HSRUK CONFERENCE 2018

CONFERENCE ABSTRACT BOOK

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'Open Visiting' A Realist Evaluation

Helen Hurst

Background

Historically, in adult hospital settings visiting hours have been restricted to set times (1). This was thought to be effective in protecting patients 'quiet times' and to allow nurses and other health care professionals (HCPs) time to carry out duties and provide care (2). Open visiting refers to the principle that visiting hours are not restricted in the hospital setting and relatives, families/carers can visit at any time. Open visiting has been introduced in some organisations as standard practice because patient and family centred care is at the heart of it and it is supported as a safety initiative (3-5). However, there are still reported barriers from HCPs who are concerned about interruptions, lack of privacy and lack of control over the environment (6, 7). There is little reported evidence on the impact on patient outcomes of open visiting; many studies are from intensive care units and tend to be surveys rather than trials (7, 8).

Methods

Aim

The aim of this study was to understand the implementation process of open visiting in an acute ward setting for older patients. We also explored communication between patients, families/carers and HCP's, the involvement of families/carers in patient and family centred care and the potential improvement in patient safety outcomes.

Methods

A realist evaluation was used to understand 'what works for whom, how and in what circumstances'. There were three phases. In phase one we developed 'programme' theories about implementation of open visiting through stake holder engagement and reviewing the literature. Phase two was data collection which involved both quantitative (routine data of patient safety measures e.g. falls) and qualitative data (semi structured interviews with staff, patients and relatives/carers). Phase three was a themed analysis of all the results and refining the initial programme theories.

Results

30 interviews were conducted and data from complaints and falls collated. There were four refined programme theories following analysis. Firstly, open visiting facilitates flexible access to HCPs, which helps to build trust, improve communication and reduce complaints. Second, for relatives/carers to become partners in care staff need to engage and encourage their participation as it can impact positively on reducing harm and improving quality care. Thirdly, if relatives/carers are present at busy times staff need to manage the dignity of others and feel confident in controlling activities and interruptions. Finally, for successful implementation staff need to be involved in the whole process and may require additional support in communicating and supporting relatives.

Implications

The implications of this study are that open visiting can have a positive impact on patient and family/carer experience and improve communication. However, involving patients' families and carers will not happen automatically with open visiting. Over time a shift from traditional ways of working will help to develop relationships between families, carers and staff.

The impact of living alone on health care utilisation in older adults: a cross-sectional study of electronic health records from a London General Practice

Kathryn Dreyer

Background

In 2016, one in three older people in the UK were living alone. These patients often have complex health needs and require additional clinical and non-clinical support. Although it is widely accepted that a person's living arrangements are influential on their health, few studies have examined the association between living arrangements and health care utilisation. Furthermore, results of existing studies provide conflicting evidence of the impact of living alone on health care utilisation. This study aimed to analyse the association between living alone and primary and secondary care utilisation in older patients in the English NHS at a patient level using electronic health records.

Methods

We conducted an observational, cross-sectional study of 1,447 patients over the age of 64, living in 1,275 households who were registered at a large multi-site general practice in South East London. The association between primary and secondary care utilisation in older patients and living alone was examined using multivariable generalised linear models. A subgroup analysis was conducted to investigate whether the association between living alone and health care utilisation changes as patients age.

Results

51.2% of older patients in the sample lived alone and patients living alone were on average older and had a higher number of chronic conditions compared to those who lived with others. After adjusting for patient demographics and clinical characteristics, living alone was significantly associated with a higher probability of utilising emergency department and general practitioner services, with odds ratios of 1.50 (95% confidence interval [CI] 1.16 to 1.93) and 1.40 (95% CI 1.04 to 1.88) respectively. Subgroup analysis results were consistent with the main analysis and show an increasing impact of living alone between the group age 65 and over and 70 and over.

Implications

Our results demonstrate an association between older patient's living arrangements and their health care utilisation. This highlights the potential to identify and target patients with higher needs who live alone. Within primary care, there is scope for general practitioners to refer older people living alone to local non-clinical services, to help support them both emotionally and practically. Within an acute care setting, interventions implemented prior to discharge which offer additional support to patients living alone may help reduce the risk of readmissions. Further research is needed to understand the mechanism driving higher utilisation for those patients who live alone.

Diagnosing heart failure in primary care: which patients follow the NICE guidelines and what are their outcomes?

Alex Bottle

Background

Heart failure (HF) is common and associated with high rates of emergency hospitalization and mortality. Early diagnosis is important. In the UK, the National Institute for Health and Care Excellence (NICE) outlines the recommended steps to diagnosing HF – echocardiogram / BNP testing and specialist referral – but we previously identified that few patients had this guideline followed and that various other routes to diagnosis exist. Here we investigate which types of patients were put on the NICE pathway and how their outcomes compared with patients put on other pathways.

Methods

Descriptive and survival analysis of a retrospective cohort of HF patients diagnosed in England between 2010 and 2013 after presenting in primary care with one of the three classic HF symptoms (breathlessness, ankle swelling and fatigue). Data came from the Clinical Practice Research Datalink, a large, representative primary care database with linkage to hospital data. We categorised patients into various pathways according to the management they received within 6 months of presenting to the GP with their first HF symptom: the NICE-recommended pathway, one component of NICE, medication, other and "no pathway" (no action recorded). The two outcomes of interest were a first-ever emergency admission for HF and death. We allowed 6 months after symptom presentation to allow pathway completion without censoring and so excluded patients with either outcome during that time. Crude and adjusted cause-specific hazards models were used to evaluate the association between pathway taken and each outcome of interest. Models adjusted for age, gender, deprivation, HF symptom type and various comorbidities.

Results

In our cohort of 13,897, only 7% (N=977) had followed the NICE-recommended pathway within 6 months of presenting to their GP with an HF symptom; another 19% had followed one component of it. 22% had followed none.

Patients on the NICE pathway were more likely to be male, aged 65-74, living in the most deprived areas, and without any major comorbidities, especially without COPD. They were less likely to be aged 85+ or present with ankle swelling or fatigue rather than breathlessness (all p<0.001).

For first HF admission after covariate adjustment, patients on the NICE pathway had 29% lower hazard (HR=0.71, 95%CI 0.65 to 0.79, p<0.001) compared with no pathway; those with specialist referral had 8% lower hazard (HR=0.92, CI 0.85 to 1.00, p=0.046).

For death, although significant (p<0.001) reductions in hazards were found in favour of NICE and its components in unadjusted comparisons, these all disappeared after covariate adjustment, e.g. NICE pathway HR=0.90 (CI 0.79 to 1.04, p=0.147).

Implications

Men, patients of early retirement age, those without COPD, or those in affluent neighbourhoods were overrepresented in patients who followed the NICE pathway. Selection for this recommended pathway was associated with lower hazard of emergency HF admission but similar hazard of death compared with the no-pathway group after covariate adjustment. Future studies should explore why such inequalities exist and how to ameliorate them.

Social connectedness and engagement in preventive health services

Mai Stafford

Background

Prevention and early detection of disease are public health priorities but participation in preventive health services typically falls below recommended rates. Studies have examined participation in preventive healthcare according to marital status, living alone, social network size and level of social support. However, evidence is not consistent and marital status has been a focus of this work with functional aspects of social connectedness (i.e. the quality of a person's social relationships) having received much less attention. Long-term exposure and dynamics of social connectedness do not appear to have been explored in relation to participation in preventive health services. This study examined lack of social connectedness as a possible barrier to participation in screening and preventive health services among people in their late sixties.

Methods

Data on participation in blood pressure and cholesterol measurement, eyesight and dental check-ups, influenza immunisation, and bowel and breast cancer screening were obtained from 2132 study members aged 68-69 in the MRC National Survey of Health and Development. Associations between structural and functional social connectedness from age 53 to 69 and participation in these preventive services were tested in Poisson models controlled for education, social class, chronic illnesses, and GP consultations for health problems.

Results

Over 40% attended all preventive services within the recommended timeframe. Being married, frequent contact with relatives and friends, larger social network size, and (in men only) greater social support were associated with participation in more services, with associations consistent across all services. Prolonged exposure to a small social network was associated with a 66% (95% CI 30% to 111%) higher rate of non-participation compared to having a larger network. Increasing social support between ages 53 to 69 was associated with greater preventive health service participation in older age.

Implications

Low quality social relationships and prolonged limited social contact may be a barrier to preventive health service participation among older people. Improving access to social contacts and networks in older age is now recommended for health and quality of life

benefits. This study suggests there may be wider health system impacts through improving uptake of a range of preventive health services. These results provide a case for considering social connectedness as one dimension that should be included in activities to monitor the equity/distribution of population health programme uptake.

Emergency Care (Wednesday 4 July, 11.35 – 12.50)

How can the management of pain be improved in Emergency Departments? Findings from multiple case study analysis.

Fiona Sampson

Background

Pain is a common presenting symptom for patients attending Emergency Departments, yet inadequate pain management in the ED is widely recognised as a problem worldwide. Despite recognition of this problem, there has been little progress in understanding how pain management can be improved. A systematic review of interventions to improve pain management in the ED identified a range of interventions available but a weak evidence base to support implementation of any particular intervention to improve pain management. In particular, studies revealed limited understanding of the rationale underpinning existing interventions or the factors that affect pain management. We undertook in-depth case studies in three EDs to understand barriers and enablers to pain management in order to understand how pain management in the ED may be improved.

Methods

We used multiple case study design incorporating 143 hours non-participant observation, documentary analysis and semi-structured interviews with 37 staff and 19 patients at three Emergency Departments in England. Data were analysed using thematic analysis.

Results

Findings suggested that ED staff conceptualised pain management as distinct from the core purpose of the ED, and operated within a framework of embedded beliefs around how pain was managed and prioritised that allowed deficiencies in pain management to be perpetuated. Pain management was not considered one of the core tasks for which staff were held accountable and staff had limited awareness of their own performance. ED staff presented pain management as important but distinct from clinical priorities and perceived improvements to pain management to be outside of their control, due to workload volumes and staffing shortages, allowing pain management to get 'lost' within the workload. Work that contributed to patient flow was prioritised above pain management, and there was some evidence that pain management would be prioritised where it was considered to enable patient flow.

However, differences in how pain was managed and prioritised between sites suggested that this framework of beliefs could be challenged by changing workforce roles and streamlining processes, thereby actively enabling staff to improve pain management.

Improvements in access to analgesia and use of nurse-initiated analgesia at initial assessment in particular may help to reduce time to analgesia and potentially reduce workload associated with providing analgesia further into the patient journey.

Implications

This research suggests that EDs may be able to improve pain management despite increasing demands and pressures by integrating and formalising processes of pain management into the functions of the ED. Undertaking multifaceted changes may help pain management become recognised more as a core priority and generate a change in culture around the management of pain. However, due to the conceptualisation of pain management as distinct from the core role of the ED, interventions to improve pain management need to be compatible with the wider work of the ED and enable patient flow in order to be adopted and maintained.

Emergency Care (Wednesday 4 July, 11.35 – 12.50)

Differences in socio-demographic characteristics and emergency department (ED) use between migrants and non-migrants in the Born in Bradford (BiB) cohort.

Sarah Crede

Background

Globally, international migration is increasing. High rates of net migration and sustained population growth in the UK may increase pressure on healthcare services, including emergency departments (EDs) in the NHS. Migrants have been described as a group of people who may be increasing demand on EDs. However, there have been few attempts to synthesise evidence on migrants' use of EDs and the extent to which migrants create increased pressure on these services in the UK is widely debated. The aim of this study was to describe differences in mother's socio-demographic characteristics and paediatric ED utilization for their children in the first five years of life between mothers born in the UK/ Ireland and foreign-born mothers ('migrants') in the Born in Bradford cohort.

Methods

This study included children in the BiB cohort study (born between April 2007-June 2001) for whom there was complete maternal migration history. Data linkage was undertaken to link BiB baseline questionnaire data, including demographic characteristics and mother's migration history, to ED hospital episode statistics data. ED utilization for these children was studied for the first five years of life. The main outcome variable was the number of ED episodes recorded for each child for each year of life and the main explanatory variable was mother's migration status. Preliminary analysis using descriptive statistics were undertaken to analyse socio-demographic characteristics and ED use for the first 5 years of their child's life.

Results

10,176 children who had complete data on mother's birth country were included in the analysis. 35.61% of children were born to migrant mothers. Compared with UK-born mothers migrant mothers were generally older, more likely to have a higher parity, more likely to be educated beyond 16 and more likely to be married and living with a partner. Migrant mothers were significantly less likely to be employed or receiving benefits and more likely to live in the most deprived areas.

3,104 (30.43%) of children in the cohort had at least one ED visit in the first 5 years of life (range 0-51 visits per child). Children of migrant mothers were less likely to have received care in the ED (29.30% vs 31.17%) but more likely to have been seen more than once over the five years.

Implications

The results of these early analyses suggest significant differences in socio-demographic characteristics and ED utilization between migrants and non-migrants in the BiB cohort.   Migrant mothers were less likely to use the ED for their child but for those who utilized the service they were more likely to use the ED frequently. Ongoing research seeks to better understand whether migrant status affects ED utilization or whether underlying socio-demographic characteristics drive ED use. Further research is important to aid in the development of understanding of whether ED services are accessible to migrant patients and whether these services are set up to meet the needs of the demographically changing population.

Are patients 'on the doorstep' of emergency departments (EDs) more likely to use them for non-urgent visits?

Collin O'Keeffe

Background

There is a lack of evidence on how travel distances and geography impact emergency department (ED) attendances, particularly non-urgent ED visits. We investigated the impact of patient journey time to the ED on the probability of patients using the ED for non-urgent care that could have been provided elsewhere, such as in a primary care type setting.

Methods

We undertook a retrospective analysis of three years of Hospital Episode and Statistics Accident Emergency (HES A&E) data for one large region in England (April 1st 2011 to March 31st 2014). Data was collected on all adult (>15 years) ED attendances in the region. Patient journey time (in minutes) to ED was measured as the time to the nearest ED from the centre of the lower super output area (LSOA) that the patient resided in. Journey times were calculated using Department of Transport Data.

The relationship between non-urgent ED attendances and journey time to the ED was analysed initially and also examined by age categories (16-44, 45-74 years and 75+), time period of arrival (in hours versus out of hours; in hours defined as 08.00 to 18.00 Mon-Fri), arrival mode (self-referred versus ambulance) and geography (urban LSOAs versus rural LSOAs).

We also modelled the impact of journey time to the ED on the odds of an attendance being non urgent, controlling for age and socioeconomic status using multi-variate logistic regression. A validated process based definition of non-urgent ED attendance was refined for this study and applied to the data.

Results

There were 3,667,601 first time attendances to EDs, of which 554,564 were defined as non-urgent (15.1%). Rates of non-urgent attendances fell with longer journey times to ED. Patients within a one-minute journey time of the ED had a probability of a non-urgent attendance of around 22% compared with 11% if they resided 20 minutes away. If a patient self-referred to ED, the rate of non-urgent attendance for those residing less than one minute was around 29% (see Figure 1).

The relationship between shorter journey times and higher rates of non-urgent attendance was more significant in younger age categories (see Figure 2). This age effect was

particularly evident in non-urgent attendances arriving by ambulance (see Figure 3). A stronger relationship between journey time and non-urgent attendance also appeared between 18.00 and 08.00 at both the weekday and the weekend (see Figure 4).

Multi-variate analysis showed the odds of a non-urgent attendance decreased significantly with increasing journey time to the ED. For every minute further away from the ED the odds of a non-urgent attendance decreased by 2.5% (odds ratio: 0.976, 95% CI:0.976, 0.976); by 2% (OR= 0.981, 95% CI:0.980-0.982) for self-referred non-urgent attendances and 3% (OR= 0.973, 95% CI:0.972-0.974) for ambulance non-urgent attendances.

Implications

Patient journey time is a significant factor in non-urgent use of the ED. There is evidence that patients 'on the doorstep' of an ED are using them for primary care type presentations. Alternatives to the ED such as urgent care centres may need to be located near areas of high ED use.

Feasibility of collecting and assessing patient-reported outcomes for emergency admissions: laparotomy for gastrointestinal conditions

Esther Kwong

Background

To assess the feasibility of obtaining patients' recall of their health status before their emergency admission for surgery and their outcome by mailed questionnaire three months after.

Methods

Patients undergoing emergency laparotomy for gastrointestinal conditions were recruited in 11 hospitals. Recruitment was assessed by: the proportion of emergency admissions eligible for inclusion; the proportion of patients who were invited to participate; and the proportion who completed a PROM (EQ-5D and Gastrointestinal Quality of Life Index - GIQLI). Response rate at follow-up was measured and response bias determined; outcome was compared with retrospective baseline PROMs using χ^2 and paired t-test for differences.

Results

Most patients 466 (85%) met the eligibility criteria, 395 (84%) were invited to participate of whom 268 (68%) completed a retrospective PROM.

Recruitment metrics varied between hospitals: eligibility 72-97%; invited to participate 60-93%; and agreement to participate 55-92%. While case-mix differences might account for some variation, these findings suggest less well performers could improve their recruitment processes.

Among 255 survivors at three months, 190 patients (74.1%) responded to the follow-up PROM (145 to the first request and 44 after one reminder). Responders were similar to non-responders as regards living arrangements, comorbidities, and generic and disease-specific PROMs. They were, however, more likely to be older, female, and less deprived. Patients' health had been restored to pre-event levels as regards GIQLI Index (and Emotion and Physical subscales), improved as regards the Symptom sub-scale but deteriorated as regards the Social sub-scale. The EQ-5D-3L had improved (0.58 to 0.64; p = 0.06)

Implications

It is feasible to collect retrospective PROMs from patients admitted unexpectedly for emergency laparotomy. The generalisability of these findings to other causes of emergency admissions needs to be established. This approach offers the opportunity for assessing, from the patient's perspective, the impact of treatment for the 40% of hospital admissions that are emergencies.

Rapid Analgesia for Prehospital hip Disruption (RAPID): findings from a randomised feasibility study

Ashra Khanom

Background

Adequate pain relief at the scene of injury and during transport to hospital is a major challenge in acute trauma, especially for those with hip fractures, whose injuries are difficult to immobilise and whose outcomes may be adversely affected by administration of opiate analgesics. Fascia Iliaca Compartment Block (FICB) is routinely undertaken in Emergency Departments for patients with hip fracture; however there has been little evaluation of its use by paramedics in the prehospital setting.
This study aimed to test whether: FICB conducted by paramedics at the scene was feasible, safe and acceptable; trial methods were viable in practice; and there was a strong case for a fully-powered, multi-centre randomised controlled trial (RCT) to evaluate whether FICB is effective for patients and worthwhile for the NHS.

