wires used to fix these fractures. However, the trust performed 100% in operating on the same day as the fracture, and did reasonably well in requesting post-operative X-rays aptly, and timely wire removal. The audit suggests for improving pre-operative assessment of patients neurovascular status. Hence to improve the adherence to guidelines, visual cards will be posted in A&E and acute admissions units to remind the admitting doctors to properly assess nerves individually. This practice will ensure proper triaging of patients with neurovascular compromise following a distal humerus fracture.

Poster Board Number: 182

Poster Display
00:00-00:00

A review of cost-effectiveness evidence for psychological therapies for schizophrenia and bipolar disorder

Gemma Shields¹, Karen Hayhurst¹, Debbie Buck¹, Jamie Elvidge², Linda Davies¹

¹The University of Manchester, ²National Institute for Health and Care Excellence

Background: Guidelines recommend the inclusion of psychological therapies as part of management strategies for people with schizophrenia and bipolar disorder (BD), tailored to individual needs. Evidence demonstrates that psychological therapies, in combination with usual care (usually pharmacological treatments), can improve symptoms, increase quality of life and improve functioning in these populations. Our review assessed the evidence base for the cost-effectiveness of psychological interventions for schizophrenia and BD. Additionally, we aimed to determine the robustness of current evidence and identify gaps in the available evidence.

Methods: Electronic searches (conducted in November 2018) were run on the PsycINFO, MEDLINE and Embase databases to identify relevant economic evaluations published since 2000. To meet the criteria for inclusion, studies had to report a full economic evaluation (synthesising costs and health benefits) and to report outcomes in the form of an Incremental Cost-Effectiveness Ratio (ICER). Additional inclusion criteria were: adults with schizophrenia/BD; psychological/psychosocial intervention; and reporting the probability of cost-effectiveness at explicitly-defined thresholds. The comparator included could be no intervention (routine practice/usual care) or alternative psychological therapies. Screening, data extraction, and critical appraisal were performed using pre-specified criteria and forms based on the NHS EED handbook and CHEERS checklist for economic evaluations. Results were summarised qualitatively. The protocol was registered on the PROSPERO database (CRD42017056579).

Results: Of 3,864 studies identified, 12 met the criteria for data extraction (10 for schizophrenia and 2 for BD). All were integrated clinical and economic randomised controlled trials. A single study went a step further and included an economic model to explore potential outcomes outside of the trial setting. The most common intervention was cognitive behavioural therapy (CBT, 6/12 studies). The most common measure of health benefit was the quality-adjusted life-year (QALY) (6/12). Trial follow-up ranged from 6-months to 5-years. Interventions were found to be cost-effective in most studies (9/12): the probability of cost-effectiveness ranged from 35-99.5%. All studies had limitations and demonstrated uncertainty, in particular related to incremental costs.

Implications: Most studies concluded that psychological interventions for schizophrenia/BD are cost-effective, although there is notable uncertainty; especially with regards to incremental costs (none of the identified studies reported being powered to detect differences in cost). Another key limitation is that many identified studies used arbitrary thresholds for cost-effectiveness. There is a clear need for more evidence in the population with BD; only 2 relevant studies were identified; and for longer-term evidence across both populations. In addition, there are forms of psychological therapy for which no relevant evidence was identified (e.g. mindfulness). Decision/policy makers wishing to use the evidence would need to consider whether the results can be generalised to their setting and consider their accepted willingness to pay for specific health gains. As more evidence becomes available, this review will need to be updated.

Poster Display
00:00-00:00

A cost-effectiveness evaluation of a service user and carer co-delivered training programme for mental health professionals to enhance involvement in care planning

Gemma Shields¹, Camacho Elizabeth¹, Penny Bee¹, Helen Brooks², Patrick Callaghan³, Lesley Anne Carter¹, Clare Fraser¹, Andrew Grundy⁴, Kathryn Hinsliff-Smith⁵, Oonagh Meade⁶, Anne Rogers⁷, Kelly Rushton¹, Peter Bower¹, Karina Lovell¹, Linda Davies¹

¹The University of Manchester, ²University of Liverpool, ³London South Bank University, ⁴University of Nottingham, ⁵De Montfort University, ⁶National University of Ireland Galway, ⁷University of Southampton

Background: Care planning is defined as an interaction between mental health service users and healthcare professionals to engage a service user in decision making. Involvement of service users and carers in care planning may promote engagement with services and lead to improvements in mental and physical health. These potential benefits are increasingly acknowledged in mental healthcare policy and guidelines. However, there is substantial evidence that most service users and carers are not meaningfully involved in the care-planning process. EQUIP (Enhancing the quality of user-involved care planning in mental health services) is a programme of research funded by the UK National Institute of Health Research (NIHR) which aimed to develop and evaluate a standardised training intervention to improve user and carer involvement in care-planning. The economic evaluation aimed to estimate the costs, quality-adjusted life years (QALYs) and the cost-effectiveness associated with the training intervention, compared to usual care (no training).

Methods: An integrated economic evaluation was conducted as part of a randomised controlled trial. The study setting was community mental health teams in England and the participants for the cost and outcome measurements were people with a severe and enduring mental illness (n=604). The economic evaluation was based on 6-month follow-up (time horizon) and was conducted from the perspective of UK health and social care providers (costs) and service users (health benefits). Direct costs of health and social care and QALYs (derived from the EQ-5D-5L) were measured. Sensitivity analyses considered the use of alternative outcomes, including the Health Care Climate Questionnaire (HCCQ), a newly developed Patient Reported Outcome Measure for involvement in care planning and the Hospital Anxiety and Depression Score (HADS) and a complete case analysis. An incremental cost-effectiveness ratio (ICER) and the probability that the intervention was cost-effective compared to usual care were estimated.

Results: The cost of the training intervention was estimated at £23 per service user cared for by a health care professional who received the EQUIP training. There were no statistically significant differences in total healthcare costs (i.e. also including costs not directly related to the intervention) or QALYs for the training and usual care groups. In the primary analysis, which used multiple imputation to account for missing data, training was associated with marginally lower costs (net cost: -£54; 2.5th, 97.5th percentiles: -£193, £84) and lower outcomes (net QALY: -0.010; 2.5th, 97.5th percentiles: -0.034, 0.13). Costs were marginally lower in the intervention group, but there was also a small loss of health equivalent to a net saving of £5,400 per QALY lost. There was great uncertainty and differences between the groups were not significant (shown by the confidence intervals overlapping zero). In the complete case analysis training was dominant (both cost saving and more effective than usual care; with an incremental net cost of -£96 (2.5th, 97.5th percentiles: -£310, £117) and net QALYs of 0.004 (2.5th, 97.5th percentiles: -0.021, 0.029).

Implications: Primary analysis indicates the EQUIP training intervention was not likely to be cost-effective compared to usual care planning over 6 months, however neither cost nor QALY results were statistically significant. In addition, some of the sensitivity analyses indicated that the training may be cost-effective if alternative methods and/or assumptions are used. Limitations to the study and uncertainty in the data indicate the results should be interpreted with caution. A key limitation was the length of follow-up; the evaluation followed service users for 6-months only and whilst this was felt to be sufficient for the main analysis of effectiveness, it may be too short for the training to influence changing use of services or health status. Changes to the organisational system, to ensure training initiatives are embedded in the care planning process may help to improve the benefits of EQUIP training. Further research could consider the time horizon needed to capture potential effects of a training intervention like this to have an impact on service use and/or health status.

Rapid Fire 2
02/07/2019
15:45-17:00

An integrated economic evaluation of cognitive behaviour therapy in clozapine-resistant schizophrenia within a randomised controlled trial

Gemma Shields¹, Anthony Morrison², Elizabeth Camacho¹, Melissa Pyle², Linda Davies¹

¹The University of Manchester, ²Psychosis Research Unit, Greater Manchester Mental Health NHS Foundation Trust and The University of Manchester

Background: Schizophrenia is associated with a significant burden in terms of individual health, healthcare utilisation, and productivity. Management of schizophrenia typically includes pharmacological (antipsychotics) and psychosocial intervention with careful monitoring. For individuals resistant to other treatments clozapine is the gold standard. However, when their symptoms do not respond, or they are unable to tolerate the side effects of clozapine, further treatment options are very limited. The aim of this study was to estimate the cost-effectiveness of cognitive behavioural therapy (CBT) plus treatment as usual (TAU), compared to TAU alone, for clozapine-resistant people with schizophrenia, using patient level data from a trial, in a UK secondary care setting.

