Research, evidence and improvement for the health and care workforce: a call for action

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Executive summary

HSRUK convened a national forum for policymakers, service leaders and researchers in health and care workforce in March 2023. Over eighty leading figures met over two days in York and mapped out current research, discussed key evidence gaps where more research was needed, and ways to get evidence used to support policy and practice. The dialogue and exchange generated important links and collaborations.

This report sets out our key findings:

- We face a "perfect storm" of workforce challenges in the health and care system – a complex interaction of acute workforce shortages; increased service demand and pressures of recovery; recruitment and retention challenges and rising workforce exit; increasing workload, stress and burnout and workforce wellbeing concerns.
- All four nations of the UK have responded with workforce strategies and plans which seek to address the workforce crisis – but those plans need good evidence to back up their modelling assumptions, workforce numbers and assumptions, and interventions designed to improve workforce capacity and deal with the challenges just outlined. Rapid research will also be needed to evaluate the progress and impact of these strategies and learn lessons.
- This is not a problem confined to the UK – across the developed world, governments are facing very similar major health and social care workforce problems, and increasing levels of international workforce migration mean no nation can tackle these problems in isolation, and there is much to learn from the workforce strategies and approaches of other countries.
- Given that we spend about two thirds of the healthcare budget on staff costs, we have in the past under-invested in research to help us use those staff as efficiently and productively as possible – and to keep those staff working in the health and care system. Limited research funding, a lack of research infrastructure, and a small and fragmented research community mean we are not well placed to get great research done and used in policy and practice.
- But things are changing. Major research funders and government health and social care departments have started to recognise the need for workforce research, to invest in its development, and to develop research themes and priorities.
- There is an exciting and compelling future research agenda – a series of workshops at our forum meeting made a great start in setting out research priorities, and outlining the research infrastructure needs, including investment in bringing together routine workforce datasets in secure data environments to support research, and developing longitudinal cohort studies of the workforce.

This call for action to improve the way we produce and use research and evidence to make decisions about the health and care workforce in the UK is just a first step. The workforce challenges faced by the NHS and the social care system have never been greater than they are now, but that means the scope for good research and evidence to make a real difference and improve health and care services is huge.

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Introduction

This short report sets out the urgent need for good research and evidence to support decision-making about the health and social care workforce in the UK and internationally. It provides a call for action to fund and organise workforce research which is both rigorous and relevant to the current and future needs of policymakers and practitioners, and to put in place systems and support to get the research evidence to the people who need it in timely and actionable forms.

The report is based on findings from a forum for policymakers, senior leaders, researchers and academics held in York in March 2023. Over eighty people from a wide range of organisations across the UK came together to map out the workforce research and evidence landscape and to agree what needed to be done – and this call for action is very much the product of their experience and expertise. We are deeply grateful to Health Education England, the Health Foundation and the University of York who supported that forum and the production of this report.

The report first outlines – briefly – the current state of the health and care workforce and what seem to be some of the predominant and persistent challenges in securing a workforce that is fit for purpose. It then turns to outlining the research landscape – mapping out how great research and evidence on the health and care workforce is currently organised, funded and produced and what happens to it in policy and practice. Finally, it seeks to articulate a shared agenda for action – setting out both several thematic areas which our forum discussed and in which we think there are important research needs and opportunities to use evidence to improve policy and practice; and outlining some investments in systems and infrastructure which we think are needed.

The state of the health and care workforce in the UK

Many would argue that we face a "perfect storm" of workforce challenges in the health and social care system – a complex spiral of acute workforce shortages, increased demand for health and care services, problems of recruitment and retention, growing early retirement and workforce exit, increasing workload, stress and burnout, poor staff health and wellbeing, and more. New approaches to the health and care workforce are essential for dealing with the post-pandemic backlog of demand for health and social care, reshaping health and care services and responding to the needs of the future.