Methods

We recruited 19 paramedics from an urban area of Wales and trained them to administer FICB to patients with hip fracture. They randomly allocated eligible patients to FICB or usual care using audited scratchcards. We followed participants up to assess availability of key outcomes including quality of life, length of stay in hospital, pain scores, adverse events, and compliance of paramedics. We collected qualitative data about the acceptability of FICB in prehospital care from patients in interviews and paramedics in focus groups. Findings were analysed against pre-specified progression criteria to assess whether to conduct a fully-powered trial, including a health economic review to assess methods of calculating cost-effectiveness.

Results

Study paramedics randomly allocated 71 patients to trial arms from 28th June 2016 till 31st July 2017; 57 of these patients consented to follow up in the trial. Just over half of participants in the intervention arm received FICB (17 out of 31, 55%); all others had contraindications, including nine who were taking anticoagulants. Questionnaire return rate was 61% at one month and 71% at six months. The number of serious adverse events was balanced between trial arms. Paramedics believed that FICB was a suitable intervention for them to deliver; within their capabilities. Patients' memory of prehospital care was dominated by their experience of extreme pain, although they did recall the quality of care they received and praised paramedics. Health economic review found it was possible to calculate the cost of training each paramedic (£102).

Implications

RAPID met all pre-specified progression criteria within reasonable limits; we therefore plan to submit a funding application for a multi-centre trial.

Understanding why patients make clinically unnecessary use of emergency and urgent care services

Alicia O'Cathain

Background

There is widespread concern about the high level of demand for ambulance services, emergency departments and general practice (GPs) in the UK. In particular, some service use is described as 'inappropriate' or the level of service accessed is considered 'unnecessary'. Examples of this 'clinically unnecessary' demand include attendance at emergency departments with 'non-urgent problems' and requests for urgent GP appointments from patients who could wait or self-care. We set out to explore patients' decision-making around 'clinically unnecessary' use of services offering emergency and urgent care, with the aim of developing interventions to reduce such use.

Methods

We undertook a Realist Synthesis as the first part of a wider mixed methods study involving a qualitative interview study of service users categorised as 'clinically unnecessary' and a national survey of population attitudes to using emergency and urgent care services. We started with published international qualitative research on patients categorised as 'non-urgent', 'low priority triage' or 'inappropriate' when using emergency and urgent care services. With the outcome being 'clinically unnecessary use of services', we identified Context-Mechanism-Outcome chains. We then connected the chains with relevant theories and frameworks to offer deeper insights into patients' decision-making processes.

Results

We offer two examples of developing insights from the range of available findings. 1. Decisions about whether to use a service, and which service to use, are often made in the context of pain and/or anxiety. Leventhal's Common Sense Model of health decision-making highlights the parallel processes of *cognitive* appraisal of any threat to health and how to manage it, and *emotional* responses such as fear, anxiety and worry. In this context, these parallel processes interact, with the desire for relief of pain and/or anxiety driving the demand to be seen quickly. Neither pain nor anxiety can be objectively measured by clinicians who might then label use of their service as clinically unnecessary. 2. Decisions about whether to use a service, and which service to use, are affected by patients' work and family responsibilities. The need to reduce the impact on these commitments can lead to the use of services available at evenings and weekends, and those offering fast diagnosis and treatment to allow return to work the following day. This reason for clinically unnecessary use of services is often labelled as 'convenience' in literature reviews but

could be labelled as 'ability to deliver economic and social responsibilities'. Further insights will be presented.

Implications

Examples of implications include: that interventions to reduce clinically unnecessary use of emergency and urgent care services need to address the emotional as well as the cognitive aspects of patients' decision-making, and need to consider patients' desire to fulfil their economic and social responsibilities.

Pathways of care for adult mental health Emergency Department attendances - Analysis of routine data

Suzanne Ablard

Background

The management of patients with mental health problems in Emergency Departments (ED) has been of concern for some time. To identify where interventions could be most effectively targeted we must first understand when, why, and how mental health patients use EDs. Previous studies have been largely based on data collected from single study sites using relatively small sample sizes, raising questions about the generalisability of these findings.

We conducted a retrospective multi-site analysis of routinely available data to understand the pathways of care of mental health attendances through the ED and their outcomes.

Methods

Routine NHS patient level data for adult ED attendances across 18 EDs in Yorkshire and Humber (Y&H) for a one year period from January 2014 to December 2014 were analysed.

Identification of mental health patients was based on identifying mental health string terms within both the ED diagnosis and presenting complaint fields (as ED diagnosis might not always classify a mental health crisis if there was also a physical health problem): (1) the first diagnosis variable was independently searched by two people for a comprehensive list of all mental health terms. Those patients with a mental health term in this variable then had their presenting complaint variable searched to identify any further relevant terms; (2) identified terms were used to search all nine diagnosis variables and presenting complaint variable; (3) Mental health attendances were split into three categories (psychiatric, overdose/self-harm, and anxiety) reflecting the differing clinical support required.

Age, mode and time of arrival, number of investigations and treatments, length of ED stay and ED outcome were analysed. Comparative analyses of mental health and non-mental health patients were undertaken.

Results

There were 1,312,539 ED attendances, of which 3.1% (n=39,594) were mental health related. Of the mental health patients 55.9% (n=22,167) were categorised as self-harm/overdose; 31.8% (n=12,597) psychiatric; and 12.2% (n=4,830) anxiety. Mental health patients were significantly more likely to arrive by ambulance than non-mental health

patients (OR 3.25, 95% CI 3.18-3.32), to arrive out-of-hours (OR 1.95, 95% CI 1.90-1.99), to leave the ED before treatment or refuse treatment (OR 2.94, 95% CI 2.85-304) and once in the ED had a significantly longer length of stay (Median: mental health = 178 minutes vs non-mental health = 139 minutes, p<0.001). 72% of the psychiatric sub-group received no investigations compared to 22.6% of the overdose / self-harm and 37.5% of the anxiety sub-groups. 45% of the psychiatric sub-group received no treatment or advice only compared to 18.7% of the overdose / self-harm and 28.1% of the anxiety sub-groups.

Implications

Our analysis showed mental health patients are placing a small but significant burden on emergency care services and are receiving poorer levels of care than other patients. Improving the availability of alternative mental health services in the community, particularly during the out-of-hours period, could improve outcomes for these patients. Also, increased training for ED and ambulance service staff in the identification of patients with mental health problems, with clear referral pathways for these patients, may improve mental health patient's experiences of emergency care.

Scaling-up evidence into practice: Investigating the spread and sustainability of a complex intervention for osteoarthritis (ESCAPE-pain) in England

Andrew Walker

Background

Spreading and sustaining the implementation of interventions that are effective on a small-scale or under controlled conditions is a priority within healthcare to achieve system-wide improvements in quality of care. However, the process by which spread occurs is often haphazard and little is known about how complex interventions transition from clinical trials to become sustained and widespread in 'real world' settings, and how this process can be facilitated. The study's aims were to investigate the factors that influence the spread and sustainability of an evidence-based, complex intervention for osteoarthritis (ESCAPE-pain) in England.

Methods

A qualitative approach was used. Forty clinicians and managers participated in one-to-one, in-depth interviews across 13 public sector organisations in England. In addition, documentary evidence was collected relating to the implementation and running of ESCAPE-pain. From these 13 organisations 4 National Health Service (NHS) providers in Southern England were selected to provide in-depth organisational case studies. Selection was based on the time since ESCAPE-pain was implemented and geographical location. From each of these 4 organisations 4-6 participants (senior managers and physiotherapists) involved in implementing and running ESCAPE-pain participated in one-to-one, in-depth interviews. A fifth in-depth case study was undertaken of a clinical-academic network's role in supporting the spread of the intervention. This fifth case study used observations, in-depth interviews, and documentation. Data were managed and coded using NVivo software and analysed using thematic analysis.

Results

There were three main themes:

Spread and adoption - this has been a gradual, on-going knowledge exchange process to articulate the intervention and its implementation in a way that makes sense in real world settings. Effective local networks, working across organisational boundaries and centralised, sustained, dedicated resources are key to this process.

Fidelity and sustainability - there are tensions between staying faithful to the evidenced intervention and adapting it to fit within local contexts. Whilst clinicians recognise the importance of evidence-based practice, the current pressure in healthcare to deliver short-

term cost-savings (e.g. by reducing patient contacts) can impede their ability to implement and sustain the intervention and delivery quality care.

Evolving practice - the implementation of a packaged, evidence-based programme is seen as an evolution in physiotherapy practice, which supports better integration of a more holistic approach to management rather than constraining individual practice. ESCAPE-pain has been successfully transposed into different contexts (e.g. community settings) in response to local needs whilst maintaining clinical efficacy.

Implications

ESCAPE-pain's clinical effectiveness has been sustained as it has been implemented in 'real world' clinical settings; however, it has been a slow process requiring sustained, dedicated resources. Implementation is an on-going process of knowledge exchange between providers and local clinical-academic networks. Knowledge is packaged in a way that allows providers to see more directly the benefits of the intervention and how to integrate it into existing pathways. Pressure to delivery short-term cost-savings can impact on the fidelity and sustainability of an evidence-based intervention. Scaling-up requires sustained, dedicated resources and effective local networks are well placed to facilitate this through supporting knowledge exchange about the intervention and its implement.

Improvement Science (Wednesday 4 July, 15.30 – 16.45)

Engaging care homes in safety improvement initiatives: Evaluating the first year of the Safer Provision and Caring Excellence (SPACE) Programme

Sarah Damery

Background

Care home residents represent a frail and elderly population with multiple physical and cognitive impairments, and care home safety is an increasingly important concern for adult social care. The innovative Safer Provision and Caring Excellence (SPACE) programme aims to improve safety in 30 care homes across Walsall and Wolverhampton in the West Midlands. Trained facilitators provide skills training to care home staff on applying quality improvement (QI) techniques to their working practices. SPACE aims to reduce avoidable harms and hospital admissions, and develop a culture of continuous improvement and sharing of best practice across participating care homes. We are evaluating the 24 month programme and present our findings after 12 months of implementation, assessing care home engagement to date and the implications for programme sustainability.

Methods

The evaluation assesses changes in organisational safety climate, using the Safety Attitudes Questionnaire (SAQ) at baseline (pre-programme) and after 12 months. We have also analysed routinely-collected adverse events data from participating Clinical Commissioning Groups (CCGs), undertaken 14 semi-structured interviews with programme managers/facilitators, 26 interviews with managers and staff at four case study care homes, and observed 123 hours of meetings and training sessions.

Results

There has been strong uptake of risk monitoring tools and positive engagement with Plan-Do-Study-Act (PDSA) techniques and the philosophy of Appreciative Inquiry, which emphasises 'celebrating success' rather than assigning blame when adverse events occur. Staff report widespread involvement in training, with learning becoming increasingly embedded in their working practices. There is evidence of improvements to teamwork, communication and sharing of best practice, and improved confidence in liaising with outside agencies and specialist services. Safety climate scores outstrip published benchmarking levels, and there is an overall trend towards reductions in rates of falls, UTIs and severe pressure ulcers, albeit with some substantial variability between care homes. However, at the programme's halfway point, there are questions over its potential sustainability. Staff turnover in participating care homes is over 30%, with several homes having had multiple managers in the last year. Some care homes have been fully engaged in all aspects of the programme, whereas others have had minimal engagement. Programme uptake for others has been maintained only by substantial amounts of hands

on support from programme facilitators, whose remit has consequently extended beyond that envisaged at programme launch. As a result, the withdrawal of support after the programme concludes may destabilise those care homes that have come to rely on it.

Implications

The care home sector poses unique challenges for embedding changes within organisational culture. Despite positive signs of programme effectiveness, our evaluation to date has identified key issues relating to ongoing care home engagement and the potential sustainability of safety improvements after the programme ends. This underlines the need to regularly review the way that programmes of this nature are designed and implemented in order to maximise the likelihood that changes can become self-sustaining in the longer term, and emphasises the need to consider viable 'exit strategies' to smooth the transition between the period of active facilitation and programme end.

Long-term impacts and wider legacies of the 'Productive Ward: Releasing Time to Care'™ programme: findings from organisational case studies in English acute hospitals ten years on

Glenn Robert

Background

The 'Productive Ward: Releasing Time to Care'™ programme (PW) was developed in 2006-08 to give ward staff the tools, skills and time needed to implement local improvements to: (1) increase time nurses spend in direct patient care, (2) improve experience for staff and patients, and (3) make structural changes on wards to improve efficiency. In May 2008, the government invested £50 million to support the dissemination and implementation of the PW in England. This investment was provided on the basis of evidence from early test sites (2006-08), widespread commitment from nursing leaders and the promise of what PW might help to achieve across the NHS. The aim of this study was to explore any sustained impacts and wider legacies in adopting hospitals over the subsequent ten-year period.

Methods

Based on results from a national survey, six acute hospitals in England were recruited as case studies. Data collected March 2017 - February 2018 comprised: 88 interviews (with a range of staff including PW 'leads', senior managers, Patient & Public Involvement representatives and staff on the randomly selected wards); ward manager questionnaires and structured observations on 2 randomly selected wards in each hospital in order to ascertain whether practices and processes which were component parts of the PW were still in routine use; and documentary analysis (including the systematic review of any available metrics relating to impact of the PW).

Results

Different strategies for implementing PW were used in the case study hospitals and also changed over time within the same hospital. In all six hospitals, we found that some material legacies (display of metrics data; standardised patient information boards; storage systems) remained, as did processes that had resulted from past PW activity (e.g. protected mealtimes). However, direct, ongoing engagement of nursing staff in PW activities requires more time than staff feel is possible; PW tools are now rarely used to identify problems and potential solutions. Ward managers and more senior staff involved in the initial implementation of PW identified wider legacies, namely: ward level responsibility for service improvement; the use of ward-level data; and their own quality improvement knowledge and skills. None of the hospitals had sufficiently robust data collection systems to allow an objective assessment of the impact of the PW programme on its stated aims.

Implications

Those originally closely involved in implementing PW remain broadly positive. More widely, the challenge of embedding the learning from PW into ongoing routine practice at ward level across an organization has been much less successfully met. As an ongoing service improvement approach - continually used to address new challenges - the PW has not achieved what was originally expected. Nonetheless, PW has led to lasting and visible improvements to some very specific ward practices. Particular aspects of the PW have also informed current organisational quality improvement strategies in the case study sites to varying extents.

Balancing the risks to individual and society: A systematic review and synthesis of qualitative research on antibiotic prescribing behaviour in hospitals

Eva Krockow

Background

Over-prescribing of antibiotics is a significant problem globally, and contributes to the growing threat of widespread antimicrobial resistance (AMR). Risk perceptions play a critical role in medicines over-use, with doctors commonly practicing defensive medicine in the face of uncertainty. We conducted a systematic review of qualitative research on antibiotic prescribing decisions in hospitals worldwide, including literature from high and LMICs, to identify the role of risk perceptions in antibiotic over-use in hospitals.

Methods

A systematic search of qualitative research on antibiotic prescribing for adult hospital patients published between 2007 and 2017 was conducted. Drawing on the Health Belief Model, a framework synthesis was conducted to assess risk perceptions associated with AMR, and perceived benefits and barriers associated with the optimisation of antibiotic prescribing as a means of addressing this risk.

Results

The risk of AMR is generally perceived to be serious, but the abstract and long-term nature of its consequences leads physicians to doubt personal susceptibility. While prescribers believe in the benefits of optimising antibiotic prescribing, the direct link between overprescribing and antimicrobial resistance is often questioned, and prescribers' can consider behaviour change futile in the fight against a problem as complex as AMR. The salience of individual patient risks of inadequate treatment is a key barrier to more conservative prescribing. Physicians perceive antibiotics to be highly effective and low risk; prescribing broad-spectrum antibiotics in particular involve low cognitive demand and enables physicians to respond to patient expectations. Literature from LMIC settings indicates that antibiotics prescribing is occurring in a context of heightened uncertainty and risk, due to poor microbiology and infection control services.

Implications

When tackling antimicrobial resistance, the tensions between immediate individual risks and long term collective risks need to be taken into account. Efforts to reduce diagnostic uncertainty, and to change risk perceptions, will be critical in shifting practice.

Advancing Complexity Science in Healthcare Research: The Logic of Logic Models

Thomas Mills

Background

Logic models are commonly used in evaluations in healthcare research to represent how interventions produce outcomes in simple diagrammatical form. Uses of logic models include: serving as a framework in evaluations, forging consensus among stakeholders about a proposed change and knowledge transfer. However, whether logic models can be used for describing complex interventions which adapt to context remains unclear. This paper advances the field by proposing a more dynamic approach to logic modelling that focuses less on causal pathways from inputs to outcomes and more on contextual factors which shape causal pathways.

Methods

Various logic model types were tested as part of an evaluation of a Patient Experience (PE) Toolkit intervention, designed to guide healthcare professionals through a facilitated process of reflecting and acting on patient experience data. Implemented through action research across 6 diverse hospital wards, the PE Toolkit intervention was found to bear the hallmarks of a highly complex intervention. In particular, the facilitation provided by the action researchers was crucial to its functioning, allowing the intervention to take on different form in the different settings. An initial logic model, developed iteratively on the basis of a large qualitative dataset containing multiple data sources, was rejected at the halfway point of the study as it failed to capture intervention dynamics. Other logic models used in healthcare research were assessed as to whether they could account for the complexity of the intervention and a typology of logic model types, including strengths and weaknesses, was created. Implementation models were then explored and the PHARIS model was identified as being able to successfully model interaction between interventions, facilitation and context. The Venn-diagram used in the PHARIS model was incorporated into the logic model for the PE Toolkit intervention, after which a set of guiding principles for advancing the field was formulated.

Results

Three dominant types of logic model exist in healthcare research, each of which fail to capture the dynamics of complex interventions. These models may have potentially negative consequences, such as promoting the wrong courses of action in particular settings. However, a fourth type is possible that specifically models how contextual factors shape causal processes. These can be created by drawing upon theories and frameworks of implementation and context, using diverse shapes and arrows to highlight dynamic

relationships and contingencies, specifying at what level "moderators" exert an effect and incorporating diverse stakeholder views.

Implications

Logic models can be used to represent how complex interventions work but more dynamic models are required than is currently the case in healthcare research. A potential implication of this is for logic models to take on a different role in improvement projects in future. That is, less of a role for logic models forging consensus among stakeholders or as precise guides for practitioners and more of a role stimulating discussion about how interventions work across different settings.

Making the impact of research conducted in NHS organisations visible: development of an impact tool for research.

Natalie Jones

Background

There is a strong policy steer that research activity should become 'core' to NHS business (NHS England, 2017). 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. The NIHR has invested in the efficient delivery of high quality research in the NHS, and also provides resources to build Allied Health Professional (AHP) and nursing clinical academic careers so that practitioners are able to conduct relevant research that aims to improve the health and wealth of the nation (Carrick-Sen, D; Richardson, A; Moore A; Dolan, 2016). However, these impacts are long term, and not necessarily visible to those who are trying to balance the management of clinical services, along with delivering applied research and enabling clinical academic careers (Chen and Yang, 2009).