Methods: A 21-month pragmatic randomised controlled trial (RCT) was conducted in a UK secondary care setting. The EQ-5D-5L was completed by participants at baseline, nine months and at the end of scheduled follow up (21-months). Data on the healthcare resources used by each participant were collected using a self-reported questionnaire at baseline and follow up (three, six, nine, 13, 17 and 21 months). This collected data on inpatient stays (psychiatric and non-psychiatric), hospital outpatient visits, primary care services, community care services, and accident and emergency services. The primary analysis compared CBT plus TAU with TAU alone from a UK National Health Service (NHS) and Personal and Social Services perspective. The primary outcome was quality-adjusted life-years (QALYs), secondary outcomes included alternative measures of health and productive activity. Incremental cost-effectiveness ratios (ICERs) and cost-effectiveness acceptability curves were generated.

Results: The average number of CBT sessions attended by each participant allocated to the CBT intervention was £1,937 (95% CI £1,815 - £2,059). In the primary analysis, CBT plus TAU was associated with a net cost (primary analysis net cost: £5,378; 95% CI -£13,010, £9382) and net QALY gain (primary analysis net QALYs: 0.074; 95% CI: 0.019, 0.130) compared to TAU, although the net cost was not statistically significant demonstrating uncertainty. The ICER for the primary analysis is £72,676/QALY. This is more costly than accepted thresholds for cost-effectiveness. The probability that CBT plus TAU is cost-effective is 14% if decision-makers are willing to pay £15,000/QALY. Overall sensitivity analyses confirmed that CBT is unlikely to be cost-effective.

Implications: Whilst CBT was associated with higher health benefits in the primary analysis, cost-effectiveness acceptability analysis suggested that CBT is unlikely to be cost-effective. A higher net cost in the CBT arm reflected not only the cost of CBT sessions but also higher costs related to other healthcare services. In a group with poor physical health and an increased risk of early mortality, a link between CBT and an increased use of wider healthcare services may suggest the potential for wider benefits. Service users advocate that outcomes should focus on personal recovery goals, rather than the reduction or absence of symptoms, which has traditionally been the key outcome advocated by clinicians. UK policy places an emphasis on recovery-orientated outcomes and as such, our finding that CBT can have a lasting effect on a generic measure of self-rated health status, may be more important for service users and services than improvements in general symptom scales. There is a need for effective and cost-effective interventions in this group with limited treatment options; future research is needed to determine whether other psychological therapies are cost-effective or whether CBT is potentially cost-effective in subgroups of this population. Additionally, exploration of whether CBT could be more effective if provided regularly or provided alongside specific treatments may be of interest to decision makers.

Rapid Fire 2
02/07/2019
15:45-17:00

How can the management of Heart Failure with Preserved Ejection Fraction (HFpEF) be improved? Patients' and providers' perspectives

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Background: Heart Failure (HF) accounts for 2% of NHS expenditure and affects approximately 900,000 people in the UK and around half of these patients have the condition in which the heart is stiff, referred to as 'Heart Failure with Preserved Ejection Fraction' (HFpEF). This is more common in older adults with multimorbidity and has similar morbidity and mortality to Heart Failure with Reduced Ejection Fraction (HFrEF). HFpEF is not well understood, with limited evidence-based treatments. Consequently, patients often experience sub-optimal management and poor outcomes. This study aims to develop a better understanding of patient and provider preferences and concerns, in order to develop a model of care for people with HFpEF.

Methods: The study entails qualitative semi-structured interviews with a topic guide to enable in-depth exploration of the research aim. Healthcare professionals and patients are currently being recruited from primary and secondary care services across 3 regions in England. Interviews are being recorded with consent and transcribed verbatim. Data are organised in NVivo 12 and analysed using the Framework Method. Analysis was both inductive and deductive and Burden of Treatment Theory is being used as a sensitising framework for analysis to examine the 'work' that stems from managing the condition.

Results: The data-set comprises 30 interviews with people with HFpEF and 43 interviews (and 2 focus groups) with Healthcare Professionals, including General Practitioners (GPs); Heart Failure Specialist Nurses; Practice Nurses; Cardiologists, Pharmacists, an Echocardiographer and a Commissioner. Interim analysis indicates that the 'work' necessary for the development of a shared understanding of HFpEF between patients and providers was challenging. Patients largely spoke about their heart problem in vague terms, with few understanding the nature of their condition or issues around self-monitoring. Furthermore, patients who expressed a disconnect in their understanding of HFpEF misattributed symptoms and seemed less empowered in terms of self-management. Providers' understanding about HFpEF was variable, with GPs expressing uncertainty with regards to terminology and the diagnostic process. HF specialist nurses emphasised 'sense-making work' as central to the optimal management of HF and viewed this work as more demanding in the context of HFpEF where multimorbidity was typical. Relational work, involving multiple relationships was central to patients' and providers' experiences of HF care. For patients, this relational work extended beyond the healthcare system to include relationships with family and informal support networks. Problems with communication were reported between patients and providers and across the primary/secondary care interface and miscommunication influenced relationships upon which optimal care was dependent. Findings also suggest unclear lines of responsibility across secondary and primary settings and across multiple providers, which had the potential to influence patients' and providers' experiences of communication and relationships within the healthcare system.

Implications: Findings illustrate an interplay between understanding, communication, and responsibility, resulting in substantial uncertainty and variability in both the perception of HFpEF and access to support, service provision, and care across multiple interfaces. These findings provide timely evidence to support the development of interventional research aimed at improving the management of care for patients with HFpEF. Findings from this qualitative work will contribute to the larger SPCR NIHR funded programme of work, aimed at Optimising the Management of Patients with Heart Failure with Preserved Ejection Fraction in Primary Care (Optimise-HFpEF).

The role of pharmacy in the management of cardiometabolic risk and metabolic syndrome in severe mental illness: a mixed methods literature review.

Dolly Sud¹, Eileen Laughton², Robyn McAskill², Eleanor Bradley³, Ian Maidment⁴

¹Pharmacy Department, LPT NHS Trust, ²LPT NHS TRUST, ³University of Worcester, ⁴Aston University

Background: Individuals with SMI Severe Mental Illness (SMI) (defined here as bipolar affective disorder, schizophrenia, schizoaffective disorder and other non-psychotic disorders) have a higher risk of physical illness. These physical illnesses exist within the general population, but their incidence and impact on morbidity and mortality in those with SMI is significantly greater, resulting in a 20% shorter life expectancy and a two-to-three-times higher mortality rate. This mortality and morbidity gap also exists in countries considered to have high standards of healthcare and can in part be accounted for by a higher relative risk (around one- to fivefold) for modifiable CMR (Cardiometabolic Risk) factors and incidence of Metabolic Syndrome (MetS). The primary aim of this mixed methods systematic review is to synthesize the published literature that exists relating to pharmacy (any member of pharmacy staff) in the management of CMR and MetS in individuals with SMI. The secondary aim is to identify evidence gaps to provide a focus for formulation of a research study for this and future research. (The systematic review protocol was registered on Prospero CRD42018086411).