This perfect storm of challenges translates to a lack of staff numbers in the health and social care workforce. The Health Foundation's REAL centre estimates that by 2030/31, up to an extra 488,000 health care staff will be needed to meet demand pressures and recover from the pandemic – the equivalent of a 40% increase in the workforce, double the growth seen in the last decade (1). The NHS long term workforce plan sets out even more ambitious staffing targets (2). It aims to increase the number of staff employed by the English NHS from around 1.5 million in 2021–22 to between 2.3 and 2.4 million in 2036–37. This would be equivalent to average growth in the size of the NHS workforce of between 3.1% and 3.4% per year (3). Alongside this, up to 627,000 extra social care staff will be needed to improve services and meet need – a 55% growth over the next decade and 4 times greater than the increases of the last ten years (1).

Policy responses to the health and care workforce crisis

The devolved nations have responded to the workforce crisis with national workforce strategies for both health and social care (Wales, 2020; Scotland, 2022; Northern Ireland, Second Action Plan, 2022). The long awaited NHS England Long term workforce plan was finally published in June 2023. This is a welcome and much needed step towards strategic workforce planning across the NHS in England, however commentators have raised concerns around its affordability, and assumption of increased productivity. For the workforce plan to deliver, its implementation must place sufficient emphasis on the retain and reform aspects of the plan and not over rely on training more staff (3, 4).

Current policy interventions which rely on increasing the number of staff entering the workforce are failing to deliver the increased number of staff needed. The Nuffield Trust's analysis of data from 2022, for example, shows the highest number and proportion of nurses leaving the NHS workforce in England since trend data began. This attrition of staff means that despite increasing numbers of nurses, the total number of nursing staff is not rising to meet the government's existing commitment of 50,000 more nurses by March 2024 (5).

Despite the interdependencies between health and social care, the overlap between staffing groups and similar challenges across the health and social care workforce, there is no commitment to publish a similar workforce plan for social care in England (4). The Department of Health Social Care's Social Care White Paper (6) did not address the issue of pay, a major omission given that as of March 2023, the median hourly rate for independent sector care workers was lower than 80% of all UK jobs and less than healthcare assistants who are new to the role receive in the NHS (7). This leaves the social care workforce in England lacking policy drivers for improvement and a coordinated approach to workforce across health and social care.

Wider implications and international comparisons

Understanding how to plan, recruit, train and retain the health and social care workforce is critical not just in the UK but across health systems worldwide. With 16.5% of NHS staff from international backgrounds, equitable workforce migration, especially from lower and middle income countries, is an important policy issue (8).

Shaping and maintaining the health and social care workforce has societal implications which reach beyond service delivery. In Canada, for example, more than 10% of all employed Canadians are in the health care workforce. A recent analysis of the NHS long term workforce plan by the Institute for Fiscal Studies (IFS) estimates that if the plan is delivered, by 2036–37, 9% of all workers in England will work for the NHS (3), mirroring the situation in Canada. This means that issues such as wellbeing and pay and reward in the health and social care workforce have a disproportionately large effect on the working population when compared with other sectors. The workforce crisis is also disproportionately affecting women in the workforce: 77% of the NHS workforce are women and over 80% of the Canadian health care workforce define as women (9, 10).

Spending on workforce accounts for over two thirds of all health care spending in Canada (not including the personal and public cost of training) which equates to approximately $175 billion in 2019 or nearly 8% of Canada's total gross domestic product (GDP)(10). A recent IFS report analysing the implications of implementing the NHS long term workforce plan notes that it implies spending on the NHS in England would be around 2% of GDP higher by 2036–37 and equivalent to around an extra £50 billion in today's terms. The analysis notes that these ambitions need to be matched by

increased productivity and do not take into account other increased spend as a result of staffing increases, such as the costs associated with delivering more treatment (3).