As well as contributing to the knowledge base, there is evidence that research activity can influence the process of care. Academics have described this as a 'bi-product' of research (Boaz *et al.*, 2015) but such outcomes are wholly relevant and impactful for NHS organisations, but are often not recognised nor acknowledged.

Methods

This project aims to co-produce a tool prototype to explore, and make visible the impact of conducting research in NHS organisations.

The domains within the tool were identified through a through a literature review, and a series of workshops and email consultations with NHS R&D managers and clinicians in one region in the UK. Data was thematically analysed using framework analysis. A prototype was co-produced using the resulting framework and piloted in two NHS trusts in the region.

Results

Currently impact domains within the developing tool include: Knowledge development and exchange; health gain and patient outcomes (including patient experience); economic return and cost- benefits; service change (including clinical workforce skills, and the development and use of actionable outputs from research); research capacity development; and influence on culture and organisational reputation.

The prototype tool called VICTOR (Making **V**isible the **I**mpa**CT O**f **R**esearch) was used to gather data and information to inform research impact case studies. VICTOR triggers reflections within the clinical research team and facilitates production of research impacts that can be used to promote applied research within NHS organisations. The tool acts as a framework to guide information gathering and make visible the impact of conducting research in these organisations.

Implications

VICTOR may be useful to support impact story telling to a range of audiences within NHS organisations, research networks, and wider research collaborations. VICTOR outputs may be relevant for business cases, board reports, Quality Accounts, research performance KPIs, NHS newsletters content. The use of infographics as outputs may aid such uses. Case studies may also have implications for REF case examples by providing NHS testimonials for researchers.

Power, co-production, and fairness in research co-production

Iain Lang

Background

The co-production of research, in which researchers and knowledge users work together throughout the research process, is gaining increasing attention in implementation and improvement science. This is a decades-old practice with roots in community-based participatory-action research (CBPAR) approaches and more recently known by other names including engaged scholarship, knowledge co-production, and integrated knowledge translation. The literature supporting the improvement of co-production practices is growing but little attention has been paid to issues of power in relation to co-production.

Methods

Co-production is a partnership and power relationships are critical for all participants and stakeholders. Drawing on theory and practice, the purpose of this paper is to further define power as related to the co-production of health research; describe how it operates among and between various participant groups (laypersons, researchers, practitioners, managers); and provide recommendations for achieving equitable partnerships. Through examining scenarios drawn from our experience in UK and Canadian settings we identify unique issues related to formal and informal power in a range of co-production approaches that must be addressed for these research partnerships to achieve their potential through just means.

Results

We suggest that existing strategies aimed at creating true co-production do not fully acknowledge the power structures that exist within and beyond health research. Finally, we advocate for the study of co-production in action to help improve this important and developing area.

Implications

Attending to power imbalances at each stage of the research process is crucial in co-production. All participants should be aware of the implications of power imbalances, and be supported to achieve and maintain a fair and transparent balance of power.

100 reasons not to do research: tips for really making research in the NHS attractive, accessible and usable

Sarah Williams

Background

Research in the NHS is an elitist sport; available to the few and shrouded in tight networks of governance and academic accolade, exalted in academic institutions, but rarely talked about amongst front line clinicians. Few NHS Boards consider it to be core business, and it barely features within the Sustainability and Transformation Partnerships across the country. Despite this, it is well known that NHS organisations that are research active have better patient outcomes, and increasingly it is a marker of a high quality, innovative care culture, soon to be incorporated into CQC frameworks.   Equally, much health service research is still done at an academic level, often with minimal interaction with front line teams and scanty consideration of the reality of delivering both research and day to day care in front line services. Impact is measured by academic publication rather than actual change, so it is little wonder that health and care teams struggle to engage with research, particularly given current resource pressure. As an NHS R&D community, we have a responsibility to support better access to and interest in research by opening our doors and demonstrating the value that research brings.

Methods

In Solent NHS Trust, a Community and Mental Health provider in Hampshire, we have embraced a number of techniques to embed research into front line services. These include clinical academic career pathways, student placements in research, and ongoing story telling. We have also introduced a Quality Improvement training programme to engage teams in the value of evidence and measurement, and integrated these activies into a 'Research & Improvement Academy'. Research is after all about skills, about an ability to use measurement and data to learn more about their service; to contribute to and interpret new guidance; to evaluate programmes of work; to work in partnership with patients and communities; to continually learn from others and share good ideas – and quality improvement training gives them a very effective link into this.

Results

The development of an integrated approach which focuses on improvement and impact has had numerous successes. Research is seen as part of a suite of activities that staff and patients can tap into; the branding of an Academy has raised the profile of and interest in research; and Solent has sat at the top of national league tables for research activity for the past four years. We can also demonstrate real change as a result of both research studies,

and broader involvement in research activity. Last year, the CQC recognised Research as an area of outstanding practice within the Trust.

Implications

This has implications for both NHS strategies to embed research, and ideas for those that work in HEIs to approach research in healthcare settings. Research is a core value of the NHS Constitution and yet is hidden gold dust to operational managers, to commissioners, to regulators. This presentation considers ways of overcoming outdated perception and making research attractive, accessible and integral to care by demonstrating value with confidence.

HSR UK The voice of UK Health Services Research

Innovation (Wednesday 4 July, 15.30 – 16.45)

Development of a behaviour change-focused framework for designing self-management resources in long term disease self-management: an iterative design process

Rosie Satherley

Background

Self-management resources are routinely given to patients to help them better manage their health. While patients often find such resources useful, and help promote confidence in disease management, data suggest they have limited efficacy in reducing attendances in general practice. It is suggested that the apparent lack of effect is because self-management resources commonly provide disease information, without sufficient consideration of content for promoting behaviour change. Furthermore, resources are often disease-specific and designed for a narrow purpose. There is limited guidance on designing self-management materials, with a behavioural change focus, that are applicable across diseases. The current study describes the iterative process of developing self-management packs for parents of children with four different long-term conditions through use of an over-arching framework.

Methods

Focus groups were held with nurses specialising in four tracer conditions (asthma, epilepsy, eczema, constipation) to help identify disease-specific behaviours that are modifiable to behaviour change strategies. Senior clinicians were subsequently presented with behaviour-modification strategies to develop a general framework to work across the four conditions. Self-management packs were reviewed with families of children with the tracer conditions to understand usability and relevance. Prior to completion, the Behaviour Change Techniques Taxonomy version 1 (BCTTv1) was used to code the self-management packs' content for behaviour change techniques (BCT) by two researchers independently to ensure the BCTs used were comparable across the packs despite adaptations to make packs appropriate to the condition.

Results

A framework was developed that could be applied across the four tracer conditions with the following format: 1) information about the disease, 2) information about triggers to disease exacerbation, 3) identifying triggers, 4) how to overcome triggers, 5) managing mood and 6) signposting to public health/community resources. The same BCTs were coded across the four self-management packs: *information about health/emotional consequences, self-monitoring of the outcomes of behaviour, goal setting, action planning, problem solving*. Both disease-specific BCTs (e.g. avoid dust mites for asthma, staying

hydrated for epilepsy) and universal BCTs were identified (e.g. reducing screen time to ensure better sleep to help emotional stress of disease).

Implications

Development of the self-management packs provided a framework that can be applied across long term conditions by framing the focus on identification, self-monitoring and action planning towards modifiable behaviours: rather than providing information-alone. The process through which this was developed can aid future researchers and practitioners in constructing self-management resources for clinical practice and intervention studies.

Trajectories of health care innovation adoption and spread: a typology of innovation pathways

Jean Ledger

Background

Health policy in England emphasizes the value to the NHS in rapidly adopting new technologies and 'combinatorial' innovations. It is argued that this will help the NHS to improve population health, manage demands on services and support national economic growth. However, trajectories of health care innovation adoption in the NHS remain highly variable and difficult to predict. Whilst demand for health care innovation grows and the supply of novel products remains vibrant - particularly in the growing field of apps and digital health solutions, which are proliferating – actual pathways of adoption in the NHS remain under-conceptualized in the health services literature and in policy. This presentation will explore different innovation trajectories drawing on empirical examples and suggest a typology for conceptual development.

Methods

This presentation brings together the author's analysis and reflections from three sources of data: 1) 10 empirical case studies of innovation adoption and spread across five Academic Health Science Networks (AHSNs) in England (Ferlie et al. 2017); 2) reflection of findings from a workshop on the topic of 'embedding innovation in the NHS' which the author convened; 3) a thematic review of recent grey literature (e.g. think tank reports) and key policy documents on the topic of NHS innovation. I will specifically focus on early attempts to identify and scale up innovations in the NHS at the regional level.

Results

Innovation trajectories in the NHS vary according to the characteristics of the innovation itself (i.e. technological, service, digital, pharmacological, new organizational forms). Thus there is no one 'right' pathway of innovation adoption, and supply and demand dynamics are insufficient to predict successful uptake. Rather than emphasizing a singular focus on the agency or determination of clinical entrepreneurs, pioneers or 'early adopters' to push through new ideas to implementation, an interactionist typology is proposed which identifies the complex role of multiple actors and sectors that collaborate to support NHS innovation adoption in practice.

Clarity around the purpose of the innovation (e.g. to optimize services, improve disease management) and sustained support for implementation at the local level in the NHS are found to positively influence a health care organization's readiness to adopt a given solution. Co-production and/or research with patients may also increase the likelihood of

innovations finding an appropriate 'fit' to organizational and service problems and becoming embedded.

Implications

Early attempts at innovation adoption need to be tailored to the type of innovation being promoted and take on board the resources available to support implementation locally. This presentation will open up debate about how to conceptualize innovation adoption pathways in the NHS, with the aim of evolving a helpful typology for policy makers and stakeholders to understand this particular form of knowledge mobilization.

References:

Ferlie ,E., Nicolini, D., Ledger, J., D'Andreta, D., Kravcenko, D. and de Pury, J. (2017). *NHS top managers, knowledge exchange and leadership: the early development of Academic Health Science Networks – a mixed-methods study*. Available from: https://www.ncbi.nlm.nih.gov/books/NBK436464/doi: 10.3310/hsdr05170

Innovation Realities in Primary Care: A Process Evaluation of a Complex, Combinatorial Intervention for Long Term Conditions

Jonathan Hammond

Background

Addressing long term health conditions (LTCs), including diabetes and heart failure, is a priority for healthcare services worldwide as growing prevalence leads to poor quality of life, higher costs and increased burden on healthcare systems. Primary care is increasingly considered an important context for empowering and managing patients with LTCs and to help reduce unplanned hospital admissions.

This study focuses on an ongoing complex intervention based in primary care within the English NHS which employs a combinatorial approach involving new technologies and multiple organisations to improve care for patients with LTCs. The intervention includes three main streams: an educational programme to upskill primary care teams in the treatment of patients with COPD and diabetes; a telehealth monitoring service for patients with heart failure and/or COPD; and clinical and population management software, including a risk prediction algorithm for heart failure, COPD and type 2 diabetes. The aim of the study is to understand how the intervention is being implemented and the experiences and perspectives of the staff involved in order to assess the effectiveness of the intervention. This paper explores emerging findings and reflects on the challenges and successes of innovation in this context.

Methods

Qualitative process evaluation involving observations of relevant meetings and implementation activity, analysis of intervention documentation, and longitudinal interviewing of key stakeholders including NHS professionals and other staff involved in the intervention (N=51). Data generated were thematically analysed.

Results

A key element of the innovative promise of the intervention was its combinatorial nature. The effectiveness of this was impeded by various challenges from beyond the immediate study context, including: the NHS cyber-attack, changes to primary care commissioning, and new data protection rules. Other challenges manifested locally, such as disagreements over contracts and patient data, which created delays and asynchrony between the streams. GP practice staff expressed concerns over their limited resources to implement the intervention. Additional resources were made available to address this concern but consequently reduced the extent to which GP practices incorporated intervention work into their daily activity, raising concerns over sustainability. Engagement of GP practices

involved with the intervention was variable, and some practice staff described a lack of clarity on and understanding of the intervention. Tensions emerged among the different organisations involved in implementation, as each had different ways of working, policies and procedures. However, key individuals from all organisations involved worked towards their shared objective of improving patient care and experience and to resolve technical and legal issues that delayed implementation.

Implications

We show how various issues, at a range of scales, can create challenges to innovation in complex, multi-stakeholder interventions in primary care, particularly where value from a combinatorial approach is anticipated. On this basis, we make suggestions for facilitating innovation in this environment, and highlight the importance of clear communication across all stakeholders (including patients), strong engagement and buy in from the primary care sector, careful balancing of resources, and accounting for broad scale challenges.

Lost in Translation - the challenges of translating an intervention developed in a low-income country to the UK NHS context

Jennifer Martin

Background

Obesity, type 2 diabetes and cardiovascular disease are three of the most common nutrition-related conditions in the UK. The resource limited NHS is looking for innovative alternatives to improve patient outcomes, particularly for ethnic minority groups that are disproportionately affected by these illnesses. One alternative is to adapt interventions that have been developed in low-income countries (LICs) for the UK NHS context. Community mobilisation through women's groups using the Participatory Learning and Action Cycle (PLA) has successfully reduced maternal and neonatal mortality in LICs, and has been identified as a potential intervention for Bangladeshi families in East London. This presentation explores the concept of bi-directional learning between LICs and the UK using the exemplar of the women's group PLA cycle.

Objectives

- To construct a framework for adaptation of the model for the UK NHS context based on previous adaptations made to the model across seven trials

Methods

Using the Braun and Clarke (2006) guidelines, we thematically analysed 14 one-on-one semi-structured key informant interviews with professionals who delivered the model across seven randomised control trials in Bangladesh, Malawi, Nepal and India. Gaps in the literature from 12 papers informed questions for the topic guide around process, utility and physical adaptations that were made to the model.

Results

We present four universal themes in a framework for adaptation. The framework demonstrates an adaptation pathway illustrating the internal and external factors that influence adaptation, the processes that inform adaptation, the contextually specific micro adaptations and the evolution of the model via on-going adaptation. A fifth theme that detailed the core components was further added to illustrate the areas that were not adapted.

Implications

This research has broad implications for the use of cost effective and tailored interventions for the UK by utilising evidence-based research from LICs. By understanding how adaptation occurs in real life, we illuminate how interventions are defined and evolved, and what the lessons are for the UK. A generic framework for adaptation of the PLA model could be a tool to maintain the fidelity of the intervention and offer an evidence-based adaptation process. Further research is required to explore the specific contextual adaptations to the model for the UK.

How to cost the implementation of major system change: case study using reconfigurations of specialist cancer surgery in the London Cancer area

Caroline Clarke

Background

Studies have been published on the impact of major system change (MSC) on quality of care and outcomes, but few evaluate implementation cost, or include it in cost-effectiveness analyses so far performed. This is despite large potential costs, for example, planning the changes, equipment purchases, and staffing changes [1]. In addition, cost of implementation can influence local stakeholders' decisions to implement change. The aim of this work is to provide a set of principles for costing the implementation of MSC.

Methods

We outlined implementation stages to be considered, suggesting how to identify cost components and possible data sources, using a conceptual framework developed during previous work on acute stroke care[2]. Our guidelines are illustrated by and drew on the RESPECT-21 mixed methods evaluation of reconfiguration of specialist cancer surgery services in London and Greater Manchester[3].

The analysis was led by a health economist in collaboration with qualitative researchers to identify key stages of the changes and points where specific expenditure took place. Data sources included meeting minutes, qualitative interviews, and budget/financial documents. This information was used to consult study team clinicians to ascertain where specific expenditure took place (e.g. equipment purchases and new-hire costs), and conversations with staff in NHS Trusts furnished further details.

We chose a bottom-up costing instead of top-down because of the nature of the information available. Bottom-up costing, or microcosting, involves identifying each component related to the reorganisation and assigning a unit cost, then summing over all components.

Results

Principles and cost components relating to designing, planning and implementing MSC include the following:

- options appraisal, bidding process, external review process
- stakeholder engagement, including events
- planning and monitoring boards/meetings
- making the change, e.g. assets, new staff

- changes in payments to hospitals
- financial cost to patients, e.g. travel
- patient population
- lifetime of the changes, i.e. how long before the next change.

In our case study, the majority of costs are likely to come from purchasing new equipment, and some costs will arise from staff opportunity costs, e.g. attending meetings relating to the reconfiguration. Costs for hiring new staff in this case are likely to be relatively low.

Implications

This framework can be used by funders and service providers/commissioners when planning MSC and by researchers when planning to evaluate MSC. To capture costs, health economics researchers must be involved from early MSC planning stages, as when doing this retrospectively there is a risk that important information on costing will be lost. It is challenging to analyse implementation costs of MSC, as many cost factors can be difficult to identify, access, and measure. The complexity of this type of analysis might be why it is not commonly done, and we hope that the principles we set out will make it less complex and therefore more likely to take place. Inclusion of implementation costs in cost-effectiveness analysis is likely to make MSC appear less cost-effective, with potential to influence future decisions regarding MSC.

References

[1] Hoomans & Severens; Impl.Sci.2014;9:168.

[2] Fulop et al.; Impl.Sci.2016;11:80.

[3] Fulop et al.; Impl.Sci.2016;11:155.

Trajectory modelling of hospitalisation rates among heart failure patients to identify high-impact users

Alex Bottle

Background

Patients with high use of healthcare have been termed high-impact users, sometimes defined as three or more emergency admissions within a year. Identifying them for more intensive management and readmission prevention is challenging. Crucially, current approaches do not distinguish between patients with a set of readmissions at the end of life or other short-term crisis – in whom the rate soon returns to zero or near zero and for whom palliative care team involvement could be indicated – and those whose high readmission rate is sustained – for whom more intensive management and community-based support might be beneficial.

Heart failure (HF) is one of the leading causes of morbidity and mortality worldwide. Non-mortality risk prediction models mostly focus on 30-day readmissions, but many HF patients have multiple hospital admissions. We aimed to identify patients with high *long-term* readmission rates and assess their characteristics compared with other HF patients.

Methods

Patients with a primary diagnosis of HF in the period 2008-2009 were identified using nationally representative primary care data linked to national hospital data (the Clinical Practice Research Datalink) and followed up for 5 years from the date of diagnosis in a retrospective cohort study. Group-based trajectory modelling was applied in order to categorise inpatient service use into subgroups. The effect of covariates on the probability of belonging to the subgroup was modelled with multinomial logistic regression. Sequence analysis investigated the order of primary diagnoses of admissions.