Method: A systematic search was conducted for primary studies exploring pharmacy in the management of CMR and MetS in SMI. 12 electronic databases were searched from inception to January 2018; Medline, EMBASE, PsycINFO, British Nursing Index, AMED, Health Business Elite, Health management information consortium, The Cochrane Library, Health Technology Assessments, Scopus & Web of Science. Database-specific search strategies and search terms were developed with assistance from a medical librarian. The grey literature search was further substantiated by looking at the first 100 hits from Google Scholar, the Grey Literature in Europe website and consulting relevant agencies. We also used Mendeley® Suggest. Three authors independently selected, reviewed and undertook quality assessment using modified mixed methods appraisal tool (MMAT) with arbitration from senior reviewer if needed. Data synthesis was carried out by the first author (DS) and independently reviewed by two other authors (EL and RM) with consultation from senior reviewers. Data synthesis was carried out in two stages: (1) Mapping Review/Systematic map and (2) Detailed review of implementation strategies for interventions used within studies.

Results: The search generated 6492 citations. After removing duplicates and applying eligibility criteria, 34 journal articles were included. The majority (n = 26) of the study designs were quantitative, 7 used a mixed methods approach, and 1 was qualitative. Mapping review showed that the majority (73%) of research has been published involving pharmacy interventions focused on screening for CMR/MetS, almost a quarter of the studies included. Around a quarter of the studies included pharmacy involvement in the identification of high risk or abnormal physical health parameters and a quarter included involved subsequent clinical interventions (e.g. weight management; smoking cessation advice). Only one study included intervention around psychotropic drug therapy and risk of physical health side effects (e.g. weight gain). Detailed review of implementation strategies showed that multiple (> 1) implementation strategies, involving pharmacy, that include educational meetings, clinical audit and feedback and distribution of educational materials can significantly improve the rate of screening for CMR factors/ MetS. The role of face to face interaction, such as a pharmacist led multidisciplinary ward round or pharmacist outreach visits, should not be overlooked as it can also have a significant impact on the rate of screening even when used alone. The overall quality of the reported studies, assessed using the Mixed Methods Appraisal Tool (MMAT) generally good, with twelve studies scoring **** (100%), eight studies scoring *** (75%), and fourteen studies scoring ** (50%) or less.

Implications: To our knowledge this is the first systematic review looking at the role of pharmacy in the management of CMR or MetS in those with SMI. Pharmacy involvement either through face-to-face or multi-faceted interventions can significantly improve the rate of screening for CMR and MetS in those with SMI. There is a paucity of qualitative data on this topic. There are important gaps in published research including impact on clinical outcomes follow up after clinical interventions have been implemented self-care or behaviour change interventions, community pharmacy and views/perceptions/experiences of patients, carers or care professionals. In addition more work is needed looking at the role of pharmacy staff other than pharmacists as well as modification of psychotropic drug therapy (dose or drug) to reduce the risk of physical health side effects.

Rapid Fire 1
02/07/2019
14:00-15:20

Patient, carer and care professional views and experiences of physical healthcare provided by pharmacy to those with severe mental illness: a qualitative research study

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Background : Excess mortality among people with severe mental illness (SMI) is largely attributed to co-morbid physical illness (mainly cardiovascular disease) resulting in 20% reduced life expectancy when compared to the general population. Improving the physical health of this population is critically important; however, physical health monitoring among people with SMI is often inadequate. The views and perspectives of patients with SMI, their carers and care professionals are crucial in understanding the current and potential roles that pharmacy could play in the management of cardiometabolic risk factors, metabolic syndrome, diabetes, heart disease and related disorders. This research study has been informed by a previous literature review on this topic; to our knowledge there is no published literature that investigates or explores patients', caregiving dyads or care professionals' perspectives of how they view and utilise pharmacy for support. The overall aim of this research programme of work is to explore the place and contributions of pharmacy in providing support and care (including lifestyle and medicines optimisation) for cardiometabolic risk factors and metabolic syndrome for individuals with SMI. This aim will be met by the following objectives:

1. To examine and understand the experiences and views of patients with SMI and their informal carers about care received for cardiometabolic risk factors, metabolic syndrome, diabetes, heart disease and related diseases;
2. To examine and understand how patients with SMI and their informal carers engage with activities in looking after and seek advice and support when needed for cardiometabolic risk factors, metabolic syndrome, diabetes, heart disease and related diseases;
3. To explore the views of patients with SMI and their informal carers on whether and how they utilise pharmacy for care and support for cardiometabolic risk factors, metabolic syndrome, diabetes, heart disease and related diseases;
4. To explore the views and experiences of care professionals on providing care for cardiometabolic risk factors, metabolic syndrome, diabetes, heart disease and related diseases; as well their views on pharmacy and pharmacists providing this care.

Method: An exploratory qualitative study design that will follow Consolidated Criteria for Reporting Qualitative studies (COREQ) guideline will be employed. This will be undertaken using semi-structured interviews where participants provide a detailed account of their views guided by an interview schedule. The setting will be in both primary care and secondary care in the UK. The target population are individuals aged 18 and over with SMI, informal carers of those with SMI and care professionals directly involved in their care recruited via NHS sites. The exact number will be determined by the point of data saturation when it appears that no new substantive themes are identified in the data. At the time of collating this abstract HRA and REC approvals have been received. We have had approval from secondary care research site and are seeking approval from primary care research site. (We anticipate that we will be able to report some initial results of the research study at the time of the conference). Individuals with SMI will be recruited using several methods to maximise participation and avoid inadvertent recruitment of individuals who do not meet the inclusion criteria; e.g. displaying reception area of mental health community outpatient department) and sending the poster to SMI patient support groups. Recruitment will take place from the local NHS Mental Health trust and from GP surgeries based on NHS staff conducting database searches of specific diagnosis codes and sending information packs to those individuals identified from these searches. We will recruit caregiving dyads of those with SMI as follows: when face to face interviews take place with individuals with SMI they will be given an information pack about the study to hand to their nominated informal carer - this is someone they get most support from, not necessarily a family member (who is not a care professional). Care professionals will be recruited through professional networks and from secondary and primary care research sites included in the study.

Results: A qualitative framework analysis will be undertaken in order to explore the experiences and perspectives of the participants using an open-coding method. Each transcript will be read and coded separately using NVIVO software if considered appropriate. Common themes will be merged to create categories, enabling analysis of data to reflect recurring and representative themes.

Implication: Ultimately the aim is to reduce the inequalities in health that exist for individuals with SMI by improving the physical health of those with SMI. We propose to examine in detail the role of pharmacy and to improve physical health in people with SMI – this will inform future practice and guidelines.

Rapid Fire 1
02/07/2019
14:00-15:20

Describing and enhancing audit and feedback in acute Trust dementia care: A co-production study

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¹Newcastle University, ²Northumbria University, ³University of Exeter

Background: More than one in four people in acute hospitals have dementia. Patients with dementia do not always get best care, for example they are not screened for delirium, personal information about them is not recorded and their nutritional needs are not met. To improve care, hospitals audit current care and provide staff with feedback about how well they are doing. Hospitals do audit and feedback a lot, for example, one site undertook over 700 audits last year, each covering multiple care behaviours. Audit and feedback is effective at improving care, but there is variation in how much improvement it leads to (interquartile range 0.5-16%; Ivers et al, 2012). Doing audit and feedback in the best way would result in better care for patients with dementia. It could also be used to improve the care for other patient groups. At present, there are many questions about audit and feedback in dementia care. These questions include: How is it done? How could it be improved? How can we make these improvements happen in practice? This study seeks answers to these questions.

Method: During this research, we are working with carers, clinical leads and clinical audit leads from three Trusts. These people form the 'co-production group'. The group is supported by advisors who are patients, health service researchers and leads from Royal Colleges, national audits and a regional quality observatory. The research has three parts; the work described here relates to the first aim, to describe how audit is done and what might affect whether it improves care. We used a multiple case study design involving documentary analysis, semi-structured interviews and observations. Four cases (NHS Trusts) were purposively sampled for difference in size, association with a university and on the Care Quality Commission's clinical effectiveness assessment. Interviewees (n=27) were purposively sampled to include people from different organisational levels who are participants in the audit and feedback process at each site. They included diverse positional leaders, clinical and corporate staff. Observations (n=34) were selected based on having a role in audit and feedback in dementia care described within the interviews or documents. They included Trust and directorate governance meetings, audit planning and preparation meetings, case note / record reviews, data entry and feedback meetings. Documents describing the audit process and outputs were analysed from each site. Framework analysis was used for each source of data. The interim analysis was iteratively presented to the co-production group for challenge and to identify further components to explore. Further challenge was provided by the supervisory and advisory teams. As a result, the interview topic guide evolved throughout the study. The fourth site was from a different region. The topic guide used at this site tested the description developed from the first three sites.