The research landscape: workforce evidence and analysis

Although some examples of great research and evidence on the healthcare workforce exist, it would be difficult to claim that we have a coherent and planned programme of well resourced research to tackle the most pressing evidence needs, or that we are making best use of existing research evidence to inform policy and practice. We have a dearth of good research, but the research we do have is often not well used. Research findings about the health and social care workforce which are familiar to the academic community are not always widely known or used within the practitioner or healthcare decision maker space. As one health service leader attending the forum pointed out, what were `known knowns' to the research community, such as high quality evidence on the relationship between nurse staffing levels and patient outcomes (11), were not always well understood or implemented at the service level.

The workforce research landscape is difficult to fully capture, covering as it does a wide range of academic disciplines, fields and traditions (Fig 1). Much of the research done on the workforce crisis, or the research groups themselves, focus on specific professional groups such as nurses or junior doctors though it may well be highly relevant to other professional groups. Researchers who study the workforce may not define themselves as "workforce researchers" but rather by their academic discipline such as organisational psychology, or medical education, or organisational sociology, or statistical modelling, or health economics – and so on. While there are great benefits from this kind of multidisciplinary research collaboration, it also means that the field is often rather fragmented and the organisation, cumulation and synthesis of research evidence is problematic.

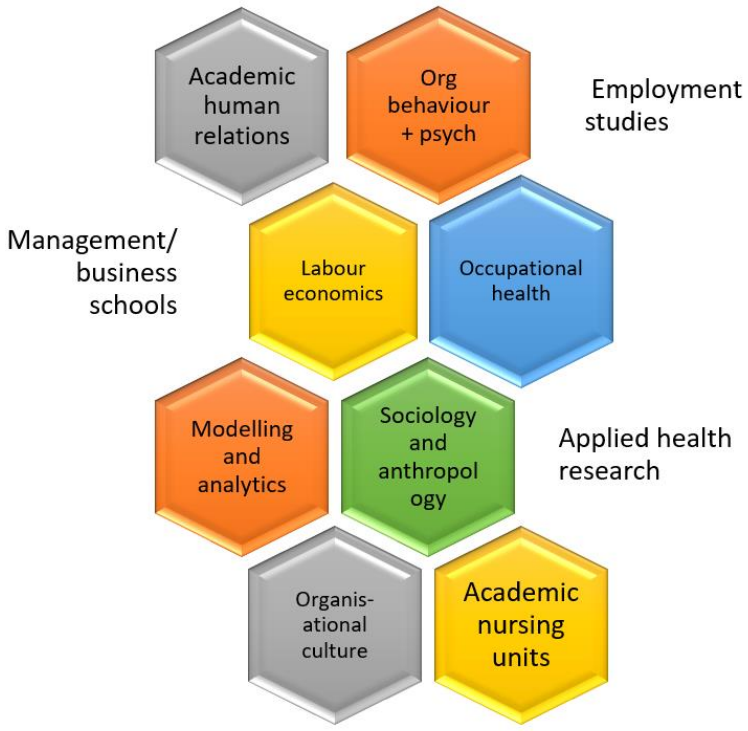

Fig 1: Different academic disciplines and fields which undertake workforce research (12)

The workforce research funding landscape in the UK is similarly heterogenous (Fig 2). This means that researchers in certain fields may not be aware of existing funding opportunities.