Results

The model categorised the HF population (n=10525) into 5 subgroups: low-impact (66.9%); two intermediate ones (27.4%); chronic high-impact (2.3%) with steady high annual readmission rates; and short-term high-impact (3.4%) with rapid decline in readmission rates. The model's discrimination (c statistic) for predicting high-impact users was excellent at 0.87. The covariates with significant correlation with chronic high-impact users were HF diagnosed as an inpatient rather than in primary care, congenital heart disease, chronic renal disease, anaemia, stroke, respiratory diseases, renal function monitoring in primary care, atrial fibrillation, mental health disorder, hypertension, cardiac arrhythmia, myocardial infarction, diabetes, and age >75. Compared with low-impact users, high-impact users were associated with higher mortality, bereavement episodes, and more out-

of-hours GP visits. Compared with short-term high-impact users, long-term high-impact users had, in the year before HF diagnosis, more emergency admissions, more GP consultations, and more out-of-hours GP visits. The chronic high-impact users had distinct sequences of causes of emergency admissions, most often consisting of chest infection, ischaemic heart disease, and cardio-pulmonary signs and/or symptoms.

Implications

Earlier identification of HF patients in the community and mitigation of cardiopulmonary conditions might improve long-term outcomes among chronic high-impact users. For patients with multiple health service contacts, trajectory modelling offers important insights beyond simpler logistic regression.

Humans versus machines: Text mining versus adapted grounded theory in the analysis of free text data from patient feedback surveys

Gavin Daker-White

Background

Machine learning algorithms are increasingly being directed at the analysis of free text. The aim of this study was to compare a text mining analysis of free text responses to general hospital (GH) versus mental health (MH) service patient feedback surveys, with a qualitative method (AGT – adapted grounded theory).

Methods

The data sets analysed were one month's responses to a GH Friends and Family Test feedback survey (June 2016, 1975 lines of data) and six month's free text comments (January-June 2016, 131 questionnaire responses) from a MH trust patient feedback survey. Different research teams independently conducted a machine algorithmic analysis and an AGT study (using the NVIVO software package) on exactly the same data sets.

Results

Both methods produced very different results, reflecting issues in the way the data were conceptualised, handled, analysed and the results presented. An objective comparison was not possible, but where numerical categories were comparable results varied markedly.

The machine algorithmic approach found 3749 comments in the GH set, although 2418 (64.50%) were categorised as "noise" and not analysed according to the categories: care quality, environment, other, staff attitude and professionalism, and waiting time. In the MH set, 217 comments were analysed. The AGT study identified 2606 coded references in the GH set; with comments under 10 words having been excluded manually by the coders during the coding process. In the MH set, there were 349 coded references. AGT identified more categories (access, process and discharge; communication from and with clinical staff; positive aspects of service; specific complaints; qualified comments; how staff come across; the service made me feel; this service is better than others).

Comparing "care quality" sentiment between methods, showed that results were the same for MH services (c.38% positive and c.27% negative sentiment) but different in the GH set (text mining 13.17% +ve versus 12.13% -ve sentiment; AGT 28% +ve versus 7% -ve sentiment). For "staff attitude and professionalism" in the GH set, the results were wildly different (40% +ve versus 15% -ve sentiment with text mining; 50% +ve versus 2.5% -ve sentiment with AGT).

Implications

Algorithmic sentiment analysis of free text patient feedback data appears limited, with c.65% of comments received by mobile phone systems rejected as "noise" according to a narrow classification system. The main advantage of this method is low cost. The main disadvantage is that the context and any detail contained in the original comments are lost. Qualitative analysis "by hand" tells a detailed and user friendly story, but is expensive and time consuming. The limitations of AGT mean it is only likely to be of practical use with smaller data sets (say up to "a few thousand" comments). The limitations of machine algorithms in interpreting free text means that these methods cannot be relied upon to identify "red flag" and other issues (e.g. potential threats to patient safety or safeguarding) which may be of importance to service managers. A combination of methods may provide the best picture.

Revealing truth that reality obscures? Using experimental vignettes to understand variations in the quality of health care – a scoping review

Jessica Sheringham

Background

Variations in the quality of healthcare are widely recognised. Identifying drivers for such variations is challenging, in part due to difficulties observing decision-making processes in healthcare delivery. Experimental vignette studies - where key aspects of decision-making processes are isolated, manipulated and measured - offer one approach to tackling this challenge. Vignettes are widely used in experimental psychology and, increasingly, other disciplines. We conducted a scoping review of vignette studies examining drivers of variations in healthcare to understand current strengths and weaknesses of vignette studies in health services research.

Methods

We searched MEDLINE, Embase, Web of Science and CINAHL databases for original articles examining variations in healthcare delivery (2007-2017). Initially we included all studies which examined variations in healthcare . For full data extraction, we focused only on studies with experimental designs seeking to understand why variation occurred. Studies meeting both broad and full inclusion criteria were grouped by vignette modality. Quality was appraised in studies meeting full criteria, using recommendations synthesised from reviews of vignette studies in other fields.

Results

From 13,519 articles retrieved, 245 papers met broad inclusion criteria; 12 unique studies from 13 papers met full inclusion criteria.

We identified three categories of vignette modality. In 'first-generation' modalities, using short text-based vignettes in the context of surveys (studies meeting inclusion broad criteria: 79%, n=193/245; studies meeting full criteria: 25%, n=3/12), experimental vignette characteristics were stated directly (e.g. " a white patient, aged 55 years…"), providing little opportunity for nuanced portrayal of such characteristics and priming participants on its relevance to the research. 'Second-generation' approaches, using pictorial or video modalities (broad: 11%, n=28, full: 58%, n=7), enabled participants to form their own impressions about the attributes of vignette characters. In 'third-generation' modalities (broad: 10%, n=27, full: 17%, n=2), interactivity through online simulation or in-person standardised patients enabled participants' behaviours to direct what vignette content was available. Thus these modalities may enable examination of inequalities due to differences in how clinical encounters unfold.

Amongst papers selected for full paper review, 12/13 examined variations by ethnicity; gender (n=5), socioeconomic circumstances (n=4) and age (n=4) were also examined. Studies explored individual components of doctors' decision-making processes, the relational nature of healthcare delivery, impacts of complex healthcare contexts on cognitive biases and tested hypotheses arising from observational studies. Studies focussed predominantly on the perspectives and actions of doctors, leaving the voice of patients, other health care professionals and stakeholders comparatively unexplored.

Implications

Vignettes were used predominantly to examine variations in the quality of healthcare, but less often to understand drivers of inequalities. Many studies still employ 'first-generation' vignette approaches. The possibilities for bringing greater depth and clarity of understanding by using video and interactive vignette approaches, therefore, remain little realised.

To maximise the utility of vignettes to understand drivers of variation in healthcare quality, third-generation vignette modalities are needed to detect inequalities arising from how clinical encounters unfold. Participants should encompass a wider range of participants beyond doctors. Standards of reporting in peer-reviewed literature may also increase the quality and credibility of such studies.

Methods (Thursday 5 July, 15.00 – 16.15)

The relationship between 'research activity' and 'disease burden' in England: observational study

Peter Bower

Background

A recent NIHR strategy review expressed the desire that 'research activity should go to the populations who most need it, and we would like to encourage the best researchers… to undertake clinical and public health research in the areas of England with the greatest health needs'

The statement implies a significant problem with the location of research activity. At this point in time, what is the relationship between research activity and population health need in England?

Methods

We used existing data on research activity and estimates of disease burden. For research activity, we drew on CRN Business Intelligence which provided recruitment figures in England, broken down by local networks and CCGs. For disease burden, we used 14 codes reflecting long-term conditions and calculated the total numbers on each condition register in a general practice.

We used descriptive analyses to explore the relationship between burden and activity, and we mapped these relationships to assist in communicating the findings.

Results

The overall results show that research activity (as defined by numbers of studies and participants) is reasonably, but imperfectly correlated with disease burden

Implications

The data need careful interpretation, as there is no consensus on the strength of the relationship that would merit concern. The initial findings would suggest that research delivery is related to health need, but that there is potential room for improvement. These initial analyses can potentially act as a stimulus to developments in this area, including a broader understanding of what it means for research 'to be conducted with and in the populations most affected', the development of relevant indicators to assess the fit between research activity and need, and ongoing assessment of policies to encourage a better fit of research activity to need

The involvement of low and middle income countries in the development of core outcome sets

Elizabeth Gargon

Background

Core outcome sets (COS) suggest that a minimum number of outcomes should be measured and reported in all clinical trials in a specific condition. This allows research to be compared and combined as appropriate, and ensures that all studies provide usable information. The implications of COS go beyond research, as an increasing number of COS also intend their recommendations for use in routine clinical practice. The Core Outcome Measures in Effectiveness Trials (COMET) Initiative aims to collate and stimulate the development, application and promotion of COS, and provides an online database of COS.

Methods

Electronic databases were searched to identify studies reporting COS development. We consider the setting for intended use, as well as the inclusion of participants from low and middle income countries (LMICs) as identified by the Organization for Economic Co-operation and Development (OECD), in these COS.

Results

13% of published COS (33/259) intended their recommendations for routine clinical practice as well as health research. The countries that have been most involved in the COS development process are the United States of America (USA) (n= 161) and the United Kingdom (UK) (n=124). There are 93 countries that have not been included in the development of any COS. 41 COS (16%) included participants from low and middle income countries (LMICs). A breakdown of the LMICs that have been involved in the development of COS will be presented.

Implications

COS increase the efficiency and value of research and contribute to the delivery of high quality care. Developers should involve participants from countries where the prevalence or burden of the disease is high, but only 16% of COS have included participants from LMICs. Furthermore, COS developed with participants from multiple countries might improve the global applicability of the COS and, consequently, the global relevance and impact of the research that these are used in.

Methods (Thursday 5 July, 15.00 – 16.15)

Values-based fidelity in trials of complex healthcare interventions: learning from the ENRICH trial of peer support for discharge from inpatient to community mental health care

Rosie Morshead, Steve Gillard, Katy Stepanian

Background

Measurement of intervention fidelity does not translate readily from drug trials to trials of complex healthcare interventions where a range of psycho-social mechanisms might be at play. Peer support in mental health services - and in other healthcare settings - is grounded in peer-to-peer relationships that are fundamentally different to clinician-patient relationships. Where such relationships are core to intervention change models it is necessary to define and assess fidelity to underpinning values frameworks. This presentation aims to report the development and testing of a values-based fidelity index for one-to-one peer support in mental health services.

Methods

A values framework for one-to-one peer support in mental health services was developed using systematic literature review and consensus work with an expert panel of people with experience of providing peer support, developing and leading peer support services and of doing research about peer support from a lived experience perspective. Using that framework, together with the expert panel and our service user researcher team, we operationalised a fidelity index as a set of semi-structured interviews designed to take 360º approach - interviewing peer workers, the people they supported, their line managers and mental health professionals who worked alongside them - to testing the fidelity of the ENRICH peer support for discharge intervention. Interviews (n=80) were conducted in 20 one-to-one peer support services in England and half of interviews were double rated by researchers. We conducted psychometric tests of inter-rater reliability and item redundancy, and asked qualitative questions on the acceptability and usability of the interviews. Service user researchers led on refining the final version of the interview schedules.

Results

A fidelity index for one-to-one peer support in mental health services was produced in five values-based domains: building trusting relationships based on shared lived experience; reciprocity and mutuality; valuing experiential knowledge; leadership, choice and control; building strengths and making connections to community. Guidelines for conducting interviews, and for scoring and weighting the index were developed.

Implications

It is acceptable and feasible to develop robust measures of values-based fidelity for complex healthcare interventions where psycho-social, relational mechanisms are core to change processes. Values-based fidelity measures might usefully complement conventional, dosage approaches to trial fidelity.

The use of TIDieR for intervention reporting in the messy world of health services research

Sarah Coterill

Background

The Template for Intervention Description and Replication (TIDieR) checklist and guide was developed by an international team of experts to promote full and accurate description of trial interventions. There are many contexts, outside the world of clinical trials, where accurate intervention description is desirable. The potential advantages for health services researchers of detailing the components of an intervention include transparency over what was done, allowing future replication, distinguishing similar interventions from one another, and assisting with wider implementation. The aim of our study was to evaluate experiences of using TIDieR in applied 'real world' settings, using qualitative and mixed methods studies, and make recommendations for its use in health services research.

Methods

We used the TIDieR template for intervention description in six health services research projects. The six cases included a diverse sample of research settings such as a diabetes prevention programme, a community weight loss programme, prevention and management of acute kidney injury. We included interventions at various stages of implementation, from initial design of the intervention through to adoption in a new setting. Some of the interventions were designed and led by researchers, while others were the brainchild of service deliverers. There was also variation in who was involved in writing the TIDieR description and the time point at which it was produced. Researchers involved in the six cases met in two workshops to identify issues and themes arising from their experience of using TIDieR.

Results

We identified four themes and additional complexities when using TIDieR beyond the world of clinical trials. (i) In the messy world of health services delivery many components of an intervention can change over time. (ii) Health services research often evaluates interventions designed by NHS service providers or co-produced by researchers, providers or service users, and it is important to be clear whose voice the TIDieR intervention description represents. (iii) A clear structured description of an intervention can be an important way to promote spread of the intervention beyond the immediate context. (iv) In addition to its role in intervention reporting, TIDieR also has the potential to be a valuable research tool. The process of producing a TIDieR with stakeholders can highlight

contested aspects of a complex intervention, encourage participants to reflect on their role, and aid the synthesis of multiple sources of data in the design of an intervention.

Implications

We found TIDieR to be a useful tool in qualitative and mixed methods health services research, particularly for cases where research was coproduced with external partners, and we suggest four revisions which would enable it to better capture the messy world of applied health services research:

- Prompt authors to describe modifications to all components of the intervention.
- The addition of 'voice' to be clear on who was involved in preparing the TIDieR template, such as researchers, service users or service deliverers.
- The addition of 'stage of implementation', using a continuum of implementation research suggested by the World Health Organisation.
- Encourage researchers to describe how contextual factors affected intervention delivery.

A vertical blind spot? Integrating Screening into Health Care

Aileen Clarke

Background

Screening quintessentially relies on integration of care but our current screening programmes are designed as almost purely vertical programmes focusing on one condition set within the NHS which is, in contrast, a horizontally and vertically structured system of primary and community, secondary and tertiary care with varying degrees of integration. Screening demands a constant need for integration working across and between these service and organisational boundaries. In the UK at present we screen our population for just under 30 conditions. In this paper we investigate three screening programmes. We propose a framework to examine the current extent of integration required between screening programmes at both national and regional level, with primary, secondary and tertiary care partners and with NHS commissioners.

Methods

We used UK National Screening Committee patient pathway flow diagrams and published cost effectiveness analyses and policy documents to investigate three current screening programmes (aortic abdominal aneurysm, colorectal cancer screening and heart health checks), in order to identify possible areas for increased integration. We plotted patient pathways noting all cross over points between screening programmes and 'standard' primary, secondary and tertiary services and assessed likely need for additional inputs in resources (staffing, equipment, onward testing and treatment, quality assurance, training, commissioning and resource allocation.)

We derived a framework for determining the current extent of integration required between screening programmes at both national and regional level, with primary, secondary and tertiary care partners and with NHS commissioners. We validated our findings with senior policy managers in the national screening programmes.

Results

For both AAA and CRC properly integrating screening into long term condition care could be revolutionary in improving health outcomes and the organisation and quality of services as well as their accessibility and costs, but there are pitfalls. An example where integration is lacking, is in the introduction of cardiovascular screening in primary care screening programme.

Implications

Our work has focused on the needs for integration of screening programmes across the entire NHS. Improving the integration of screening services into NHS services will provide better population health and health care, whilst, ensuring that public money on screening is used to best effect.

Mixed Topics (Thursday 5 July, 15.00 – 16.15)

Factors influencing long-term sustainability of major system change: qualitative analysis of the London acute stroke system

Angus Ramsay

Background

Major system change (MSC) involves reorganisation of services at the regional level, and may include significant alterations to a care pathway. In the context of acute stroke care, there is growing evidence on how centralisation can be implemented, and their impact on clinical outcomes, patient experience, care provision, and cost-effectiveness. While there have been some studies of sustainability or otherwise of MSC (Greenhalgh et al 2012; Kristensen et al 2014) little is known about how ongoing sustainability of major system change (an important marker of the 'success' or otherwise of change) is achieved, or not.

In 2010, London's acute stroke services were centralised, with eight 'hyper acute stroke units' (HASUs) providing acute stroke care up to 72 hours following stroke, and a larger number of Stroke Unit (SU) services providing ongoing care beyond this phase. The centralised system was associated with higher likelihood of delivering evidence-based care and significant reductions in patient mortality and length of hospital stay; recent analyses indicate that, as of 2016, impact on care provision and outcomes had either been sustained or improved further. This paper uses qualitative methods to analyse the ways in which key aspects of the London model were sustained; and which factors were influential in this.

Methods

Qualitative analysis of stakeholder interviews (n=51), non-participant interviews (n=21;~60 hours), and documents (n=101).

Results

The London acute stroke system faced significant obstacles to sustaining organisation and provision of acute stroke care over the period studied. Factors identified as obstacles included: turbulence resulting from the 2013 NHS reforms in England; national targets (e.g. A&E targets) requiring rapid patient transfer; national staffing shortages; and significant pressures on social care services. These factors were felt to have contributed to significant pressures on service provision, for example through delays in transfer of patients through the system and resultant difficulties in finding beds for stroke patients in HASU and SU wards. Key promoters of sustainability of the system included: the characteristics of the model itself (in particular the service standards linked to the London stroke tariff); processes of sustaining the model, including regular service reviews and use of national audit data; leadership of the model (in terms of continuity, but also adaptability); finally,

prioritisation of generating and sharing independent evidence was key support of ongoing stakeholder ownership.

Implications

There is clear value in looking beyond implementation of major system change to its long-term sustainability. A range of factors, relating to the service model implemented, the context in which it is to be introduced, how it is led, and how it is managed and supported, should be considered. Evidence about the implementation and impact of change can play an important role both by establishing whether change is having the anticipated impact and by facilitating dialogue with clinicians, managers, commissioners, patients and the wider public, to ensure ongoing ownership of the system.

The local consequences of national health policy reform: fragmentation, disruption, and opportunity in English sexual health services commissioning

Jonathan Hammond

Background

The 2012 Health and Social Care Act (HSCA) dramatically altered the landscape of commissioning in the English NHS; new organisations were formed, others disbanded, and responsibilities for a range of services reallocated at a variety of spatial scales. Sexual health commissioning was particularly affected, with most responsibility shifting from the NHS to Local Authorities. As part of a longitudinal mixed methods study of post-HSCA commissioning, we explored the consequences of these changes for local commissioners and providers of sexual health services in two metropolitan areas, and for clinical activity nationally.

Methods

Qualitative data from interviews (141, with commissioners and providers from Clinical Commissioning Groups, Local Authorities, NHS Trusts, etc.), analysis of policy documents, and observations of 10 hours of inter-organisational commissioning meetings (November 2015—February 2017). The Strategic Action Field (SAF) Framework for Policy Implementation was employed in analysis. According to the Framework, individuals and groups interpret national policy locally, attach certain authority and significance to particular rules of conduct related to its implementation, and develop implementation processes accordingly. These processes shape the extent of local change brought about by the policy.