Results: The results described here are interim findings. The study identified different types of audit and feedback in dementia care in acute hospitals: national mandated audits; optional externally-led multi-site audits; audits associated with financial incentives; Trust leadership led audits; Trust-leadership mandated continuous monitoring audits at ward level; performance monitoring; audits for career progression; and individual feedback. The types differ based on the motivation, participants, involvement in standard setting, frequency, method to assess practice, how change is sought, and the method and reach of feedback. We found within-type variation between sites (for example, in relation to how data was collected within national mandated audits) and describe the reported and observed factors that affect this variation. Work to consider how the findings align to existing evidence (e.g. Ivers et al, 2012) and theory (e.g. Brehaut et al, 2016; Colqhoun et al, 2017) is underway and will be described.

Implications: Audit and feedback is a much used and variably effective intervention. Describing current practice provides a foundation to develop enhancements. In the next part of the study, the co-production group will use the description from part 1 and findings from previous studies to design enhancements to audit and feedback. We will use normalisation process theory (May and Finch, 2009) to develop the best way to make the improvements happen. A feasibility study will then explore implementation of the enhancements in one hospital. At the end of the study, we will be able to say whether it is a good idea to have a further study to test the improvements in a wider range of hospitals. Identifying current practice and enhancements to audit and feedback will be of interest to policy-makers, regulators, healthcare providers, patients, carers and health service researchers.

Health Care Assistants and 12-hour shifts: the impact on well-being and work-life balance

Louise Thomson
University of Nottingham

Background: There are over 1.3 million unregistered healthcare staff in the UK working in the health and social care sector [1]. These staff deliver the majority of the hands-on care to patients in hospital, in care homes, or in the patient's own home. In July 2013, the Cavendish Review examined the role of health care assistants in both NHS and Social Care and founds that many health care assistants feel undervalued and overlooked, and that there is a need for consistent training, a minimum standard of competence and clarity on roles and responsibilities [2]. This review, also examined the working conditions and contracts that health care assistants work under and reported that, in the NHS at least, 12-hour shifts have become the norm. Indeed, in a national survey of nurses, 63% of nurses in care homes and 41% of NHS hospital nurses reported regularly working 12-hour shifts [2]. Although there is increasing evidence on the effect of 12-hour shifts on patient care and performance [3, 4], there remains a lack of evidence about the impact of 12-hour shifts on staff well-being. This study sought to address this by exploring the experiences and perceptions of health care assistants working 12-hour shifts concerning the impact this working pattern had on their well-being and work-life balance.

Methods: Semi-structured interviews and focus groups were conducted with 25 health care assistants who worked in a range of healthcare settings: 12 acute, 7 mental health, 4 community, 2 care home. The data was transcribed verbatim, and coding of the data then took place using NVivo software. Framework analysis was used to interpret the qualitative data.

Results: The results show diverse perceptions and experiences among the health care assistants with a both positive and negative impacts of 12-hour shifts on well-being and work-life balance reported. The relative advantages and disadvantages appear more dependent on the HCA's personal circumstances and the other aspects of how the work and shifts are managed, than on the presence of 12-hour shifts alone. Benefits of better work-life balance when working 12-hour shifts were widely reported, and in particular having 4 consecutive days off which allowed health care assistants to engage in non-work activities and carry out personal caring responsibilities. However, in contexts where 12-hour shifts led to increased staff fatigue, a negative impact on work-life balance was reported with health care assistants describing having wasted days off through exhaustion and an inability to engage in social activities. A number of factors were implicated in determining whether 12-hour shifts were negatively or positively framed by the participants including: the number of consecutive 12-hour shifts worked, the number of days off between 12-hour shifts, flexibility and control over shift patterns, sufficient staff to meet the work demands and allow breaks, and a positive team climate where colleagues supported each other in delivering their duties.

Implications: The relationship between length of shift and health care assistant well-being outcomes is a varying and complex relationship that is dependent on the nature of other individual and workplace factors. These include shiftwork patterns and flexibility over these, the nature and level of the demands of the healthcare setting, the ability to take breaks, staffing levels and skill mix, a supportive team and management, and personal and domestic circumstances of the worker. Future research into the impact of 12-hour shifts health care assistant outcomes needs to view these shifts as part of the wider context of work design and management.

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Poster Display
00:00-00:00

Communication skills training for healthcare professionals caring for people with dementia: an interview study

Louise Thomson¹, Sarah Goldberg¹, Rowan Harwood², Rebecca O'Brien³

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Background: Effective communication in acute hospitals is crucial to facilitating person-centred care [1]. Communication is particularly challenging between staff and people living with dementia (PLWD), who occupy approximately 25% of hospital beds [2, 3]. As well as problems in memory and recognition, PLWD often experience communication difficulties such as impaired comprehension and expression, difficulties finding words, lack of coherence, and repetition of thoughts [4]. In a hospital environment, communication breakdown can lead to unmet need, poor care, and distress [5]. Challenging interactions with PLWD can also result in hospital staff experiencing increased levels of stress and reduced job satisfaction [6]. 72% of nursing staff report the need for additional training in skills to communicate effectively with PLWD [1]. This paper reports on healthcare professionals' experience of a new evidence-based communication skills training intervention for interacting with PLWD in acute hospital settings. The intervention was based on the results of conversation analysis of 41 video-recorded encounters between healthcare professionals and PLWD [7]. The training intervention was run six times, each course taking place over 2 days, one month apart. Multiple pedagogic approaches were used including didactic teaching, experiential-learning, video-workshops, simulation (with specially-trained actors), small group discussion and reflection. A total of 44 healthcare professionals who work with PLWD completed both days of the training and showed post-training increases in knowledge of and confidence in dementia communication, reported using the skills learned in clinical practice one month later, and demonstrated some behaviour change in taught communication behaviours during simulated patient encounters [8]. This paper describes an interview study with healthcare professionals who attended the training intervention to explore their perceptions of the effectiveness of the training methods.

Methods: 13 healthcare professionals took part in semi-structured interviews between three and six months following the training to explore the experience of the training and their perceptions of its effectiveness. Participants included five doctors, four nurses and four applied health professionals. Interviews were audio-recorded and transcribed, and the data was analysed using framework method [9].

Results: Participants emphasised the value of simulation, and although some found simulation uncomfortable, almost all recognised its educational value in giving trainees the opportunity to practice the skills taught in a realistic healthcare scenario and gaining feedback from trainers and SPs. The use of real life video-clips was valued by the participants. They carried notable validity, were frequently memorable, and demonstrated the real-life complexity, challenges, failures, and the negotiation regularly required to gain agreement. Participants also valued the multi-disciplinary cohorts that attended the training. Observing how colleagues communicate during the simulation exercises was shown to be a positive aspect of the experiential learning.

Implications: Teaching specialist communications skills to staff remains central to the provision of good care of PLWD, yet traditional methods of training have been inadequate. The use of simulated patients, videos of real interactions and multi-disciplinary training environments were all considered to be particularly effective training methods and enhanced learning through experiential [10] and social learning [11].

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Rapid Fire 3
03/07/2019
10:00-11:15

Diagnosis of hearing loss in primary care: Evidence from the English Longitudinal Study of Ageing (ELSA)

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Background: Hearing loss is a major public health issue that affects one-in-six people and over 11 million people across the UK. Hearing loss is far beyond a sensory impairment, and is associated with negative physical, social, cognitive, economic and emotional consequences. Primary health care (PHC) is the point of referral to NHS audiological services for hearing loss in adults. However, as hearing loss almost always develops gradually, people do not see it as a dramatic health problem requiring urgent intervention. The aim of this study was to examine the patterns of the diagnosis of hearing loss in primary care.