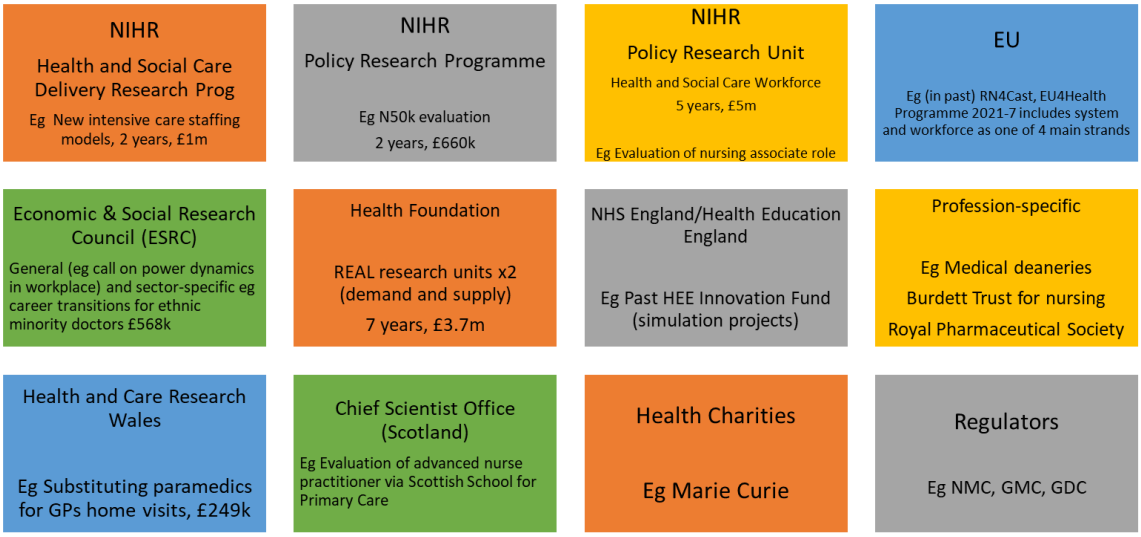

Fig 2: Examples of funding awards and programmes across the UK related to workforce research (12)

Even within national funders such as the National Institute for Health and Social Care Research (NIHR), workforce research represents a cross-cutting theme which is not aligned with any one funding programme. This means that research priorities and issues are not coordinated which leads both to research gaps and duplication, and workforce issues are often peripheral to or even subordinate to the main concerns of funding programmes with a broader or different remit.

The health and care workforce forum attempted to address some of these issues, by bringing together researchers working across different fields and representatives of different funders (13). Workshops on various elements related to the health and social care workforce crisis discussed both the state of current evidence, real world challenges and future research and service priorities. A summary of each workshop, the key research presented, and the main discussion points serves as both a rapid evidence round-up and an agenda for future action (Appendix 1).

Next steps for HSR UK

This report is a call for action by many stakeholders – research funders, policymakers, senior leaders in the health and care system, people in human resources, people and organisational development and related fields, those involved in health and care professions education and training, and so on. But here we set out what we as an organisation are doing, building on our mission to convene and connect those who produce and use health services and care research in the UK and internationally, to support evidence based policy and practice, and to build the field of health services research and enable it to thrive and have a real impact on health and care services for people and communities.

As highlighted during the forum, it is all too easy to see policy makers as the primary audience for research designed to improve the health system. However, many of the interventions aimed at addressing the workforce crisis can be enacted at a local level, such as staffing levels and shift

patterns or ways to support wellbeing or improve retention. HSR UK will therefore work to connect relevant users of workforce research within the health and social care sector such as Chief People Officers directly to researchers to enable knowledge exchange. We are currently developing a series of webinars with NHS partners which will build on the experience gained through running the workforce forum, bringing together researchers and practitioners to discuss priority topic areas for workforce.

Despite best efforts, the balance of forum participants and discussion was weighted towards healthcare. The context and issues for the social care workforce are distinct. More effort is needed to engage decision-makers and researchers in social care through future separate or linked knowledge exchange activities.

We will continue to build on international links initiated through the workforce forum, developing our relationship with international groups such as the International Health Workforce Collaborative (IHWC) and our corresponding health services research networks internationally such as AcademyHealth in the US, CAHSPR in Canada and HSRAANZ in Australia and New Zealand. We will help to shape the debate on evidence-driven responses to the workforce crisis, bringing knowledge from the UK to international events and sharing and disseminating research done elsewhere.