Quantitative analysis of disruption to commissioning arrangements associated with the HSCA and an analysis of changes in cervical screening rates over time using a triple difference-in-differences approach.

Results

Area 1 commissioners had a long history of joint working but their plans to establish an Area-wide integrated sexual health service were hamstrung by the HSCA because it reduced commissioner autonomy and led to differing interpretations of rules for tendering services. The Act created uncertainty over how Local Authorities were to charge each other for their residents' use of open access sexual health services in other districts. Area 1 worked collaboratively to agree a process for this, but Area 2 did not, which created uncertainty over whether invoices would be paid. Area 2 commissioners found that the HSCA created an opportunity to review contract specifications for sexual health services which were inefficient but hard to change due to vested interests of powerful service

providers. Commissioners described the new retendered service as more modern, more 'holistic', and providers agreed that it was preferable to previous arrangements. In both Areas, there were arguments between Local Authorities and NHS England about who was responsible for funding cervical screening. Concerns were expressed about the consequences of this for the service. This prompted quantitative analysis which showed that cervical screening rates decreased post-HSCA, and areas of England that experienced greater disruption to commissioning arrangements experienced a larger decline.

Implications

This research offers lessons for future healthcare commissioning and its study: disruption and fragmentation of arrangements and responsibilities create challenges but also opportunities for service re-orchestration; ambiguity of commissioning responsibility can result in worsening healthcare provision; a sequential, exploratory mixed method approach is effective in analysis of national health system reform. The SAF helped explain how local context and national policy interact to realise variation.

Mixed Topics (Thursday 5 July, 15.00 – 16.15)

Avoidable mortality from in-hospital cardiac arrest: Examination of whether interventions aimed at recognising and rescuing deteriorating patients are associated with incidence and outcomes?

Helen Hogan

Background

Unchecked patient deterioration can lead to in-hospital cardiac arrest (IHCA) and avoidable death. The National Cardiac Arrest Audit (NCAA), has found four-fold variation in IHCA rates and survival between English hospitals. Key to reducing IHCA is both identification of patients at risk of deterioration and prompt response. A range of targeted interventions (Early Warning Scoring Systems (EWS), nurse-led outreach teams, structured handover tools and continuing education) have been introduced but implementation varies between hospitals. These differences are likely to contribute to the observed variation between and within hospitals over time. Using for the first time NCAA data linked to Hospital Episode Statistics and Office of National Statistics mortality data, this study aimed to determine how interventions aimed at identification and management of deteriorating patients are associated with IHCA rates and outcomes.

Methods

A literature review and semi-structured interviews with 60 NHS staff were used to design an organisational survey that determined how interventions have been implemented in practice and across time. The survey was sent to 171 English NHS acute hospitals participating in NCAA. Association between variations in services and IHCA rates and survival were determined in 106 NCAA hospitals using cross-sectional, interrupted time-series and difference-in-difference analyses over the index study period (2009/10-2014/15).

Results

Across NCAA hospitals, IHCA fell by 6.4% per year and survival increased by 5% per year, with hospital mortality decreasing by a similar amount. A national, standard EWS (National Early Warning Score), introduced in 2012 was adopted by 70% hospitals by 2015. A third of hospitals had converted from paper-based EWSs to electronic EWSs. By 2015, there had been an increase in the number of hospitals with an outreach team and an increase in the number with a team available at all times. The extent of variation in the use of educational courses and structured handover tools was limited with 90% of hospitals reporting use of

Situation, Background, Assessment, Recommendation in 2015.

Introduction of NEWS was associated with an additional 8.4% decrease in IHCA rates and, separately, a conversion from paper to electronic EWS use, an additional 7.6% decrease. However, there was no associated change in IHCA survival or hospital mortality. Outreach teams were not associated with a change in IHCA rates, survival or hospital mortality. A sensitivity analysis restricted to ward-based IHCA did not alter the findings but did identify an association between increased outreach team intensity in 2015 and IHCA survival.

Implications

Standardisation of EWSs and introduction of electronic EWS are associated with a reduction in IHCA. The apparent lack of impact of outreach teams may reflect their mode of introduction, that their effect is through providing support for implementation of EWSs or that the organisation of the response to deterioration is not critical, as long as it is timely. Their role in end-of- life decision-making may account for the observed association with IHCA survival. Further research will be required to understand which outcomes are influenced by outreach teams and to establish which component of the EWS system has the greatest effect on outcomes.

Organisations (Wednesday 4 July, 15.30 – 16.45)

Moving from competition to cooperation: attending to history in specialist cancer surgery service reconfiguration

Catherine Perry & Ruth Boaden

Background

In Greater Manchester, there are plans to reconfigure specialist surgery services for oesophago-gastric (OG) and urological cancers. There are longstanding clinical recommendations to centralise services in order to reduce variations in access, increase patient volumes and improve patient outcomes. The models of care and service specifications have been agreed by commissioners and the work is moving into the implementation phase. For OG services, an implementation plan is in place and centralisation of services is progressing; for urology services, planning for implementation is underway. Discussion about centralisation of these services has been on-going for more than a decade, and this history is emerging as important in understanding the current reconfiguration attempt. The literature on major system change has pointed to the importance of observing and acknowledging history. Therefore, the aim of this paper is to analyse the efforts to centralise OG and urological cancer surgery services in Greater Manchester, with a focus on 'attending to history', in order to extend existing knowledge about the implementation of major system change.

Methods

This study draws on qualitative research (interviews/observations/documentary evidence) from a mixed methods evaluation of the centralisation of specialist cancer surgery services in the areas covered by London Cancer and Greater Manchester Cancer. Data collection is on-going: to date 27 interviews and 68 observations have been conducted, with more than 100 documents collected. In undertaking this analysis, we are using research on the implementation of major system change, particularly in relation to the importance of history, to help us understand the current process in Greater Manchester.

Results

There is a history of competition between NHS organisations working against the centralisation of OG and urological cancer surgery services in Greater Manchester, from the early 2000s and right up to and after the NHS reforms in 2013. Since 2015, when there has arguably been some movement away from competition in the NHS, and, in Greater Manchester, devolution and the establishment of the Greater Manchester Health and Social Care Partnership, there is evidence of a more collaborative approach to planning and implementing the centralisations. The input of multiple stakeholders across commissioners, providers and patient groups has been actively sought. This collaborative approach has been prompted partly by the history of competition, and may have contributed to

agreement being reached about the new models of care. However, despite this collaboration, those planning and implementing the changes have recognised from past failed reconfiguration attempts the need for watertight processes to ensure that decisions cannot be challenged and that changes are implemented. Data analysis is on-going and it is planned to look further at similarities and differences between the two cancer pathways, as well as compare the process of centralisation with that undertaken in the London reconfigurations of OG and urology cancer surgery services.

Implications

This study will provide new empirical evidence of the importance of taking into account the context and history within which major system change takes place, and of learning from previous experience of change.

Organising healthcare provision: what difference does provider ownership make?

Rod Sheaff

Background

NHS-funded services are increasingly being provided by non-NHS owned providers, whether corporate, non-for-profit, proprietary, co-operative and social enterprises. This study explored what differences in service management arise from differences in the ownership of NHS-contracted services.

Methods

Mixed methods realistic systematic ('framework') comparison of case studies. The framework of analysis derived from Donabedian's hypothesis that an organisation's structure (including ownership) determines its selection and management of work processes; which then determine its service outcomes. We compared organisational structures and managerial practices across groups of NHS-commissioned but differently-owned providers for three care groups (planned hospital admission; community health services; out-of-hours medicine), and quantititavely compared the selected providers' socio-economic catchment populations, case-mix and geographical patient flows.

Results

At operational level the differently-owned providers' organisational structure and managerial practices (responses to commissioners and patients, innovation patterns) were rather similar for each care group. Cooperatives were the partial exception, being in part democratically rather than hierarchically managed. Provider scale and case-mix influenced their management and work-processes more than ownership did. However at whole-organisational (regional or national) level, differently-owned providers' structure and management diverged more. Corporations' financialised structures contrasted with the NHS-owned providers' politicised structures, and both with the more 'mission-driven' management of the not-for-profit and the social enterprises.

Implications

These results challenge the policy assumption that non-NHS providers differ much, at operational level, from NHS providers in terms of responsiveness to commissioners and patients, and innovation patterns.

The meaning and effect of 'losing' services: the case of specialist cancer surgery provision

Cecilia Vindrola-Padros

Background

As part of the process of improving cancer care in London, specialist cancer surgery was reorganised and consolidated into fewer specialist centres, with the intention of improving patient outcomes and experience and reducing inequalities in access to services. As a result, some of the hospital sites that were already providing specialist cancer surgery for Urological and Oesophago-gastric (OG) cancers were required to transfer their patients to sites that were designated as specialist surgical centres and to cease providing specialist cancer surgery. Following surgery, patients would be transferred back to their local centres for their follow up care. The aim of this paper will be to explore the meaning and effect of 'losing' cancer surgery provision in Urology and OG cancers at a three of hospital sites in London.

Methods

Fifteen qualitative interviews with clinical staff, collected as part of the larger mixed methods evaluation (RESPECT 21: Reorganising specialist cancer surgery for the 21st Century: a mixed methods evaluation) exploring the centralisation of specialist cancer surgical services for OG and Urological cancers in both London Cancer and Greater Manchester Cancer. The study will be contextualised by drawing on ideas about emotion and organisational change, and in particular the model set out by Bailey et al (2015) focusing on individuals reactions to change through loss and terror management which frequently results in resistance.

Results

The reorganisation and subsequent loss of specialist cancer surgery from some hospital sites was perceived in a positive way by some staff, who felt that they had gained, in terms of personal growth through the development of new skills and experiences. Conversely, for other members of staff, their perceptions of the reorganisation were negative; characterised more in terms of personal loss to themselves, their skills and wellbeing, as well as to the organisation's financial status and the perception of their organisation as being an attractive place to work. For some, the loss of specialist cancer surgery was a very emotional experience. In some cases, there was also concern about the impact on the increased length of travel for patients, as well as their relationship with the surgical teams. However, despite negative perceptions of the loss of specialist cancer services, staff reactions to change did not always result in resistance.

Implications

This paper will contribute to the literature on organisational change and emotion through its focus on the loss of service provision. We also anticipate that the knowledge and ideas acquired from this study will help to inform those who are considering the impact on staff of any future relocation and subsequent loss of services which would result from similar reorganisations.

Organisations (Wednesday 4 July, 15.30 – 16.45)

System wide collaboration? Health and social care leaders' perspectives on working across boundaries

Jenny Shand

Background

A challenge to reduce costs within the NHS by £22bn, and year-on-year social care funding reductions, require health and social care services to collaborate to reduce prevalence and severity of health need. Regulation encourages organisations to prioritise their own interests ahead of the system, making this investment difficult to realise. Financial incentives have been identified as a key barrier to enabling organisations to work together, with separate payment systems often giving conflicting incentives. Recent policy changes in the NHS in England promote pooling of health and social care locally, including the development of Integrated Care Systems. In response to The London Proposition in 2015, the three boroughs of Barking and Dagenham, Havering, and Redbridge (BHR) began working together to develop an Accountable Care Organisation (ACO) for the 750,000 population they serve. Overcoming conflicting organisation responsibilities and priorities, and funding of individual bodies, have been cited as key drivers for the new approach. The study aimed to understand:

- Experiences of working across organisational and sectoral boundaries for the benefit of the population, including enablers and barriers encountered
- How system wide financial incentives influence working across organisation and sector boundaries
- What integrated care systems hoped to achieve and how, and potential limitations of this model, through a case study of BHR ACO

Methods

This was an exploratory qualitative study involving 35 semi-structured interviews using a topic guide, with key leaders and decision makers across health and social care organisations in BHR, and national leaders, between April 2016 and August 2016. National leaders were included to place BHR in wider context and compare insight from this site with developments in other areas nationally. Interviewees were those in senior leadership positions, who make operational and/ or financial decisions for their organisation, in organisations that commission or deliver health and/ or social care to the population of BHR. Relevant roles included: CEO, Medical Director, Finance Director, Director of Commissioning, Director of Adult Social Services. A combination of purposive sampling and snowball sampling was used.

Results

Existing financial mechanisms can be used to overcome sector boundaries, e.g. pooled budgets, but require strong leadership to implement, particularly when participation challenges organisation stability. There are differences in levels of autonomy and operational priorities between councils and the NHS, with local democratic leadership compared to centrally driven NHS. There are challenges associated with primary care participating in integration, including reluctance for small organisations to adopt the risk associated with large scale programmes. Interviewees were aligned on espoused ambitions for the ACO (health improvement and financial stability) but not on whether one organisation was needed to deliver these in practice.

Implications

Health and social care organisations: Consider alliances rather than one organisation solutions to integration, and review terms of collaboration with primary care

Policy makers: integration ambitions need to address the differences in how the NHS and councils work; population health improvement needs to facilitate long-term investment (balancing short-term operational priorities)

Researchers: Understand if there are specific population groups for whom cross-organisation and cross-sector working could have particular benefits.

Patient Experience (Thursday 5 July, 11.40 – 12.55)

Does a patient centred approach improve outcomes for people with multimorbidity? Pragmatic cluster randomised controlled trial

Chris Salisbury

Background

The growing number of people with multiple chronic conditions challenges health care systems which are designed to manage each condition in isolation. There is international consensus about the need for a more patient-centred approach to the management of multimorbidity, which is tailored to individuals' priorities, considers quality of life alongside disease control, seeks to reduce treatment burden (particularly inappropriate polypharmacy) and promotes self-management towards goals agreed between patients and clinicians. However, there is little evidence about the effectiveness of this approach. The aim of this study was to implement at scale and evaluate the 3D approach to managing patients with multimorbidity, based on a patient-centred care model.

Methods

We conducted a pragmatic cluster-randomised trial amongst general practices in England and Scotland. Practices were randomly allocated to continue usual care or to provide the '3D' approach which offered six-monthly comprehensive reviews based on a patient-centred care model and incorporated strategies reflecting the international consensus. Care was delivered by a multidisciplinary team supported by an interactive clinical information system. Adult patients with three of more chronic conditions were recruited. The primary outcome was quality of life after 15 months follow-up, measured using the EQ-5D-5L questionnaire. Secondary outcomes were measures of patient-centred care, illness burden, treatment burden, and improved care processes. In parallel with the trial we conducted a qualitative process evaluation and an economic evaluation of cost-effectiveness (reported separately).

Results

We recruited 1546 patients from 33 practices. In intention-to-treat analysis, all measures of patient-centred care showed significant benefit from the 3D intervention, including the Patient Assessment of Care for Chronic Conditions (PACIC) measure (adjusted mean difference 0.29 [0.16 to 0.41], p<0.001). However, there was no evidence of difference between trial arms in the primary outcome of quality of life after 15 months follow-up (adjusted difference in mean EQ-5D-5L 0.00 (95% CI -0.02 to 0.02), p=0.825). There was also no difference in any measure of illness burden or treatment burden.

Implications

This trial represents the largest and most rigorous evaluation yet conducted of the international consensus about the optimal way to manage multimorbidity in primary care. The 3D intervention improved patient-centred care but was not associated with benefits in quality of life, illness burden or treatment burden. This raises questions about whether the assumption that improved patient-centred health care will lead to improved health and well-being is flawed. Alternatively it could be argued that providing care which respects patient's wishes and priorities is itself sufficient justification for implementation.

Partners At Care Transitions? A qualitative study exploring the experience and involvement of older people moving from hospital to home.

Rosemary Shannon

Background

Reduced length of inpatient stays confer multiple benefits, such as reduced risks associated with hospitalisation and enabling hospitals to treat more people, plus patients often prefer to be at home. However, it also means that people are more likely to leave hospital sicker and with ongoing care needs. 'Discharge' from hospital is, therefore, often a stage in a highly variable and complex transitions process, and one that is contingent upon several factors, including service provision, resource capacity, and knowledge transfer within and between multiple teams. The patient, as the only constant presence throughout the care journey, has the potential to positively contribute to key aspects of the process, e.g. enabling knowledge transfer between providers, thus being partners with health care providers as they move from hospital to home.

Methods

We report the findings of a focused longitudinal ethnography undertaken with 32 adult patients aged 75+, and their carers, in order to explore the transitions process from the older patient and carer's perspectives. Participants were recruited from various wards upon admission and followed up on multiple occasions from discharge, to three months post-discharge. Semi-structured interviews, observations, and 'go-along interviews' were used to generate data about patient and carer experience and involvement in care, throughout the transition from hospital to home.

Results

People reported positive experiences overall. This was largely due to relational aspects of care, which both patients and carers valued highly. However, hospital environments and standard care processes often had negative impacts on peoples' sense of autonomy and ability to do their normal daily activities upon returning home.
One of the key issues patients and carers experienced was gaining timely, accurate and adequate information, especially about plans for treatment and discharge. Moreover, written information was often 'second-hand' – originally being intended for other healthcare professionals – thereby minimising its utility to patients and carers. This was especially true regarding medicines, resulting in poor understanding and consequently unintentional 'non-compliance' at home.
Discharge from hospital was a variable process: sometimes it appeared to happen suddenly, resulting in patients feeling 'ejected' from the service; on other occasions discharge was delayed, causing dissatisfaction due to the patient's desire to get home, or

further deconditioning associated with being in hospital. Care in community settings was also variable and participants reported struggling to access services such as GP care, and equipment. After leaving the hospital, people were often uncertain about who was now responsible for their care.

Throughout their care journey, most patients were passive receivers of care and this was because they saw themselves as non-experts; this made it difficult for them to query or challenge healthcare professionals. Patients were also reticent to ask questions because they knew staff were busy and they did not want to be a burden.

Implications

Unfortunately, these factors were barriers to meaningful involvement, resulting in patients having limited influence throughout their care journey. We will propose ideas to promote patient involvement in ways acceptable to older people, enabling them to effectively partner with professionals and contribute to the transitions process.

Bridging the gap between patient experience data and 'Quality Improvement' work: lessons from five acute NHS hospital trusts

Glenn Robert

Background

Despite the wealth of patient experience data being collected by acute NHS hospital trusts in England, little is known about how this data is used to bring about change and improvements to the quality of health care services. Responding to a call by the National Institute for Health Research (NIHR) to explore more closely the link between patient experience data and quality improvements in NHS organisations, we designed and carried out a qualitative study with two essential aims: (1) to explore and potentially enhance the use of patient experience data by acute NHS hospital trusts, and (2) to understand in more detail and optimise the role of nurses in the management and use of such data.

Methods

Between December 2016 and January 2018 we carried out a research study based on ethnographic observations and semi-structured interviews, in five acute NHS hospital Trusts in England. In Phase-1 of the study, we drew upon Actor-Network Theory to follow the journey and interactions of a variety of patient experience data, focusing in particular on two areas of care – cancer and dementia – which we selected in view of the potentially interesting comparisons they could offer. In Phase-2, we carried out one cross-site and five Trust-based perspective-sharing workshops (Joint Interpretative Forums – JIFs) to discuss our early findings with members of staff who had been involved in the research and distil implications for policy and practice.