Method: Cross-sectional analysis comparing self-reported hearing data and data acquired by an objective assessment of hearing ability, from the Wave 7 of the English Longitudinal Study of Ageing (ELSA) (n=9,666). Hearing loss was defined as >35dB HL at 3.0 kHz, in the better-hearing ear. Questions were on hearing difficulties of the participants, hearing in noise, quality of care in hearing, and hearing aid recommendation (Figure 1).

Results: The prevalence of the self-reported hearing difficulties in ELSA Wave 7 (n=9,666), was 39.3% (n=3,801/9,666). Of those, 51.3% (n=1,949/3,801) did not discuss their hearing problems with a primary care health professional, and were not referred to an ear specialist. An increase of approximately 23% in the number of hearing aid users is estimated among the participants with hearing loss, provided that those that have difficulty in following a conversation in background noise have told a health professional in primary care about their hearing difficulty.

Implications: The self-identification of hearing difficulties is a major non-financial barrier for the initiation of help-seeking, which can affect the referral to ear specialists and the consequent hearing aid uptake. Our findings can offer an explanation why those of a lower socioeconomic position use specialist health services less frequently, in spite of the financial support of the treatment and hearing aid provision through the NHS in the UK. Our findings support the need for health policy strategies, aiming for an early detection of hearing problems and an increase in hearing aid uptake and use in specific population groups, to mitigate the adverse effects of hearing loss in older adults in England.

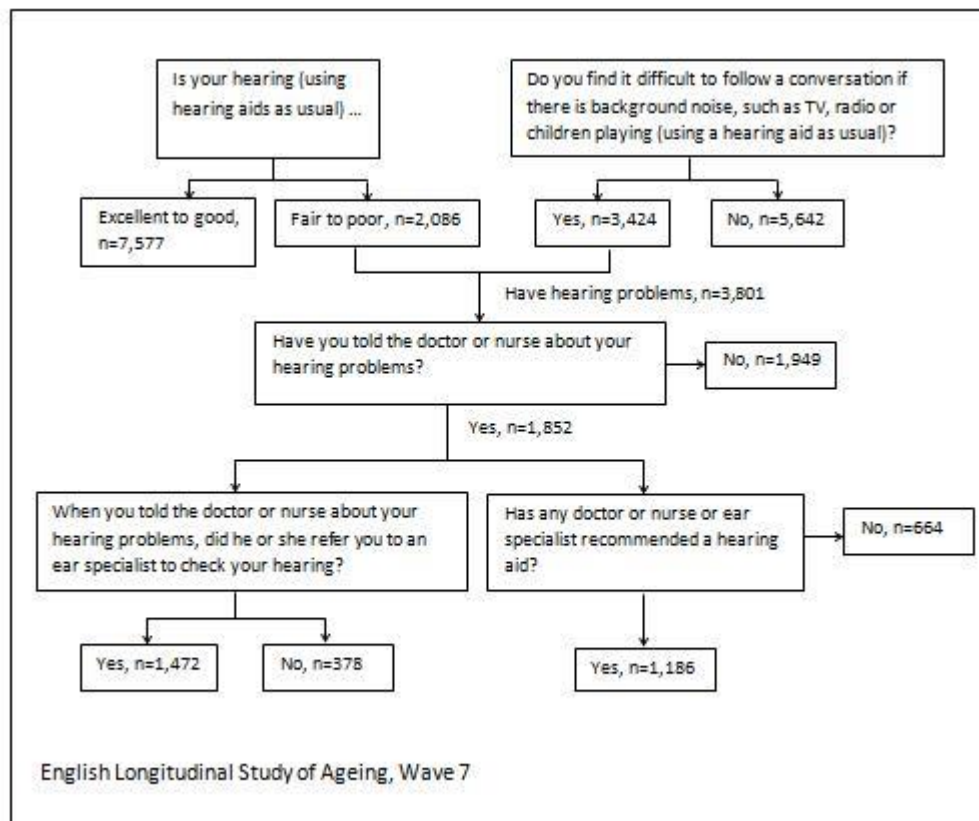


Figure 1. The questions on hearing difficulties, hearing in noise, quality of care in hearing and hearing aid recommendation in ELSA Wave 7 (n=9,666)

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Poster Board Number: 192

Poster Display
00:00-00:00

Designing and developing educational resources for people with back pain using creative co-production

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Background: Beliefs associated with a traditional biomedical view of lower back pain can be a barrier to recovery. Education that reframes the problem as complex and multifactorial may help people accept and engage with more positive attitudes and behaviours. Health belief and behaviour change is complex and research developed interventions can fail if they do not take into account context and person specific factors. Creative co-production provides a different approach to research intervention development. It encourages a collaborative, problem-solving, non-hierarchical approach to knowledge mobilisation. The boundary between knowledge producer and knowledge user is removed and knowledge from multiple stakeholders is combined with research knowledge to create real world solutions.

Methods: Getting diverse stakeholders to work together creatively and constructively is not easy. Pre-existing accepted ways of doing things and ideas about who knows best may stifle creativity. Differing priorities and assumptions may lead to conflict. To overcome some of these difficulties the project used a creative co-production method and included an experienced health care design researcher in the team. In the workshops stakeholders took part in creative 'making' activities. These 'Making' activities helped participants explore, reflect and consider both their own and others experiences, building trust and mutual respect. This shared learning was taken forward as a series of prototypes. Through negotiation these prototypes were blended into something that embodied inclusion and shared ownership but still reflected the individual contributions.

The project was completed in 4 phases

Phase 1-A literature review of existing specific back pain education evidence and a review of contemporary scientific theories of belief and behavioural change

Phase 2-Creative coproduction workshops.

Two half day stakeholder workshops were held. In the first workshop, the lived experience of back pain was explored from both service user and service provider perspectives. In the second workshop, the collective learning from workshop 1 was used to facilitate idea generation and explore solutions that could be developed further.

Phase 3-Prototype development

The outputs of the workshops were synthesised with the knowledge from the literature. Taking into account what was achievable within the constraints of the health service, ideas were iteratively developed into tangible prototype resources that were tested in the clinical setting

Phase 4-Creating Impact

The final prototype educational platform and supporting resources were presented to project stakeholders and Key decision makers ready for implementation. .

Results: The literature review demonstrated reasonable evidence for education to support self-management for back pain but there was no clear consensus on the best way to provide it. Educational and behavioural change theories identified important mechanisms that could be exploited in order to ensure effective change.

The outputs of the first workshop were analysed and four themes emerged

- Consistent and effective communication is very important.
- Back pain can be difficult to explain and difficult to understand.
- Peer support can make a big difference to the recovery process.
- Early access to practical information helps people do the right thing

In the second workshop participants developed different ideas of how to tackle these themes. The creative co-production method heightened stakeholder engagement and generated many ideas that illuminated our understanding of how solutions could work for them.

The ideas and themes from the workshops were mapped to development opportunities within the existing service. Through a further process of prototyping, feedback and refinement the 'Talkback' concept was developed.

'Talkback' is a system of thematically linked resources that are available throughout the patient journey. Together they provide a believable, logically consistent explanation of back pain that makes sense and has utility. The resources use active learning strategies, easy to understand explanations and provide opportunities for people to relate the information to their own circumstances and create a personal action plan. They will be available to use in physiotherapy sessions, online and in our new education and peer support session. We held a test of this session and used the prototype resources. The session was attended by project stakeholders, patients and staff. Extensive feedback was collected throughout the session and confirmed that this was something that patients wanted to engage with and staff wanted to provide.

Implications: The creative co-production design process of knowledge synthesis, collective making, prototyping, feedback and refinement allowed us to create solutions that all stakeholders were proud to share ownership of. Our experienced facilitators helped stakeholders surface and express important knowledge that they were unaware they possessed. This was very empowering and gave participants the confidence to express influential ideas throughout the project. The involvement of diverse stakeholders meant that we were always working towards a system based solution. Our 'Talkback' concept meets the needs of the patients, the staff and the service. It is adaptable to context and personal situation, evidence based and easy to integrate into current standard practice. This methodological approach is recommended for other complex health service issues looking for system based solutions.