HSR UK is exploring how we can support the actions and priority areas identified against each workshop topic. We will explore existing channels used to mobilise knowledge about evidence on workforce into policy and practice, with a focus on identifying key partners and channels in this space who we may be able to support to translate and mobilise research.

We will also explore how we can develop and support a community of practice of health service researchers around workforce research, both across the UK and internationally. Possible initiatives may include creating a special interest research group within HSR UK and convening further forums.

HSR UK will continue to work closely with funders of health services research who are active in the workforce space. We will seek to build links with those funders who are perhaps not typically seen as directly related to health and social care services research and help to disseminate both funding calls to our research community and to shape future funding calls through advocacy and consultation.

Wider actions needed as well

It is encouraging to see many other stakeholders starting to address the need for workforce research and evidence. The Department of Health and Social Care in England has identified research into "shaping and supporting the health and social care workforce of the future" as one of their 3 Areas of Research Interest (ARIs) for 2023 (14). This focus and funding for workforce research is welcome and critical. The National Institute of Health and Social Care Research (NIHR) Health Services Delivery Research (HSDR) programme has issued a funding call to establish workforce research hubs, which will help to support the research agenda and build capacity. Actions like this from major funders will help to build and expand the workforce research capacity and capability and help to create a more coherent and shared research agenda across researchers, policymakers and system leaders.

However, despite this new funding, the infrastructure required to support health and social care workforce research also needs attention. One major barrier is the lack of secure data environments and linked data to inform both research and workforce planning. Although multiple rich data sources exist, such as data in the NHS electronic staff record, registration, training and practice data

held by the professional regulators such as the General Medical Council and the Nursing and Midwifery Council, this data is fragmented, often inaccessible for research and not comprehensive.

Initiatives such as UKMED, a linked dataset from multiple data providers across health and education which collates routinely collected administrative data on all UK-trained doctors, prove that creating such linked datasets and navigating the associated data governance is possible (15). Even with linked datasets, limited intersection between datasets may restrict the analyses that can be performed (4) so attention needs to be paid to establishing national standards for data collection relevant to healthcare workforce planning while leveraging and linking existing routinely collected data and building a secure data environment, akin to those now being developed for patient data.

The creation of such datasets can be used to support cohort and longitudinal studies which can generate valuable insights into career trajectories within the health and social care workforce and inform strategies to improve retention. The UK Medical Applicant Cohort Study, for example, is looking at how medical applicants from a range of backgrounds select a medical school and their careers as doctors after selection using UKMED data. There have been various longitudinal cohort studies within the nursing workforce and longstanding 25+ year cohort studies among the medical workforce focusing on speciality choice across careers (16, 17). We are not aware, however, of any current cohort studies within the health and social care workforce. This longitudinal data is needed to inform workforce planning and to understand the impact of policy interventions which aim to improve the state of the workforce, such as staff retention, wellbeing or increasing diversity. Creation of such cohorts is likely to create valuable information for workforce planners and health and social care decision makers, however models of research will have to adjust and keep up with the pace of generation of data and report frequently to provide useful real-time feedback to inform evaluation of interventions and workforce planning.

One clear message from the forum was that despite uncoordinated approaches to answering workforce policy questions, there is a wealth of evidence which can help policy makers to make decisions about strategies to support the health and social care workforce. The Canadian Academy of Health Sciences (CAHS) recently published their evidence informed strategy for improving Canada's health workforce. This report identified 26 leading evidence based policies and practices, with a focus on retention, deployment and service delivery, and planning and development (18). The challenge remains getting this evidence into policy and practice.

Retention also emerged as an area which is likely to deliver improvements in workforce; attention to factors that support retention should also help entice workers back to work and interest those in joining the profession. A recent evaluation of the Retention Direct Support Programme evidences this approach, with a discussion paper suggesting a resulting reduction in nursing turnover rate in participating NHS provider trusts by 4.5% (19). However, good data on retention has historically been lacking: an IFS report on factors relating to staff retention notes that "what drives retention is often unobservable to researchers or policymakers"(20). Mechanisms for capturing qualitative data about retention, or even to understand how staff move within and across the NHS are vital to understand whether policies to improve retention are effective and to make them amenable to evaluation.