Results

Over approximately one year, we spent between 20-27 days at each participating Trust. We had informal conversations with members of staff with direct or indirect responsibility for Patient Experience and carried out 65 individual semi-structured interviews with key informants. Findings from our analysis of field notes, Trust documents, and interview transcripts highlight the significance of two themes in particular: 1) the importance of the autonomy and authority with which the professionals coming into contact with patient experience data at all organisational levels can enact improvements in care; and 2) the need to pay attention to the complex relationships through which different forms of data act upon one another and with human actors as part of an 'ecology' of patient experience data. To illustrate these themes, we reflect on the role that clinical nurse specialists have in improving the experiences of patients with cancer and the similar 'qualities' of other – often non-specialist – roles operating in comparable, although less structured, ways in supporting care for people living with dementia. We also discuss the extent to which

virtually no data format is ever considered in isolation, but functions instead as part of a system of relationships to signal areas for intervention and/or for organisational reassurance.

Implications

To conclude, we discuss the potential implications of these findings for policy and practice, and report implications proposed by staff members at the participating trusts in the 'sense-making' workshops we held as part of the late stages of our study.

The association between patient experience questionnaires and patient complaints: analysis of routine data

Gary Abel

Background

Recorded written complaints against the NHS are on the rise; on average, over 4000 complaints are made every week in England. Of these, 43% concern primary care (comprising general practice and dentistry). Whilst complaints are still relatively rare compared to the number of patient contacts in primary care, they represent a failure of the service in the eyes of the patients involved. Receiving a written complaint can also have a devastating impact on the primary care staff concerned. By contrast, patient experience reported through mechanisms such as the national GP Patient Survey (GPPS) tends to be very positive. Whilst there is evidence that some patients may be reluctant to report poor-quality care on patient experience surveys, the large representative sample of the GPPS means that reliable practice-level assessments of experience are obtained. What is unknown is to what degree GPPS scores may predict the rate of complaints made against general practices.

Methods

Data were obtained from NHS Digital on written complaints made in each general practice in the year 2015/16. These data were linked to the GPPS data at the practice level. Case-mix adjusted practice scores for four key areas of patient experience, as well as overall satisfaction, were created using previously-established methodology. Mixed-effects Poisson regression was used to examine the association between the rate of complaints and GPPS scores. We used separate models for complaints flagged as either medical, practice administration, other, communication/attitude or premises. Univariable analyses were first used to compare complaints in one area to one patient experience measure, and subsequently multivariable models adjusted for all patient experience measures together.

Results

In univariable analysis higher scores on all aspects of patient experience were associated with fewer complaints in all areas. For example, practices at the 97.5th percentile of practice scores for overall satisfaction had a 52% lower rate of medical complaints than those at the 2.5th percentile (RR 0.48, 95%CI 0.44, 0.52, p<0.0001). When adjusting for all patient experience items, specific aspects of patient experience predicted specific, generally corresponding, types of complaints. For example, practices with high scores on the ability to see a preferred doctor and GP communication had lower rates of medical

complaints, whereas for complaints about practice administration, ability to see a preferred doctor and the helpfulness of receptionists were the strongest predictors.

Implications

Patient experience, as measured by the GPPS, is strongly associated with the rate of recorded written complaints made against general practices. This provides robust evidence for the construct validity of patient experience measured with a survey. Furthermore, our findings suggest that by taking action in practices known to have poor patient experience scores it may be possible to reduce the volume of complaints made against primary care.

Measure to improve: Understanding the quality of clinical communication in hospital patient handover

Philip Scott

Background

In hospital, a handover happens when a patient is moved to another ward or when the medical or nursing team briefs the incoming shift about progress and what needs to be done. Poor handovers can lead to errors, patient harm and delayed discharge.

There are currently about two million medical admissions to NHS hospitals each year. Each patient will have at least four handovers each day. Australian research found that over 15% of handovers gave incomplete information. In the USA, handover errors account for 20% of malpractice claims. NHS data suggests that there are thousands of adverse incidents each year caused by poor handover.

There are various interventions to improve handovers: staff training, use of technology, checklists, protocols and patient/carer participation. There is not enough evidence to establish which interventions are most effective or the full impact of IT solutions. A missing prerequisite is a validated toolkit to measure the quality of clinical handovers: that is the focus of this project. Once quality measures are established, studies can test which bundle of interventions is most effective and how IT can best support handovers.

Methods

We are conducting a scoping review of previous research to identify known ways to measure handover quality. We are interviewing clinicians, patients and their families/carers to assess what is important to them about good handover and hospital communication with patients and carers. Data from the interviews will be analysed qualitatively using the Framework Method. We shall subsequently conduct a three-stage survey through patient groups and healthcare practitioner professional bodies, based on the Delphi method, to determine the most useful and practicable measures. We shall start to develop a measure based on patient and family/carer experiences.

Results

We have received a favourable ethical opinion and approval to proceed from the HRA and participating NHS Trusts. We are currently in the data collection phase, conducting interviews and recruiting further participants. By the time of the conference, we will have completed our qualitative data analysis of the clinician and patient/carer interviews and be completing our Delphi study.

Implications

Although substantial research has been conducted into patient handover, it remains an area of concern. Our work will contribute to sustaining and focussing improvement work by providing a standardised toolkit to benchmark handover quality and make it part of routine audit and evaluation. We shall make a grant application for a further study to validate the patient and carer experience measure proposed by this project.

Using National Early Warning Scores (NEWS) outside acute hospital settings

Lauren Scott

Background

Early warning scores (EWS) were developed to improve recognition of clinical deterioration in acute hospital settings. In 2012, the Royal College of Physicians developed the National Early Warning Score (NEWS) to standardise EWS across the NHS, and also recommended it's use outside the acute hospital setting. In 2015, NEWS was implemented across the healthcare system in the West of England; the thresholds for action were aligned with use in secondary care: 3- threat, 5- refer, and 7- severe. The aim of this work was to evaluate the system-wide implementation and use of NEWS outside acute hospital settings.

Methods

This evaluation employed three research approaches. First, a systematic review evaluated current evidence regarding EWS in out-of-hospital settings. Second, we undertook qualitative interviews with healthcare professionals to understand their experiences of working with NEWS. Participants were recruited from: primary care; ambulance services; acute advice and referral management services; community nursing and rapid response teams; and mental health services. Finally, we examined quantitative patient data from the following services to explore the distribution of NEWS in different settings: an emergency department (ED), an ambulance service, a community health provider, and a service who take referrals from GPs for admissions into ED.

Results

The systematic review found that EWS showed good predictive accuracy for short term mortality (24-48 hours); no patients with a EWS of zero died within 48hours, and patients with high EWS (7+) were at a higher risk of deterioration; results were less clear for intermediate thresholds (e.g. EWS=5).

Qualitative findings suggest that NEWS supported decision-making around escalation of care, but should not replace clinical judgement. NEWS also provided a 'common language' for communicating clinical acuity between clinicians and across different healthcare organisations. However, this was dependent on shared recognition and acceptance of the tool. Some organisations, such as the ambulance service, were able to easily adopt NEWS as it fitted well with their usual practice, while others, such as primary care, had to adapt their practice to incorporate it.

The quantitative data showed that a large proportion of patients had NEWS=0-2 across the four settings: 80% in ED, 72% in the community, 67% of ambulance patients and 45% of GP

referrals. In contrast, only a small number of patients had NEWS≥5: 8% in ED, 12% in the community, 18% of ambulance patients and 32% of GP referrals. On average, patients with higher NEWS at ED triage were more likely to be treated faster, be admitted to hospital, have longer lengths of hospital stay, and higher mortality.

Implications

We've shown that NEWS has good predictive accuracy at the extremes; that even in acutely and chronically unwell patients NEWS≥5 is uncommon; and that many healthcare professionals recognised the merit of a standardised score, but some benefits are, at least partly, contingent on system-wide adoption of the tool. Overall, this evaluation suggests that NEWS has the potential to contribute to improving care of acutely unwell patients, however the adoption of NEWS for routine clinical practice in different settings varied.

Patient Safety (Thursday 5 July, 15.00 – 16.15)

Patient safety: Policy representation and practical translation

Simon Fletcher

Background

Patient safety has become both practically and politically significant in contemporary healthcare. Whilst the term is rooted in imperatives of care and quality improvement, the potential for its manipulation in an environment of increasing scrutiny and regulatory pressure should not be overlooked. Key reports by the Institute of Medicine and the World Health Organisation have emphasised the need for a universal, practical interpretation of patient safety procedure. This has encouraged a shift away from a focus on individuals in systems towards one which concerns the systems themselves. Whilst there is some value to a universal interpretation of 'patient safety' when professional and interprofessional contexts demand a particular and definable standard of care, the way in which cultural and contextual distinction is neither confronted nor acknowledged represents a cause for concern.

This presentation discusses our attempts to critically map the representation of patient safety in UK healthcare policy documentation. In so doing we explore not only the prevalence of patient safety in policy literature but also how the term is interpreted across a variety of professional, interprofessional and cultural contexts, and the ultimate translation of these ideas into practical settings.

Methods

The study conducted a critical content analysis into publically accessible national UK policy documents which promote patient safety. We were then able to develop a critical map of patient safety terminology, highlighting the prevalence of references, their professional derivations and respective cultural trends or disparities. The sample included policy documentation from a range of national bodies and professional regulatory bodies which were published from 2000 to present. Using a key word search which developed the term 'patient safety', we obtained records of the notation and representation of patient safety intention which were then analysed thematically.

Results

This process uncovered strong evidence for the development of formal educational approaches and materials to enhance patient safety. Although this encourages a standardised approach to safety concerns and error reduction, and also responds to the need to legitimately recognise patient safety as a central characteristic of healthcare intervention, the far reaching, relatively universal interventions again fail to accommodate variable contexts and interprofessional discontinuity.

Implications

Patient safety can be potentially undermined by practitioner behaviours that hinder effective interprofessional collaboration and communication, embedded hierarchies, culture of non-reporting, and a lack of standardization of reporting and redressing errors. Although this has been responded to through evidence-based protocols and policies aimed to improve patient safety practices, these interventions are, according to recent research negatively affected by professional/interprofessional interaction issues which are unaccounted for from the outset. There is therefore an evident need to explore the nature of intention behind patient safety policy, how it is professionally interpreted and the extent to which it is realised in practice.

How to be a very safe maternity unit: an ethnographic study

Elisa Liberati

Background

Maternity care continues to be a site of avoidable harm. Despite much valuable learning from adverse events, improvement has remained difficult. We report a study that, using a positive deviance approach, seeks to generate learning from a setting that demonstrates evidence of high performance in patient safety (Southmead hospital in Bristol) to identify the social, organisational and cultural conditions that appear to be implicated in safe care.

Methods

Data were collected using an ethnographic approach, including observations in the Southmead maternity unit (140 hours) and semi-structured interviews (n=12) and focus groups (n=2) with healthcare professionals. Analysis was based on the constant comparative method.

Results

We identified a range of mechanisms that appeared to be important to safety. They included a highly intentional and disciplined approach to safety; clear and explicit standards of practice, including a very strong emphasis on technical skills; reflexivity in relation to risk, with risk management systems used effectively to identify and mitigate risk; and a combination of soft intelligence and hard indicators used to monitor performance. The social organisation of work was particularly important to safety: staff demonstrated distinctive organisational citizenship behaviours and values; strong social ties and sense of organisational belonging; psychological safety; clear but agile professional and disciplinary boundaries that enabled deference to expertise rather than hierarchy; and appropriate use of social control mechanisms to signal and enforce appropriate behaviour. The unit prioritised the development and refinement of systems that would facilitate safe practice, with a strong emphasis on apparently mundane aspects of equipment and layout design. Coordination and shared cognition were enabled through systems that allowed shared awareness and mobilisation of response, and highly structured approaches were in place to manage crises and emergencies.

Implications

Achieving excellent safety standards in maternity care requires a systems approach that combines features of formal systems and properties of the social systems. The insights generated through this study will be used to enhance an existing training programme for obstetric emergencies (PROMPT) and will provide broader guidance to improve the safety of maternity care and other acute care settings. The findings will also offer reflections and recommendations on the learning for generalisability, replication and scaling of improvement interventions.

How should we be responding to patient feedback online? A justice theory perspective

Rebecca Baines

Background

Patient feedback is considered integral to patient safety and quality of care. Increasingly, patients are sharing their healthcare experiences online. However, guidance on how to respond effectively to such information is limited, with little theoretical or practical understanding. As a result, questions about patient perceptions of existing responses and how organisational responses might be improved remain until now, relatively unanswered.

Methods

In collaboration with service-users and a volunteer mental health patient-research-partner, this research uniquely i) identifies factors considered potentially helpful in enhancing response quality from a patient perspective; ii) coproduces a best practice response framework and iii) discusses result findings through a justice theory perspective. It uses a four-stage mixed-methodology: i) systematic search of stories published on Care Opinion about adult mental health services in the South West of England; ii) collaborative thematic analysis of responses with service users to identify factors potentially helpful in enhancing response quality; iii) validation of identified factors leading to the co-production of a best-practice response framework; iv) and quality appraisal of existing responses.

Results

245 stories were identified, with 183 (74.7%) receiving a response. 24 (9.8%) had been heard but not yet responded to. 1.6% (n=4/245) may lead to a change. 19 factors were considered influential in response quality. These centred around seven subject areas: i) introductions; ii) explanations; iii) speed of response; iv) thanks and apologies; v) response content, vi) signposting and vii) response sign-off. Quality appraisal of existing responses highlighted a current misalignment between patient perceptions and organisational response methods. Procedural, interactional and distributive justice appears integral to response quality.

Implications

This study has clear practical and theoretical implications. It provides previously unavailable guidance for those looking to improve patient feedback response quality. Future research should explore the utility of the framework in other settings and examine any potential relationships between response quality and further complaint behaviour or intent.

Patient Voice (Wednesday 4 July, 11.35 – 12.50)

How do unpaid carers access education and skills building support? An exploratory study

Jenny Shand

Background

Across the UK today, 6.5 million people are unpaid carers, supporting friends and family who are older, disabled, or seriously ill. Each day 6,000 people become carers, many of whom do not know how or where to get help. In April 2014, NHS England published "Commitment to Carers" in recognition of the contribution unpaid carers make to society and the need to better support them in that role. Nationally, the contribution of carers is being formally recognised, with the Care Act improving access to support and setting minimum standards and expectations for individuals and their carers. Patient education programmes are widely available across the NHS in England, however provision of carer education is inconsistent and largely reliant on the third sector. It is increasingly recognised that better supporting carers could reduce reliance on acute hospital services.

This study aims to:

- understand how unpaid carers access education and skills building support
- understand the barriers encountered when accessing that support
- identify needs of unpaid carers with regards to building care giving skills required to support the individual they care for
- understand how these needs differ according to the characteristics of the carer and the nature of the care needs of the individual they support

Methods

A qualitative study using semi-structured interviews with a topic guide, allowing in depth exploration of the research aims and providing comparable data across interviews. Eligible participants are individuals who are unpaid for the care they provide and are caring for older people (those aged 65+) whose prime care needs are physical (including limited mobility) or cognitive, or both. Stratified purposive sampling is being used with the aim to include individuals who fit the criteria for the study and fit into various sub-groups the literature suggests are relevant (e.g., level of education, social class, acuity of need of the person they care for, levels of support received from formal carers). Stratified purposive sampling will ensure heterogeneity in the study respondent group. A maximum of 80 interviews will be conducted to ensure feasibility. Interview data will be analysed using thematic content analysis.

Results

25 interviews have been completed, with an additional 55 interviews scheduled for completion by April 2018. Emerging themes include: Peoples journey to becoming a carer (varied widely from instant due to a major event, such as a stroke, to a more gradual process), the impact on their own health (most describe neglecting their own health, predominately due to lack of time), lack of support networks (again due to time), opportunities for skills building (with many specific examples including awareness of factors that indicate deterioration); and need for respite (but finding it challenging to take it).

The interview cohort profile and completed themes will be available June 2018.

Implications

The findings will inform future unpaid carer education support initiatives. Health Education England have agreed funding for a project to commence in April 2018, adapting an education tool currently used with care home staff for unpaid carers, which will build on the insights and findings of this research.

Patient centred primary health care in rural Kenya

Munro Moffat

Background

Sustainable improvement in the quality of healthcare is achieved through a system-wide approach[i], implemented at different levels[ii]. Aid projects are often directed at specific clinical problems, and usually leave systems unchanged. When addressing primary care in any context a 'person-centred care 'approach should be applied in order to support individuals to develop the knowledge and confidence they need to more effectively manage and make informed decisions about their own health and health care [iii]. Patient and community involvement in health choices enhances sustainability and can reduce costs within healthcare [iv.], particularly where cultural health beliefs are embedded.

To develop a sustainable primary health service within the Leparau community, a rural Maasai district in northern Kenyan, the question 'What would you like to health service to look like?' was posed to the community.

Methods

To fully understand the needs of the Leparua community and focus public and primary health care interventions data was collected from the primary health clinic of Lepaura for the last 5 years. Questionnaires assessing core health indicators (access to water, sanitation and education) took place in 100 households in a 15km radius of the clinic.

With the results of this data focus group discussions with village Elders, traditional birth attendants and community health workers were held to ascertain what the community would like their health service to look like and how this could be achieved.

Results

The majority of presentations to the clinic were due to respiratory and eye pathology (Table 1). The under five age group demonstrated a prevalence of gastrointestinal complaints (Table 2). 98% of houses use indoor stoves. 50% of households only have access to river water as their primary water source and 47% of households do not have a permanent source of water. 60% of households do not have access to a long drop toilet and defecate in the brushland. 86% of adults in the Leparua community did complete any level of education.

Focus group discussions ascertained that the Maasai community of Leparua would like a focus on public health interventions and health education for their community. They recognise that the cultural practice of building of manyattas with indoor fires without the

use of chimneys is contributory to their health burden. Elders requested support in accessing 'clean cookstoves' and placed 'a permanent water source' and 'good sanitation' as priorities for their communities. Health champions were appointed and trained to deliver health education events in schools and at community events to impart knowledge and discuss cultural health beliefs.

Implications

'Harmonised and aligned', 'Reciprocal and respectful' form two of the eight THET principles for partnerships. When working with communities to develop primary and public health care services an understanding of the health needs is equally important as an understanding of culture and beliefs of the community. Working together at a community level to build sustainable health services that are accessible and culturally acceptable to all will improve overall health outcomes. Further research is needed to review the impact of the interventions put in place in Leparua district.