Poster Display
00:00-00:00

A qualitative study of patients' experiences of receiving intravenous infusions

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Background: The administration of medication or fluids via the intravenous route is a common intervention for many hospital inpatients. However, little research has explored the safety and quality of intravenous therapy from the patient's perspective, despite the role of the patient in patient safety receiving increased attention in recent years. The aim of this study was to explore patients' perspectives on the perceived quality and safety of intravenous infusions and identify implications for practice.

Methods: This study formed part of a larger project, Exploring the Current Landscape of Intravenous Infusion Practices and Error ("ECLIPSE"). Qualitative semi-structured interviews were conducted with 35 hospital patients receiving intravenous infusions in critical care, oncology day care, general medicine and general surgery areas within four National Health Service hospitals in England. Interviews took place at patients' bedsides and were conducted between November 2016 and December 2017. Data were analysed thematically. Ethical approval was obtained from a National Health Service Research Ethics Committee and site-specific approval from each participating hospital organisation.

Results: Four underlying and interlinked themes were identified: knowledge about intravenous infusions, challenges associated with receiving intravenous infusions, the role of healthcare professionals, and patients' attitudes towards receiving infusions.

Implications: Patients were generally satisfied with receiving infusions; however, factors that contributed to decreased feelings of quality and safety were identified, suggesting areas for intervention. Issues to do with infusion pump alarms, reduced mobility, cannulation and personal preferences for information, if given more attention, may improve patients' experiences of receiving intravenous infusions.

How are vulnerable people protected during heatwaves? Findings from the evaluation of the Heatwave plan for England

Lorraine Williams, Bob Erens, Stefanie Ettelt, Shakhoor Hajat, Tommaso Manacorda, Nicholas Mays
London School of Hygiene and Tropical Medicine

Background: In England, periods of hot weather lead to increases in deaths and illness, particularly among those most vulnerable to heat, such as young children, older people and those with chronic cardiovascular and respiratory disease. Following the severe heatwave in 2003, which accounted for over 2,000 excess deaths in the UK, and climate change predictions of more frequent and increasingly hotter summers in England, the Government introduced the first Heatwave Plan for England (HPE) in 2004. The HPE presents itself as a good practice guide setting out 'what should happen before and during periods of severe heat in England. It sets out what preparations both individuals and organisations can make to reduce health risks and includes specific measures to protect at risk-groups' (Public Health England, 2015 p.7). The plan describes which organisations and staff are responsible for providing heatwave support services, namely a national heat-health alert service, and the dissemination of heat-health advice to the general public, local communities and public service providers including local authorities, NHS, social care, other public agencies and voluntary groups. The stated aims of the HPE are 'to raise public awareness of the dangers of excessive heat to health and to ensure that health, social care and other voluntary and community organisations and wider civic society is prepared and able to deal with a heatwave when it comes so as to protect the most vulnerable' (Public Health England, 2015: 7). In 2016, the Department of Health and Social Care commissioned the Policy Innovation Research Unit at the London School of Hygiene & Tropical Medicine, as part of its core funded programme, to conduct an independent evaluation of the implementation and effects of the HPE. The evaluation was conducted between January 2017 and October 2018 and addressed questions on how the plan is being implemented by health and social care organisations; whether the general population is aware of the risks of heat; and what preventative and protective actions they take up to and during periods of severe heat.

Methods: The overall evaluation comprised a mixed methods study involving several components, including an epidemiological analysis of deaths and hospital admissions before and after the HPE was introduced. This presentation reports on findings from the evaluation of the implementation of the HPE, and heat-health attitudes and knowledge of the general public, drawing on the following sources of data:

- A national survey of public attitudes, awareness and behaviour related to hot weather, using a representative sample of 1878 members of the general public in England (age 18 and over)
- Four focus groups with older people discussing how they coped in hot weather. Participants were purposively selected to include those identified as most at-risk during heatwaves
- An analysis of five 'implementation' case studies using interviews with managers and frontline staff in health and social care organisations

Results: Our findings revealed variation in heat-health risk awareness, knowledge and behaviours between individuals and organisations involved in implementing the HPE, and among members of the public. Most adults in England do not consider themselves at risk from hot weather, including a majority of those considered to be particularly vulnerable to the effects of heat. Knowledge of some protective behaviours is poor (e.g. closing exposed windows during the day) and heat-health publicity/advice appears not to reach some vulnerable groups, such as adults in poor health. Although many frontline health and social care staff were not aware of national or local heatwave plans, most expressed confidence in how to protect their patients and clients. However there were some knowledge gaps, and not all actions taken during heatwaves were in line with HPE guidance. During alert periods it was difficult to reach all potential high-risk groups, especially those who might be 'below the radar' of health or social services, such as people with social care needs who do not qualify for means-tested social support.

Implications: As future English summer temperatures increase, there will be a greater need for health and social care professionals and organisations to be better prepared and resourced in order to protect those most vulnerable to heat. Those providing heatwave guidance may need to review procedures to identify and provide preventative services to those who may not be routinely in contact with health or social care providers, such as older people living on their own. The capacity and resources of health and social care providers to implement protective actions, as suggested in the HPE, should also be reviewed.

Rapid Fire 3
03/07/2019
10:00-11:15

Core outcome sets through the healthcare research ecosystem: a NICE example

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Background: A core outcome set (COS) is an agreed standardised set of outcomes that should be measured and reported, as a minimum, in all clinical trials in a specific condition. They are also suitable for use in clinical audit or research other than randomised trials that report on health-related outcomes. This allows research to be compared and combined as appropriate, and ensures that all studies provide usable information. An increasing number of COS developers also intend their COS for use in routine health care practice. The COMET Initiative provides and maintains a database of COS, as well as carrying out methodological research and producing guidelines for COS development. There is a current interest in identifying how COS might fit into the different stages of the healthcare research system. With their proximity to reimbursement/coverage decisions, HTA bodies can increase awareness of COS, encourage COS development and support uptake of COS. Relevant bodies have identified the potential challenge of different organisations' requirements for condition-specific versus generic quality of life outcomes in COS. COS may serve as a thread that pulls all the way through the healthcare research ecosystem (Figure 1). Many organisations now actively endorse the use of COS and the COMET database, including the National Institute for Health and Care Excellence (NICE) who recommend the use of COS where appropriate in their methods manual for developing guidelines (<https://www.nice.org.uk/process/pmg20/chapter/developing-review-questions-and-planning-the-evidence-review>). NICE produces guidelines and quality standards for the UK's National Health Service and the public health and social care sectors. To improve the quality of its guidelines and quality standards, NICE actively encourages the use of COS during development. NICE encourages the use of relevant, high-quality COS to inform the development of guidelines in clinical, public health and social care areas.

Methods: There are several ongoing methods projects within NICE.

(1) Guidelines programme:

- COS for asthma management: consensus project between NICE, Cochrane Airways and the COMET Initiative. The objective is to reach consensus on a core outcome set for asthma management across the 3 organisations.
- Exploring the use of core outcome sets (COS) in public health and social care research and evidence-based decision-making. The objectives are i) to map existing COS work in public health and social care; ii) to raise awareness; iii) to explore the barriers and facilitators to use of COS; iv) methodological issues in the development of COS for public health and social care.

(2) NICE Surveillance reviews:

NICE has a guideline surveillance programme that reviews new evidence after guidelines are published, to decide whether an update is needed. New evidence on COS is considered to be one of the key indicators for update. Current informal processes for identifying outcomes during surveillance bring up a lot of outcomes that may be 'unimportant', but which are still used when deciding whether to update a guideline. Exploratory research has investigated how outcomes in surveillance are currently considered, with the consideration of the need to create a more formal process in the future.