In conclusion

This call for action to improve the way we produce and use research and evidence to make decisions about the health and care workforce in the UK is just a first step. We have started to bring together the research, policy and practice communities; to articulate the need for investment in research

infrastructure and capacity; and to set out an exciting future research agenda, but there is much more to do. The workforce challenges faced by the NHS and the social care system have never been greater than they are now, but that means the scope for good research and evidence to make a real different and improve health and care services is huge.

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Appendix 1. Workshop summaries

Topic	Summary	Key issues
Workforce data & analytics	Health and social care workforce data can be used to ascertain gaps in the workforce and priorities for future research (21) while also identifying potential recruitment and retention issues (22). However, in the NHS there are large gaps in workforce data, particularly affecting primary and community care, the use of agency and bank staff, vacancy rates and voluntary sector providers (23). Currently used workforce datasets in England are therefore likely to have limitations that impede data analysis (24). Multiple processes are often required to collect meaningful data. Improving the quality of and access to workforce data for researchers, service-providers and policy makers is therefore an important priority.	• Need to increase "linkability" of workforce datasets • Need to have a minimum data standard • Need to improve accessibility of datasets
Skill-mix and new roles	Skill-mix in health and social care specifically refers to the range of competencies possessed by a healthcare professional, the ratio of senior to junior staff within a discipline and the differing types of healthcare professional roles within a setting (25). Recent new roles created in the NHS include nursing associates, medical associate professions and clinical pharmacists (26). Establishing new clinical roles requires appropriate funding, regulation and integration into current health and social care teams. However, it is not always clear how newly established roles develop or impact the skill-mix as well as outcomes for patients. Understanding the evolving skill-mix within the health system is therefore an important workforce related consideration.	• Need to increase understanding about skill-mix gaps by focusing on how new roles and professions affect outcomes for patients • Need to understand/measure the risk associated with new roles and establish where ownership of such risk lies • There is a research/policy gap as policies call for workforce numbers and push for new roles but there are no details made about specific roles in settings • Creating new roles can draw attention from other critical workforce issues, such as staff shortages
Equality, diversity, inclusion and discrimination	2022 data suggests that diversity has increased within the NHS workforce, although the representation of those from black and minoritised ethnic backgrounds in senior roles is disproportionately low (27). Among medical professionals, certain groups of doctors, including those from black and minoritised ethnic backgrounds, are more likely to be subjected to formal local	• Bringing the equality, diversity and inclusion (EDI) agenda forward post-pandemic should be a priority for funders • Including regulators and unions in efforts to improve EDI may be beneficial • EDI research and implementation mitigate other long-standing issues, such as bullying and harassment, while also