Public and Patient involvement in GP federations: Differing views among stakeholders in four English case study sites

Lisa Riste

Background

In the current climate there are many changes to the way in which general practice is being delivered. One of these changes has been the requirement for GP practices to work together 'at scale' and one such mechanism has been via the formation of GP federations. Most organisations recognise the importance of public and patient involvement and engagement (PPIE), and GP practices have been required to have a 'representative' patient participation group (PPG) since April 2015. Little is known about PPIE within newly formed GP Federations although the British Medical Association says *'The GP network should work with their patient liaison group to ensure that those who use the services know why their practices are working together and how it will – or won't – affect the care they receive'*.

Methods

As part of our NIHR HS&DR Programme (14/197) we recruited four English GP Federation sites as case studies and interviewed key stakeholders around their aims & objectives, strategic direction, operational plans and delivery. Stakeholder interviews included members of the federation boards (GPs, Practice managers and nurses), federation core team (CEO, Finance team, project staff) and patients from federation practices as well representatives from local patient organisations.

Semi-structured topic guides probed patient involvement and engagement during federation formation, ongoing representation and communication with patients and how patients viewed the way in which their care was delivered. Interviewees provided written informed consent and interviews were digitally recorded and transcribed verbatim and organised using NVivo v11.

Results

To date, the 113 interviews conducted reveal little evidence of consultation with patients ahead of the creation of the federation, with stakeholders exhibiting differing views of PPIE.

Federation 'core' team members felt patient involvement was best dealt with by the individual practices via their respective PPGs, with an expectation that these groups would have been informed, if not consulted.

Some PPGs were told their practice had joined the federation after its launch, but few seemed aware of its role or how it would affect the care patients receive. Their main concerns remained around accessing appointments.

GPs felt the main benefit their patients would see on federating, was that of practice survival. They saw federating as a business function and were concerned that patients might be alarmed by such changes. They thought patients might recognise the impact, once clinical services started being delivered, which should be evident and can be explored further in future interviews.

Implications

Practice PPGs were not necessarily consulted around changes when their practice became part of a GP Federation. Few patients were aware that their practice was part of a federation, indicating a potential barrier between the PPG member and patients registered at their practice.

In the same way that federations provide a single voice for GPs, federations could offer a unique opportunity for patients from the respective PPG members to join together to support the practices and become engaged in issues around future service delivery.

Why do frontline healthcare staff struggle to undertake quality improvement work? Findings from an interpretive synthesis of four qualitative studies

Laura Sheard

Background

It is well known that the pace of change in the quality of healthcare remains sluggish across the world. There are a myriad of reasons underpinning this relating to issues at the macro level of how healthcare is structured such as a lack of collective responsibility for quality improvement (QI) or widespread continual re-organisation of health services. On a more micro level, problems are said to relate to the engagement of healthcare staff in the 'doing' of QI on the ground, often involving issues of teamwork, local leadership and a protection of professional autonomy. There is little attention paid to meso level factors which may influence why frontline staff find it difficult to undertake QI

Methods

We conducted an inductive, interpretive synthesis based on a secondary analysis of qualitative datasets from four studies which primarily focused on patient safety and bottom up QI. All studies took place in the North of England between 2013 and 2018 across multiple healthcare providers and sites, mostly with acute hospital ward based teams. Study A is a process evaluation of the trial of a patient safety intervention. Study B is an evaluation of an improvement project which explored the involvement of hospital volunteers in collecting patient feedback about safety. Study C used action research to enable teams of ward staff to enhance patient experience. Study D sought to understand healthcare staff perceptions of the implementation of a framework for improving safety. Methods used across the studies include: ethnographic research, interviews and focus groups.

Results

Three key factors are proposed which may explain why frontline healthcare staff find bottom up QI difficult. First, QI asks frontline staff to think and act differently. Core parts of QI (such as reflection and discussion) are in contrast to the fast, task based nature of clinical practice. Furthermore, the theoretical underpinnings behind QI work is sometimes hard for staff to grasp and can risk becoming overwhelming. Second, QI is at odds with how healthcare organisations are structured and managed. Significant resource and 'organisational navigation' is needed for QI work to take place, yet it is not often provided in full. This exists alongside a structure which implicitly favours siloed working and

discourages collaborative approaches. Third, QI runs contrary to a pervasive culture of audit, monitoring and performance management. Healthcare staff expect to be continually audited and the differences between audit and QI work can sometimes get confused. QI facilitators have to tread carefully to engage staff. Overall, the three themes articulate an essential misalignment of the fundamentals of bottom up QI with the very nature of modern day NHS.

Implications

Healthcare staff want to take part in QI but feel frustrated and worn out by the factors previously described. QI work risks repeating the same mistakes if momentum to push forward with local, small scale projects keeps continuing without a strategic acknowledgement that QI work is hard to undertake and an understanding that there is a fundamental misalignment between QI and the clinical environment.

Quality (Wednesday 4 July, 11.35 – 12.50)

International comparison of the characteristics and healthcare utilisation of high-cost, high-need patients

Sarah Deeny

Background

Medical spending is concentrated among a minority of high-cost patients in many countries. While high-cost, high-need patients are of interest to system leaders, clinicians and policy makers internationally, there is limited research examining how spending and utilization patterns vary across different health systems. International comparisons allow policy makers to identify where care could be delivered more efficiently, or quality improved within this cohort of high-cost, high-need patients.

Methods

We constructed a retrospective cohort study, of the top 5% highest cost in terms of medical care spending populations in Canada, England, Germany, Japan, the Netherlands, Spain, and the United States using administrative datasets and expenditure survey data in the case of the United States. The cohort was selected from one year of healthcare utilisation, taken from the most recent available year in each country. For each country, we determined the demographic and clinical characteristics of the top 5% highest cost patients in one year. We calculated a range of descriptive statistics, including the average total spending per patient, concentration of spending within the population, healthcare utilization across inpatient Curative Care (HC1.1); Day and Outpatient Care (HC1.2 and HC1.3); Rehabilitative and Post-Acute Care (HC2); Outpatient pharmaceuticals (HC5.1.1 and HC5.1.2); Other Medical Goods and Ancillary Services (HC5.1.3, HC5.2 and HC4). Country-specific measures of spending were adjusted for purchasing power parity (PPP).

Results

In all countries, health spending is highly skewed towards a small proportion of the population, though the degree of concentration varies. In England, 5% of patients accounted for 39% of spending across primary and secondary care in one year. In all countries, high-cost patients are older (median age in England of 69 years of age), more often female (57% in England), suffer from more clinical conditions (mean of 2.47 ICD chapters), and are more socioeconomically deprived than the total population.

In common with other countries inpatient Curative Care (HC1.1) was the largest spending category contributing 57% of spending in England. However, this proportion ranged widely from 41% of spending in the Netherlands to 84% of spending in Spain. In England, 81% of high-cost users spent at least one night in hospital, across other countries this ranged from 73% to 96%. The average number of inpatient nights ranged from 6.6 to 97.6 across

countries, and was 9.94 in England. The contribution of outpatient and primary care (HC1.2 and HC1.3) spending varied greatly across countries, ranging from 8% in Spain, and was highest at 37% in England.

Implications

The commonalities, and variations found in this first systematic cross-country comparison offer insights for cross-national learning as England and other countries look to improve care and reduce unnecessary costs for this population. As majority of spending is inpatient care, the international variation in hospital admission, and length of stay could point to an opportunity to improve care, while reducing costs. Future work will identify variation in inefficient care (such as ambulatory care sensitive admissions), and examine the patient level variation in quality of outcomes.

Partners at Care Transitions: Exploring healthcare professionals' perspectives of excellence at care transitions for older people.

Ruth Baxter

Background

Hospital admissions are shorter than they were 10 years ago. Notwithstanding the benefits of this, patients often leave hospital requiring ongoing care. The transition period can therefore be risky, particularly for older people with complex health and social care needs. Previous research has predominantly focused on the errors and harms that occur during transitions of care. In contrast, this study adopts an asset-based approach to learn from factors that facilitate safe outcomes. It seeks to explore how staff within high performing ('positively deviant') teams successfully support transitions from hospital to home for older people.

Methods

Multidisciplinary staff from six general practices and six hospital specialties that demonstrated exceptionally low or reducing 30-day emergency readmission rates for patients aged over 75 years old were approached to be involved in focus group or individual interviews. We also recruited community staff who supported the high performing teams to deliver transitional care (e.g. district nurses, community matrons). Data were collected to explore staff perceptions about how teams successfully deliver safe transitional care and how staff overcome the challenges of their everyday clinical work. Data were analysed thematically using a pen portrait approach to identify the manifest (explicit) and latent (abstract) factors that facilitate successful transitions from hospital to home for older people.

Results

This presentation will focus on the factors that facilitated successful transitions from hospital to home across all healthcare settings. Staff continually sought a holistic picture of the patient to effectively plan or deliver care. Hospital staff extensively corroborated different sources of information, and primary care staff chased information that was lacking. Across all settings, team decision making reduced patient risk and eased the psychological burden on individual staff members. Despite trying to explicate factors that facilitated safe transitions, staff from the high performing teams highlighted several challenges that they found difficult to overcome. These primarily related to unrealistic patient expectations (regarding prognosis and service provision) and a lack of staff understanding about the challenges that other teams faced. Staff perceived a lot of their success to be underpinned by their relationships with patients and families. In all settings, knowing a patient well helped staff gather more detailed information, identify potential

problems, and manage unrealistic expectations. Relationships within multidisciplinary teams were also important, but when relationships existed with external team members they help transcend service boundaries.

Implications

This study develops our understanding of how teams, in a variety of different settings, deliver exceptionally safe care to older people during transitions from hospital to home. It accentuates the explicit and abstract factors that contribute to success and the ways in which staff try to overcome the challenges faced. Findings will contribute to the development of an intervention that seeks to improve the safety and experience of older people as they transition from hospital to home. By better understanding how teams succeed within existing resources, this study offers a way of developing intervention strategies that are feasible, sustainable, and acceptable to healthcare staff.

Quality (Wednesday 4 July, 11.35 – 12.50)

Variation in GP urgent referrals for suspected cancer: multilevel analysis of national data at practice, CCG and acute trust levels.

Chris Burton

Background

Early diagnosis of cancer depends on appropriate referral by GPs to specialist diagnostic services. Guidelines and care pathways for suspected cancer have been developed and implemented across the UK. Despite this there is considerable variation between GP practices in both sensitivity and specificity of their referral decisions. We aimed to examine how much of the variation between practices could be explained at the level of primary care organisations such as CCGs (which seek to influence practice behaviour) and acute hospital trusts (which provide the capacity for handling referrals).

Methods

We examined five years aggregated data from a national dataset of all GP cancer referrals in England. We examined the effect of clustering on practices' Standardised Suspected Cancer Referral rate and their Cancer Detection Rate before and after adjusting for the proportion of patients aged over 65, the index of multiple deprivation (and for detection rate, the Standardised Suspected Cancer Referral rate). Data were first clustered by CCG and then (for trusts serving multiple CCGs) by CCG within acute trust catchment area. Analysis used a linear mixed effects model, with random intercepts.

Results

Results are currently available for data from Yorkshire and Humber region: extension of the analysis to the whole of England is in progress and will be reported. Overall CCGs accounted for 21-23% of the variance in practices' Suspected Cancer Referral Rates and 16-21% of variance in Cancer Detection Rates. Where acute trust catchment areas included two or more CCGs, more of the variance in Suspected Cancer Referral Rates was attributable to the CCGs than to the acute trust. However, more of the variance in Cancer Detection Rates was attributable to the acute trust than to the CCGs.

Implications

GP practices' Suspected Cancer Referral Rates and Cancer Detection Rate are substantially influenced by local factors operating at CCG and acute trust level. Practice variation needs to be considered in the light of local commissioning policies and specialist service provision.

Workforce (Wednesday 4 July, 11.35 – 12.50)

Evaluation of the care certificate: New national training standards for the health and social care support workforce

Louise Thomson

Background

There are an estimated 1.3 million unregistered health and social care support workers in the UK (Department of Health, 2013) providing the majority of hands-on care in most health and social care settings, yet their training needs have often been overlooked. The Cavendish Review (Department of Health, 2013) called for the introduction of a Certificate of Fundamental Care, a set of new common training standards across health and social care, grounded in what the best employers already do.

As a result, the 'Care Certificate' was developed by Health Education England, Skills for Care and Skills for Health, and introduced in 2015. The Care Certificate sets out 15 areas of knowledge, skills, and behaviours that are required to provide safe, effective and compassionate care. It aims to promote a consistent approach to staff training and induction, improvements in the safety and quality of care provided and better training provision and career development pathways offered by care organisations. This presentation will report on the findings of a national evaluation of the Care Certificate which aimed to assess whether it was meeting its objective of better preparing workers to provide high quality care.

Methods

The evaluation methodology included telephone surveys with a sample of 401 care organisations in England. Participants were randomly selected from the Care Quality Commission database and stratified by region (North, Midlands and South) and care setting (health care and social care). The survey respondents were staff holding responsibility for care staff training or induction, and were asked about how their care organisation had implemented the Care Certificate. In addition, nine in-depth case studies were conducted in care organisations to explore in more detail the experiences and perceptions of care managers and leaders and care staff receiving the Care Certificate training through qualitative interviews and focus groups.

Results

The research showed that uptake of the Care Certificate has been good, and it is widely welcomed as providing a standardised approach to improving the skills of those new to care, enabling staff to feel better-prepared to provide high quality care. However, there is a proportion of smaller organisations where it has not been implemented, largely due to lack of resources and capacity. Furthermore, there has been considerable variation in how the Care Certificate is delivered, ranging from group-based programmes combining teaching and activities, to short online courses completed individually. This inconsistency has undermined the credibility and portability of the Care Certificate, and its use as a transferable qualification supporting the movement of staff between organisations was not widely reported.

Implications

The implications include:

- The Care Certificate should be delivered using participatory and experiential approaches and to facilitate the transfer of learning into everyday practice
- Organisations should recognise Care Certificate completion through such things as certificate presentation ceremonies.
- Guidelines on the implementation of the Care Certificate should be updated to incorporate greater clarity on a number of aspects of provisions. Guidance and support should be targeted at small care organisations on how they can implement the Care Certificate standards.

Workforce (Wednesday 4 July, 11.35 – 12.50)

Physician Associates in Secondary Care in England: a mixed methods study

Vari Drennan MBE

Background

Physician associates (PAs) are new and growing occupational group of advanced practice clinical staff in the NHS in England. Royal Colleges, the Secretary of State for Health and the Health Select Committee have suggested they are one (of many) solutions to address the NHS workforce future requirements. Increasing numbers of hospitals in England are employing PAs. In the UK there is little knowledge or evidence as to the ways in physician associates are deployed in different medical teams, what activities they undertake, and what difference their involvement makes to patient pathways, costs and service delivery systems. This National Health Institute of Research funded study investigated these issues.

Methods

A mixed methods, multi phased study was undertaken over two and half years (2015-2018). At the macro and meso level of the health care system we undertook two electronic surveys: one to all medical directors of hospitals in England and the other to PAs. We also conducted a systematic review of evidence of the patient and service outcomes of PA inclusion . At the micro level, we investigated the deployment, contribution and impact of PAs in six case study hospital trusts. Data collection included: interviews with patients , managers, clinical staff and PAs ,observation of medical teams, documentary analysis and a comparison of emergency department re-attendance rate of patients (n=613) attended by PAs or by foundation year doctors.

Results

PAs are employed in a small but growing number of NHS Trusts in England. The range of adult and paediatric specialities they work within is also of increasing but larger numbers were reported within acute medicine, care of the elderly, trauma and orthopaedics and emergency medicine. Internationally there is some evidence that PAs impact positively on teams and patient outcomes, although results are often confounded by the issue of being an additional resource to a service rather than a substitute.
In the case study trusts, PAs were employed to: address shortages in the medical workforce, support junior doctors in their training, build the medical workforce to cope with service expansion and aid in improving patient experience. PAs were only one of a number of workforce solutions being developed within Trusts. The types of clinical activities and contribution within medical or surgical teams, supervisory processes, governance issues and perceptions of patients and other professional groups are detailed. Challenges due to prescribing limitations and finding their place in the hierarchy remain; however, positive impact is also reported.

Implications

This study was conducted over a period when the NHS context was one of increasing workforce shortages and challenges. This study provides evidence of the deployment, contribution and challenges in employing PAs in acute care medical and surgical teams. This is of interest to clinical teams, managers and commissioners considering workforce issues within the hospital sector. There are challenges to understanding the contribution of, often, single posts in complex systems where work is organised in teams.

Workforce (Wednesday 4 July, 11.35 – 12.50)

Ambiguity in the implementation of new non-medical health professional roles in general practice: a qualitative study

Pauline Nelson

Background

In recognition of unprecedented pressures facing primary care, the General Practice Forward View of 2016 proposed a widening of the skill-mix in practice-based teams to include greater numbers of non-medical health professionals to work alongside GPs. Significant investment to underpin this strategy has ensued with initiatives aimed at expanding the general practice non-medical workforce; however there are implications for inter-professional dynamics and role boundaries[i]. This study focuses on three 'new' non-medical role initiatives in an area of Greater Manchester: 1) an Advanced Practitioner training scheme involving a multi-professional cohort of nurses, physiotherapists and paramedics; 2) the piloting of the Physician Associate role via a training programme and 3) a fully commissioned Practice Pharmacist service to enable clinical pharmacy input to every general practice. The study examines the implementation of these workforce initiatives to identify the associated challenges and opportunities arising in early adopter practices.

Methods

Across the three workforce initiatives, 21 qualitative interviews and two focus groups gathered the perspectives of 37 different stakeholders comprising: 1) service/training leads (CCG, provider and academic); 2) trainee Advanced Practitioners and Physician Associates as well as employed Practice Pharmacists; 3) practice staff (GPs and practice managers) who were hosting the workforce schemes. Sampling was purposive for maximum variation. Data collection was informed by a rapid scoping review of the 'new non-medical roles in general practice' literature. Data were transcribed verbatim, organised in NVivo 11 and analysed using Template Analysis to identify key concepts.

Results

For each of the professional groupings, there was substantial ambiguity in the perception of the roles and/or their operation in the general practice setting. The Advanced Practitioner pilot aspired to prepare trainees to work 'like a GP'; however regulatory provisions, depth of training and the differential base professional backgrounds/experience of trainees challenged this ambition. The Physician Associate pilot introduced the newest role and the least clearly defined, making the trainees' potentially unique contribution to general practice difficult to specify. While the commissioned Practice Pharmacist service was principally based on a 'standard' offer of medicines management support, flexibility in meeting the priorities of individual general practices, existing pharmacy support provisions

on the ground and the differential skill sets of the pharmacists in post meant the role operated differently in different locations.