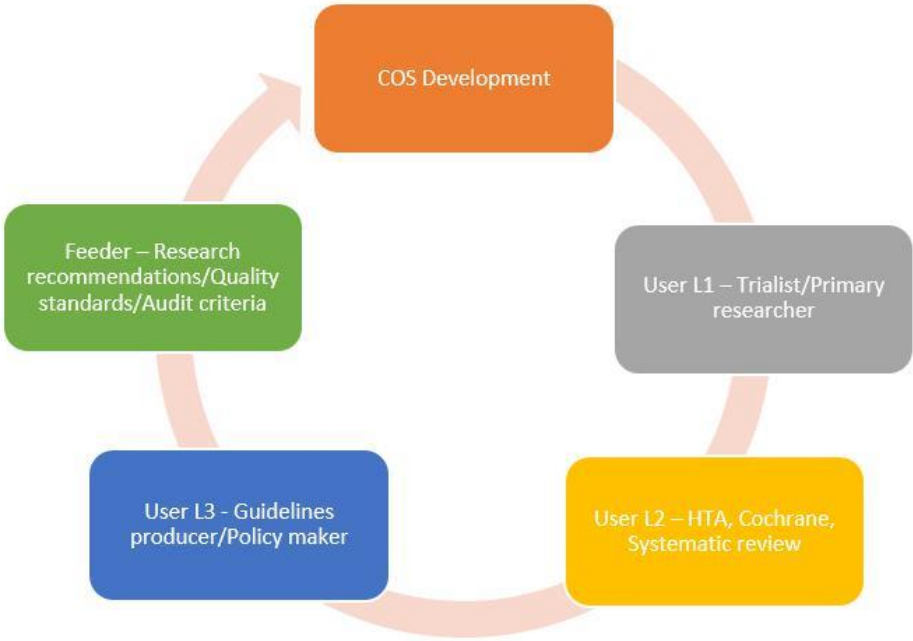
(3) NICE Quality standards: NICE quality standards identify priority areas for quality improvement in a defined area, with almost all being underpinned by NICE guidance. There are two main components to a quality standard: the action-focused quality statements and the measures associated with them. The statements specify and describe the area for quality improvement, the measures can be used to assess the quality of care or service provision. The quality standards always include the identification of outcomes attributable to individual statements and 'overarching outcomes' that the standard will contribute to. To ensure the outcomes included in NICE quality standards align to the underpinning evidence and support measurement so users can assess changes in outcomes, moving forward, outcomes included in quality standards will be based on existing COS when possible, reflecting the approach set out in the draft 2018 update to Developing NICE guidelines: the manual.

Results: Preliminary results from this exploratory research found that there are a lot of outcomes not included in COS and original guidelines that are being identified in surveillance evidence summaries. This suggests that a high number

of potentially ‘unimportant’ outcomes are being identified in surveillance. Therefore, there is reason to create a more formal process for outcome assessment in surveillance of NICE guidelines.

Implications: Presentation at HSRUK will be an ideal platform to continue this discussion with relevant groups and individuals.

Figure 1: COS and the healthcare research ecosystem



Rapid Fire 2
02/07/2019
15:45-17:00

Impact of introducing ward-based pharmacy services on delivery of safe care

Sarah Willis, Liz Seston, Esnath Magola-Makina, Li-Chia Chen
The University of Manchester

Background: A major challenge for health systems internationally is meeting the growing demand for healthcare. One way to address this is to redesign service delivery by reconfiguring team interdependencies and roles to promote collaborative practice. Such practice allows team members to develop a 'collective life'¹ in which they respect and trust each other; and by working interdependently, collaborative processes for providing quality patient care also develop. However, individual and systemic factors may influence collaboration, and as a result redesigned services may fail to deliver intended outcomes. This study aimed to investigate the impact of introducing a dedicated ward-based pharmacy (DWP) service on process outcomes. Within the DWP service, increased ward-based pharmacy input from pharmacists and pharmacy technicians has been achieved through task-shifting and restructuring roles. To date, this model has not been widely implemented, and there is no standard methodology for establishing impact.

Methods: This study was conducted 2017-2018 in a hospital in Northwest England using three workpackages (WPs): WP1, structured observation comparing pharmacists' activities on intervention (DWP) and non-intervention wards; WP2, semi-structured interviews with senior management and healthcare professionals (n=35) exploring experiences of, and perceived impact and outcomes of, DWP, and factors promoting or inhibiting implementation; and WP3 an interrupted time-series analysis (ITSA) of routinely-collected hospital performance measures (medicines reconciliation [drug history obtained; drug histories clinically checked], e-discharge letter completion, time of discharge, length of stay, readmission within 28 days). Analysis of WP1 involved comparing time pharmacists on DWP and non-DWP wards spent on activities related to direct patient care, indirect patient care, responding to queries, checking medicines, supplying medicines, and documenting interventions. WP2 interviews were audio-recorded, transcribed, and analysed using normalisation process theory²(NPT) to understand how DWP had become embedded during / after implementation. In WP3, aggregated, anonymous performance data were analysed by ITSA using STATA 14 (Stata-Corp, Texas, USA, 2015), with baseline trend before implementation of DWP, change in the level and change in trend after implementation of DWP tested and reported for each time series. The study was approved by the University of Manchester Research Ethics Committee (Ref: 2017-1944-3894) and Health Research Authority (IRAS ID: 228321).

Results: Over three months, 48 observation sessions were undertaken on 25 wards (15 DWP, 10 non-DWP wards, representing 145 hours and 86 hours of observation time respectively). While pharmacists on DWP and non-DWP wards spent the largest proportion of their time checking medicines (DWP vs. non-DWP: 46.8% vs. 50.7%) and on direct patient care (DWP vs. non-DWP: 30.6% vs. 31.3%), a significant difference between activities was found in relation to indirect patient care (13.1% vs. 9.4%, $p<0.01$) and supply (3.2% vs. 1.6%, $p<0.01$), with responding to queries an important feature of DWP pharmacists' role only, suggesting partnership-working and team interdependencies developing following DWP implementation.

WP2 participants understood DWP as mainly being about discharge procedures and medicines management, although the pharmacy team were conceptualised as playing an important part in prioritising and planning workload, and as working closely with nursing and medical staff. Coherence regarding the purpose and benefits of DWP was only reached after implementation when ward staff experienced it themselves, which influenced how DWP was embedded into routine practice and delayed development of new roles and processes. Moreover, integration into existing systems at ward level appeared to be dependent on individual DWP pharmacists, and was affected by a pharmacist's approach to new ways of working. Overall, WP3 ITSA results indicate that only two wards showed both a significant change in level of drug histories obtained within 24 hours at the time of the DWP intervention and a change in trend post-intervention. Similarly, only one ward showed both a change in level at time of the intervention and a change in trend (an increase in proportion of drug histories clinically checked within 24 hours). There were no significant findings for the percentage of complete discharge letters, percentage of patients discharged post 5pm, average length of stay or for readmissions for all diagnoses within 28 days

Implications: Implementation of DWP has safely reconfigured how patient care services are organised and delivered, through extending scope of pharmacy professionals' practice. It has been most effective where interdependencies and collaborative practice have emerged: eg as pharmacists answered queries, shared prescribing decisions and where partnerships with technicians on discharge letters have developed. However, DWP has had very little impact on hospital performance measures, and while implementation has not caused harm, such measures may not be suited to evaluating the impact of redesigned services promoting collaborative practice.

1. D'amour D, Oandasan I.(2005) Interprofessionality as the field of interprofessional practice and interprofessional education: An emerging concept, Journal of Interprofessional Care, 19:8-20, DOI: [1080/13561820500081604](https://doi.org/10.1080/13561820500081604)
2. May CR, Mair F, Finch T et al. (2009). Development of a theory of implementation and integration: Normalization Process Theory. Implementation Science, 4(1):29.

Poster Board Number: 197

Rapid Fire 3
03/07/2019
10:00-11:15

Thinking outside the (dosette) box: health professionals' experiences of supporting medicines management in the home environment for patients who are seriously ill.

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NCARE, University of Nottingham

Background: Beyond the substantial evidence focused on issues with patient compliance and adherence to medication regimes there is now a small body of work that recognises that many people feel ambivalence towards medications and want to take as few as possible. Moreover, emerging work is also recognising the concerns patients have about medications, alongside the burdens and practical difficulties involved in accessing and taking them. Study participants have reported issues around reading and understanding the instructions for use, handling outer and inner packaging, being able to identify tablets once out of their packaging, and physically taking the drug. In the UK, there are a number of dose administration aids and technologies available to support patients and families in managing and administering medications. These include applications to reorder prescriptions, alarms, timer dispensers, lock boxes, pharmacy prepared blister packs and pill organisers such as dosette boxes or a 'multi-compartment medicine systems'. Managing medications when someone is seriously ill and dying at home can generate additional issues. Patients may be reliant on family members to manage their medications or require regular changes to medications. While some preventative medications may be reduced, patients are likely to have increasing numbers of medications, to be administered in a variety of ways. Patients may also have larger doses, particularly for pain relief, including controlled drugs such as morphine which pose additional safeguarding and dispensing issues. Ability to maintain their medication regime could be a critical factor determining whether a patient can remain at home and avoid costly and unscheduled hospital admissions.

Method: This paper presents findings of perspectives and experiences drawn from interviews with 40 healthcare professionals, including: GPs, Specialist palliative care nurses, community nurses, pharmacists, hospice at home nurses, and clinical nurse specialists. Interviews took place between June 2017-October 2018 as part of a larger, ongoing NIHR funded study of medication management among seriously ill patients being cared for at home.

Results: This paper reports on how health professionals described the support they offer to patients and families to manage medications in their homes. In their different roles health professionals engaged with patients and families in a variety of ways, both in clinic settings and in their own homes. The majority of health professionals recognised that patients did not always take medications as prescribed but few reported engaging with families about why this might be an issue and how they might be able to help resolve it. Generally, there appeared to be a disconnection between the prescriber and what might happen to that prescription once dispensed. Dosette boxes and, in particular, blister packs, were pre-prepared by pharmacists, and often delivered directly to patients' homes. These were commonly used as a problem solving intervention to help patients to organise and remember when to take their medicines in the home. In a number of cases these boxes were helpful and appropriate. However, some patients and families needed more innovative approaches to optimise their medicine taking, and a small number of health professionals reported ways of thinking 'outside the box' in order to develop strategies to help them. Some of the complexities involved included patients/families with learning difficulties, literacy issues, substance abuse issues, dementia, multifaceted regimes, and complex pain. Health professionals recognised that once boxes were prepared it was difficult to alter medications and doing so often resulted in wastage. They also expressed concerns about potential confusion with medications that could not be put into boxes such as liquids, patches, medications that needed to be refrigerated and those taken as needed. For those patients requiring alternative strategies beyond that of a dosette box or blister pack, health professional's initial action was often to review and rationalise medications to simplify regimes. They would also explore alternative routes of administration, for example switching to a liquid if a patient was struggling to swallow. Less common, albeit simple, and considered more innovative, were approaches such as: providing a list of medications with what they are for, how to take them, and when; laminated tick sheets; colour coding packaging; lockable tins for those with confusion or substance misuse, alarms, and telephone reminders or home visits. These sat alongside a dedication to support patient choice and agency in taking their medications in their own way.

Implications: While some health professionals in this study did work to support patients and families with more complex issues in managing medications many seemed to see their role as prescriber or dispenser and appeared to take little interest in what might happen to those medications once they were in the patient's home. There is considerable scope for greater understanding of the - often burdensome - reality of the patient and family caregiver experience of care and, therefore, the greater engagement of health professionals in tailored ways of supporting medicine management for patients who are seriously ill and dying at home.

Building Resilience in Mental Health Nurses Working on Adult Acute Inpatient Wards

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Background: Mental health nursing is a challenging career, maintaining the balance between therapeutic context and keeping people safe is demanding. Staff burnout is associated with poor quality of care and is correlated with the amount of violence and aggression experienced. Improving the resilience of nurses working in difficult environments may help reduce their stress levels and therefore burnout, leading to improved quality of care for service users.

Method: Sheffield Health and Social Care NHS Foundation Trust commissioned senior staff to develop a resilience course for newly qualified nurses working in an inpatient environment in response to concerns regarding the stress they are under. A pilot of this course was delivered in autumn 2015 with 16 staff nurses. Measures of resilience and well-being were taken before and after the course, questions from the NHS staff survey were completed at the start of the course to compare course attendees with NHS staff in general. At the start of the course all staff had lower resilience and lower well-being than the general population. The initial findings from the first pilot were quantitative and based on resilience and well-being questionnaires. The small sample size of the evaluation meant that study was underpowered and unable to offer conclusive results as to the value of the workshop. A second course was run in 2017 with nurses from inpatient wards who had all completed their preceptorship but had been qualified for less than 18 months. Another 15 nurses attended the course. A qualitative feedback form was completed at the end of the course to ascertain the participant views on the value of the course. All 15 nurses completed the feedback form.

Results: The feedback was positive. Participants felt the course had been helpful and recommended it should be offered to other ward staff. Some people found the Mindfulness and exercises that involved closing their eyes whilst sat in a group challenging. Some suggested that organisational change to allow staff time to continue the exercises once back on the ward was necessary for long term effectiveness.

Implications: The course was welcomed and valued by ward staff. They reported that it felt 'like someone was listening' however, three days off the ward is a lot of time to find and needs to be fully funded and supported. Given the current crisis in workforce retention this type of intervention may be of help but a larger study incorporating economic analysis will be required.

Poster Board Number: 199

Poster Display
00:00-00:00

The Advanced Level Nursing Practice Cohort Study

Emily Wood, Rachel King, Beth Taylor, Steve Robertson, Tony Ryan, Angela Tod
University of Sheffield

Background: Advanced Level Nursing Practice (ALNP) is not a protected title and is poorly defined. As such it means different things in different Trusts, and to different nurses. In order to improve patient safety and create a recognised standard for advanced practice the Royal College of Nursing (RCN) developed credentialing. Credentialing for advanced nursing practice is a new system. Unlike nurse registration it is voluntary, not compulsory, and is governed by the RCN. The RCN is a Professional organisation supporting and representing the nursing profession in the UK. The Nursing and Midwifery Council (NMC), is the nurse practice regulator and runs the nursing and midwifery register. There is a history of debate regarding the need for the NMC to register advanced nursing practice as a different level of practice, and regulate this. The RCN has developed credentialing partly in response to the NMC's decision not to regulate advanced nursing practice. Currently only a few hundred nurses are credentialed, however with the scheme is set to expand within the next few years. It is therefore crucial to understand nurses' experiences of the system and its impact on their jobs.

Method: This is a longitudinal Cohort study that will take place over four years. A cohort of nurses who are eligible to join the credentialing process (but may or may not have joined) will be created. The overall aim of the study is to map the Cohort's experience as advanced level nursing practitioners and the impact of the RCN credentialing system on their experiences; specifically, we aim to: Evaluate participants' experience of the RCN credentialing system and for those who have chosen not to use it, why not; Evaluate participants' career and job experiences and workplace well-being; Evaluate participants' attempts to measure their impact on patient care and outcomes. The yearly questionnaires will yield data to compare the cohort to each other and to other NHS workers with regard to job satisfaction and experiences and to the general population with regard to well-being. The cohort will also be used as a sampling frame for other studies relevant to ALNPs.

Results: After the first recruitment round the cohort has 80 members. We will continue to grow the cohort every six months and at the conference describe the nature of the cohort and provide early results. Intentions for future studies using the cohort will also be described.

Implications: This is the first attempt that we know of to try to understand the working environment and experiences of advanced nurse practitioners in the NHS. At present we do not even know how many there are or if efforts to standardise and regulate this group are welcomed either by the ALNPs themselves or by their employers.