Implications

Given the increasing feature of skill-mix change in primary care, these findings raise a number of implications for practitioners, policymakers and patients. While professional manoeuvring around role boundaries is to be expected and ambiguity may support the crafting of new emergent roles, in the long-term, for consistency of service and sustainability through workforce planning and training, these roles will need to develop around occupational standards rather than the personal interests and expectations of individuals and practices. Careful planning is required within the practice (and beyond) to avoid duplication of costs and time with roles that may overlap, or skills that may go unused.

[i] Currie G, Finn R, Martin G (2009) "Professional competition and modernizing the clinical workforce in the NHS" *Work Employment and Society 23(2):267-284*

Workforce (Wednesday 4 July, 11.35 – 12.50)

Experienced physician associates in hospitals: an evaluation of the National Physician Associate Expansion Programme

Francesca Taylor

Background

The National Physician Associate Expansion Programme is a complex innovation in workforce development involving both international recruitment of experienced professionals and localised implementation of a new type of professional into different NHS organisations. The two-year programme commenced in 2016 and focused on rapidly increasing the number of experienced physician associates (PAs) working in NHS hospitals through recruitment of American PAs. Physician associates, known internationally as physician assistants, are trained in a medical model to work as part of the healthcare team in all settings and provide medical care supervised by a doctor. The NHS supports the introduction of PAs and there are currently more than a thousand in training. PAs have a 50-year history in the US and have prescribing authority in all states, unlike the UK where PAs cannot prescribe medications. Twenty eight US PAs were recruited to the programme. This evaluation was designed to assess the impact that experienced physician associates have made in NHS medical teams and the extent to which they have prepared the ground for employment in hospitals of physician associates from the UK training programmes. The researchers worked closely with patient and public advisers in designing the study.

Methods

The evaluation uses a mixed methods design. Individual semi-structured interviews are being undertaken with experienced physician associates, and patients and staff in the services which participating physician associates work. In addition internal documents from participating study sites, providing quantitative data that could be used to understand the impact or contribution of experienced physician associates, are being analysed.

Results

Early findings from the evaluation, due for completion May 2018, indicate experienced physician associates can have positive impacts on the quality, safety and efficiency of patient care. Facilitators and barriers to physician associates making an effective contribution in NHS medical teams have also been identified. The US PAs were able to contrast their role and work between the English and American setting. The lack of prescribing authority in the UK was reported as a constraint on their work compared to the US. Lower salaries for PAs in the NHS, compared to the US, were thought to make the UK relatively unattractive to US PAs and significant international recruitment unlikely.

Implications

The evaluation findings will be used to: 1. Provide understanding on the contribution that experienced physician associates make to secondary care 2. Identify any concerns arising about the physician associate role in a hospital setting 3. Potentially inform future programmes of recruitment, training and commissioning linked to physician associates as well as other new professions in the NHS workforce.

Will a Dutch (Buurtzorg) model of provision address challenges in English district nursing?

Vari Drennan MBE

Background

District nursing as a home visiting nursing service is facing increasing demands and difficulties in recruiting and retaining staff in many areas of the United Kingdom. The Dutch social enterprise company, Buurtzorg, offers one model that emphasises patient centred care and also has self-managing teams of nurses . The nurse teams have no managers but access to a coach. Buurtzorg is reported to achieve high levels of patient and staff satisfaction, including high levels of retention . The Buurtzorg model of district nursing has attracted the interest of policy makers in many countries. It is being introduced in a number including the United States, Norway , China and three countries of the United Kingdom. This presentation reports on the evaluation of the introduction of an adapted Buurtzorg model in one team in the National Health Service in England.

Methods

This mixed methods case study included semi structured interviews (patients , nurses , general practitioners, managers), observation of nursing practice , documentary analysis and analysis of anonymised patient records. Data collection was January– August 2017.

Results

The evaluation reported positive experiences and outcomes from patients, specialist nurses, general practitioners in comparison with currently organised district nursing. The nursing practice included provision of personal care and meal preparation for short periods which is usually undertaken by social care in England. The nurses reported great satisfaction but also challenges. Not all nurses offered posts took them and nurses starting also left the team. The infrastructure systems and many parts of the organisation struggled with the concept of a self-organising team with no managers.

Implications

The evaluation demonstrated that this model that shows promise. It raised questions as to whether some of the innovation and efficiencies in this team's nursing practice were transferable more widely to the district nursing service. It also raised questions about the acceptability of self-governing teams with large health care organisations. Further investigation is required in answering questions of cost effectiveness over a longer period.

Validating the Safer Nursing Care Tool for setting nurse staffing levels in four NHS Trusts

Christina Saville

Background

Deciding on adequate nurse staffing levels to ensure patient safety is a complex issue and has been addressed by a large body of tools. However, evidence that these tools generate staffing levels matching patient needs on particular days has been lacking. The Safer Nursing Care Tool (SNCT) is a NICE-endorsed tool for setting the number of staff to employ (the establishment) on a ward. It is being increasingly used for on-the-day deployment and redeployment in addition to its original purpose. It involves categorising patients according to their acuity and dependency once a day and from this calculating the average daily staffing requirement. Until now, as for other tools, the appropriateness of setting staffing levels according to the SNCT has not been verified. In particular, it is unknown how patient needs vary over time and hence the suitability of using particular sample lengths and timings.

Our objectives are firstly showing the extent to which SNCT staffing requirements vary within a day and between days and secondly validating the tool against nurses' perceived staffing adequacy.

Methods

The following data were collected at least daily for 1 year for each general adult inpatient ward in four NHS Trusts: perceived staffing adequacy questions, SNCT ratings, actual staffing (both permanent and temporary staff), total patient counts, and admission, discharge and transfer data. Firstly we provide descriptive analysis of the SNCT requirement in different wards, focussing on how it varies within days and between days. Secondly we present multi-level models (nested at the ward level) to investigate whether staffing adequacy according to the SNCT predicts perceived staffing adequacy. We will look at different measures of perceived staffing adequacy and assess the impact of additional factors on this relationship.

Results

We present results showing the variation in the SNCT staffing requirement within and between days for different wards. A series of multi-level models are presented, allowing us to start to draw conclusions about the validity of the tool compared to perceived staffing adequacy.

Implications

Since the SNCT is widely-used in the NHS, our findings have implications as to whether it is appropriate to use the tool in its current form for daily staffing level decisions, or whether there are other factors that need to be taken into account.

The development of a tool (TRACT) to measure the complexity and volume of care trajectory management work for the purposes of safe nurse staffing decisions

Alison Evans

Background

The need to safeguard safe nurse staffing levels is an international policy priority. Considerable effort has gone into developing workload models over the last 40 years, but questions remain as to their overall utility and relevance to health service provision. One important limitation is that models are over-determined by clinical considerations. Recent research has highlighted the importance of nurses' organisational work in the management of patient trajectories to ensuring the efficiency, quality and safety of care (Allen, 2015). The volume, intensity and complexity of nurses' care trajectory management work vary across clinical contexts and may also fluctuate *within* clinical contexts because of the turbulent and unpredictable character of healthcare systems. One of the challenges for service managers is to ensure that staffing levels reflect these contextual differences. There are currently no evidence-based tools to inform this decision-making.

Methods

In partnership with nurses from Cardiff & Vale University Health Board, we built on Allen's ethnographic research on nurses' organizing work (Allen, 2015) and insights from Translational Mobilization Theory (Allen and May, 2018) to (a) identify the factors that contribute to the complexity and volume of care trajectory management work, and (b) coproduce TRACT - a workload measurement tool designed to augment professional judgment in informing safe staffing decisions

Phase 1: Tool Development

Brain storming exercises were used to identify the organizational aspects of nurses' roles. The results were analysed and combined with the findings from Allen's original study and Translational Mobilisation Theory to develop a prototypical "Trajectory Complexity Assessment Tool" (TRACT).

Phase 2: Tool Piloting

TRACT was piloted in three workshops using 'virtual ward round' methodology. Staff used TRACT to assess the organizational complexity of patient care needs by considering case scenarios, providing extensive feedback on the structure, phrasing and scope of the prototype tool.

Phase 3: Tool Refinement

Feedback from the phase two workshops was used to refine the tool in preparation for further piloting with an international stakeholder group.

Results

TRACT is a simple structured decision support matrix designed to augment professional judgement in assessing the organisational complexity of patient care by categorising it as high, medium or low.

Implications

TRACT will provide nurses with a means of formalising and quantifying the organisational elements of patient care and will complement the clinical acuity tools that are used to inform safe staffing decision-making.

Are long nursing shifts on hospital wards associated with sickness absence? A longitudinal retrospective observational study

Chiara Dall'Ora

Background

Working shifts of 12 hours or more has been associated with negative impacts on nurses' wellbeing and performance; however, previous studies used subjective measures and cross-sectional techniques, failing to capture the complexity that encompasses the relationship between shift patterns and related outcomes.

Therefore, the aim of this study was to investigate whether working shifts of 12 hours or more is associated with increased sickness absence among registered nurses and healthcare assistants working in acute hospital wards.

Methods

A retrospective longitudinal study using routinely collected data from March 2012 to March 2015 across 32 general inpatient wards at a large acute hospital in England. Shifts worked by registered nurses and health care assistants and sickness absence episodes were extracted from the hospital's electronic rostering systems. Shift patterns were characterised in terms of proportion of long shifts (≥12-h shifts), proportion of night shifts and proportion of days worked in the preceding seven days. We used generalised linear mixed models to explore the association between shift patterns and the subsequent occurrence of short (<7 days) or long-term (≥7 days) sickness absence

Results

We analysed 601,282 shifts. There were 8090 distinct episodes of sickness absence, of which 2532 (31.3%) were classified as long-term. Staff were more likely to miss a shift due to sickness if they were scheduled to work a long shift, compared to a shift of eight hours or less (OR=1.24; 95% CI= 1.16-1.31). When more than 75% of shifts worked in the past seven days were 12 hours or more in length, the odds of both a short-term (adjusted odds ratio (aOR)= 1.28; 95% CI: 1.18-1.39) and long-term sickness episode (aOR= 1.22; 95% CI: 1.08-1.37) were increased compared to working none.

Implications

This longitudinal study showed that working long shifts on hospital ward is associated with a higher risk of sickness absence for registered nurses and healthcare assistants. The higher

sickness absence rates associated with long shifts could result in additional costs or loss of productivity for hospitals.

Research labour in the NHS: staff experiences and perceptions

Rachel Faulkner Gurstein

Background

The National Institute of Health Research promotes the NHS as an internationally recognised infrastructure for research. The NHS is being re-imagined as a health research system that will improve the health and wealth of the nation through research. This has implications for staff, including nurses and others at the sharp end of recruitment and data collection; however, little is known about this workforce. This study aimed to investigate the perspectives and experiences of the NHS research workforce.

Methods

A qualitative study conducted in a single Trust and its associated academic health sciences centre. Patient-facing research staff and NHS managers were purposively sampled from the Trust's 2017 research workforce census and invited to take part in face-to-face interviews. Interviews used a topic guide and were transcribed in full; data were managed using NVivo 11 and analysed thematically.

Results

25/58 staff contacted were interviewed. They included eight clinical research nurses (CRN), ten clinical research practitioners (CRP) (ie not clinically qualified or with clinical qualifications not recognised in the UK but engaged in clinical research) and seven research managers; they were from 11 different clinical research directorates. CRNs had long careers as hospital nurses before moving to research roles; CRPs had more varied backgrounds with most having a degree level qualification. Motivations for working in research varied between CRNs and CRPs, with some CRNs reporting previously held negative views of nursing research. CRNs and CRPs reported undertaking very similar roles in research, with some questioning the differences between these two categories of workers, proper boundaries of each role and cost implications of each category. This was reported to lead to friction and some confusion for patients. CRNs reported experiencing conflict between research tasks (including recruiting) and concern for patient safety and well-being. While CRN roles were fairly standardised using existing nursing bandings, CRPs generally reported lack of standardisation in terms of role, role tasks and career progression. Patient contact and research itself were sources of job satisfaction; lack of autonomy, pressure to recruit at volume, and short-term contracts were among factors reducing job satisfaction.

Implications

The clinical research workforce is a crucial component of NIHR ambitions for a research-led NHS. This study suggests that the workforce is highly diverse, with variations in role, standardisation, motivations, attitudes towards research and support provided. To support the embedding of research in to clinical care, further consideration of how to organise research labour is required.   This will need to take into account some tensions between organisational goals, patient needs and staff experience.

Primary care workforce: How can we identify those general practices at risk of a supply demand imbalance?

Gary Abel

Background

British general practice has been described as being in crisis. Many GPs are close to retirement age and low levels of morale are potentially driving GPs to quit direct patient care. This, combined with a shortage of qualified GPs available to replace those leaving patient care, provides potential for some practices to find themselves in a situation where they do not have the supply of workforce to cope with the demands of patients. Strategies and interventions exist to aid retention of existing workforce. In order to apply these in the most effective manner it would be beneficial to first identify those practices at highest risk of facing a supply demand imbalance.

Methods

We first define a conceptual framework whereby practices in supply demand imbalance are those where workload is high, resulting in poor access for patients. We operationalise this concept using GP Patient survey scores and routine data on practice registered populations and workforce, and identify those practice currently in imbalance according to our framework. A hybrid modelling approach was used to predict imbalance based on practice factors including current workload, current GP Patient Survey scores, nurse workforce, projected populations and the projected fraction of current GP Full Time Equivalents (FTEs) expected to remain in direct patient care in 5-years' time. For the latter we use two approaches; 1) using age and gender profiles of practice staff along with information on mean retirement rates at different ages 2) results from our own survey of GPs career intentions in south-west England. The predictive model was developed using national data from 2012 and subsequently applied to current data for practices in south-west England.

Results

The strongest predictors of a practice's future status were existing access and workload. There was some evidence that the projected fraction of current GP FTE expected to remain in direct patient care mattered more when the ratio of nurse to GP FTE was higher. Scenario modelling was conducted where a) the future population was projected to be higher than expected and b) the effect of GPs leaving patient care was enhanced (simulating increased difficulty in recruitment). These changed the ordering of practices found to be at highest risk of future supply demand imbalance, but only when substantial changes were made.

Implications

We have demonstrated that it is possible to make reasonable predictions of an individual general practice's future risk of undersupply of GP workforce with respect to its patient population. However, the predictions are inherently limited by the data available. With on-going GP workforce issues in South West England and nationally, many local models are being developed to identify potentially "at-risk" practices. However, unlike the model we present here, it is not clear to what extent these models are evidence-based or to what extent their limitations are recognised by the users of the models.

Exploring the role of the Practice Manager in UK General Practice

Jennifer Gosling

Background

The recent CQC report (2017) identified that better run practices were those with practice managers and where the manager and GPs worked together. Increasing levels of patient demand and more work being shifted from secondary to primary care, as well as the regular reforms, changes and re-structuring of primary care organisation, plus new forms of external regulation (such as the CQC itself) mean that practices require high levels of leadership, governance and management. These are skills in which GPs are not yet trained and operationally this mostly falls to the manager of the practice, however, we know little about who practice managers are or their views about their work. This project is the first UK-wide study of practice managers that has gathered unique data about an increasingly important, but little researched member of the practice team.

The aim of the research was to explore the role of practice managers in general practice, specifically who they are, their qualifications, what they do, their level of integration into practices and aspirations for the future.

Methods

We undertook an online survey of practice managers by sending an invitation to participate to every practice in the UK (n=9154). This was preceded by a series of semi-structured interviews with a range of national actors, local practice managers and GPs, including one in-practice focus group, to inform the development of survey questions.

Results

1429 responses were received and showed that practice managers are a highly diverse group, who vary widely in experience, background, educational attainment and training. 78% of practice managers are women, showing that it is still a female dominated profession. 48% have worked in general practice for over a decade and 34% have worked at the same practice for more than 10 years. 36% had another job in general practice before becoming a practice manager, while 23% came from management in the private sector. There appears to be little consistency in management qualifications and 12% report that they have had no management training. Fewer than 10% of practice managers are partners, although over 80% think they should have the opportunity to become a partner. Like other practice staff they manage a large workload, with two thirds of managers working 5 hours or more overtime per week. However, despite a reported turnover of

managers, most enjoy their job, believe they are trusted by the partners and are given an appropriate level of responsibility.

Implications

This UK-wide survey supports the CQC finding that the practice manager is an important member of the practice team. Despite the concerns about workload pressures and turnover, there appears to be significant stability within the profession. However, to develop as a high quality management cohort and further professionalise, they need wider support and recognition. National bodies, such as NHSE, need to develop and provide specialised, structured training programmes. Practice Managers need to be offered a clear route to partnership and a formal professional association, with a code of ethics.

Workforce (Thursday 5 July, 11.40 – 12.55)

Primary and secondary health care use before and after introduction of a named GP for older English patients, 2012-2016

Peter Tammes

Background

In April 2014 a named accountable GP-scheme was introduced for patients aged 75+ to provide personalised care to keep them healthy and out of hospital. This study aimed to investigate whether this intervention 1) improved patients' continuity of primary care, 2) decreased patients' risk of emergency hospital admission (EHA).

Methods

This cohort study obtained data on 27,500 patients from the Clinical Practice Research Datalink (CPRD) who were aged 65 to 84 in 2012, alive in 2016, and registered with their practice at least one year prior to 2012. The CPRD was linked with Hospital Episode Statistics (HES) data in England. Patients were followed between April 2012 and April 2016, comprising a two-year period before and a two-year period after the intervention. In both periods we determined a patient's continuity of primary care (Bice-Boxerman (BB) index, range 0-1), and whether they experienced an EHA. We used multilevel (ML) modeling including period (level-1), patients (level-2), and practices (level-3). To test the hypotheses that the named GP-policy resulted in improved continuity of care and reduced risk of EHA for patients aged 75+, we adjusted for gender, number of GP-consultations, number of chronic co-morbidities, deprivation level, number of GPs in practices, and urban/rural location of practice.

Results

BB index-score for patients aged 75+ decreased by 0.031 over time, from 0.434 pre-intervention to 0.403 post-intervention. This decrease was bigger than for patients under 75, from 0.423 pre-intervention to 0.397 post-intervention: 0.026. An adjusted ML model for the BB index-score including a time-age interaction showed patients aged 75+ still had a stronger decrease in their continuity of care: an extra decrease of 0.014 (95%CI 0.007-0.021) for patients aged 75+ compared with those under 75.

7,105 patients (26%) had at least one EHA between 2012 and 2016. The probability of an EHA for patients aged 75+ increased over time by 4.8%-points (from 19.9% pre-intervention to 24.7% post-intervention). This increase was bigger than for patients under 75, namely 2.0%-points (from 12.4% pre-intervention to 14.4% post-intervention). An adjusted logistic ML model for EHA including a time-age interaction and quartiles of BB index-score, patients aged 75+ still showed an increase in their probability of an EHA: the

ratio of odds ratios for patients aged 75+ was 1.77 (95%CI 1.65-1.90) compared with those under 75.

Implications

The introduction of a named GP did not arrest the decline in continuity of care or the increase in probability of EHA for patients aged 75+.