	disciplinary processes while non-UK trained doctors have been found to be 2.5 times more likely than UK trained to be referred to regulators (28). Addressing the shortfalls and boosting equality, diversity and inclusion in the NHS remains a key workforce related priority.	improving retention as more inclusive work cultures are adopted
Workforce policy, planning and future workforce needs	The goal of workforce planning is to ensure the right number of staff with the right skills are in the right place. Although the NHS workforce is growing, it is not growing rapidly enough to keep up with population demand (29). Solving this problem will require action at local and national level with policies focusing on issues including workforce planning, pay, training and staff wellbeing (29).	• Central workforce planning does not appreciate the complexity of local health systems • Workforce planning needs to be aligned to service planning (i.e., part of, and aware of, the bigger policy picture) • Skills among the workforce are not evenly distributed – for example, areas with a high frailty rate among older adults do not always have adequate numbers of geriatricians for the population • Workforce planning has previously focussed on training and education while retention and role development have been neglected • Ethnographic research methods may enlighten workforce planning by establishing the work that is actually performed in reality, rather than the work that is expected
Recruitment, retention and workforce exit /retirement	Retaining staff is one of the most important factors to ensure that the NHS is able to meet demand and deliver care in future years (30). However, our understanding of the numbers leaving the health and social care workforce and their reasons for leaving is still currently limited, (31) impeding our understanding of retention rates in the sector. One effort to boost retention of pension age members of staff is the 'retire and return' scheme, where individuals can formally retire from their roles but re-join the NHS, most likely on a part time basis (32). The success of this and other recruitment and retention schemes and perceptions of these schemes by workforce remains largely unexplored.	• More qualitative research is needed that explores why individuals leave their roles or what incentivises them to stay • Current under researched areas include midwifery, mental health services, and non-clinical NHS areas such as administrative and estate departments • Need to conduct cost-effectiveness analyses of flexible working (potentially including self-rostering practices) as improving work/life balance in clinical settings may be beneficial to retention rates and job satisfaction levels • Improved research access to electronic staff records (ECR) would facilitate better interpretations of recruitment and retention rates • Further research should explore the relationship between leadership style

		and workplace cultures on retention and recruitment rates
Interprofessional working – multidisciplinary teams	Multi-disciplinary teams (MDT) working is common practice across the NHS, with different professions working together to provide better care for patients and service-users. Enhancing the MDT may be a useful strategy to improve some elements of the workforce crisis. For example, the actual and anticipated lack of GPs in primary care may be improved by delegating more responsibilities to an expanded version of the MDT, drawing on the skills of other non-medical professions (33).	• While MDTs are likely to increase integration of care, they may also risk increasing the fragmentation of care, depending on the functionality of the team in question • Future research should explore the potential impact that the use of technologies, urgent interventions, team composition and size may have on an MDT's functionality • MDTs should be analysed in specific contexts and settings to identify standard definitions surrounding the team (e.g. identifying what "good" teamwork is and what a "good" team meeting achieves) • More is needed to explore how professions' different ethics and philosophies of care can be integrated in the MDT to ensure maximum benefit for service-users • MDT related research and service improvements should explore team characteristics and processes, not just outcomes, and inform how to transform a dysfunctional team into an effective team • Further exploration and clarification needed on the role informal carers may have in the MDT
New ways of working	The Covid-19 pandemic forced the NHS to radically change working patterns in a short period of time. According to the 'NHS Long Term Plan', new ways of working will bring together skillsets, resources and leaders to deliver greater value for the NHS and its patients (34). New ways of working in the NHS could include task shifting for clinical and non-clinical roles, part-time and flexible working, new roles and career pathways and using new technologies.	• Need to establish how flexibility can be offered to all NHS staff in different professions • Understanding behaviours of NHS professionals leaving their organisations to move to agencies and the role of drivers such as higher pay and better flexibility • Establish the effects of an increasing number of health and social care professionals moving to part-time work

		• Understand how new ways of working is transpiring in the social care sector (e.g., residential care and nursing home settings)

Development in professional regulation	Professional regulators set the standards of patient care and professional behaviours that healthcare professionals, and those who train them, need to meet. Where there are concerns that these standards may not be met, or that public confidence in healthcare professionals may be at risk, professional regulators can investigate and take action where needed. In delivering their statutory functions, professional regulators collect extensive data about the size and shape of the professions they regulate, and are increasingly able to provide profession-specific workforce datasets and analytics. They should therefore be viewed as important stakeholders to consider in workforce related research.	• Professional regulators hold unique datasets and are increasingly using these to highlight the changing shape and diversity of the healthcare workforce, and the challenges it is facing.
		• The GMC seeks to do this through a variety of mechanisms – disseminating insights through its State of Medical Education and Practice report series, establishing a platform for further collaborative research through the UK Medical Education Database, and providing access to its data through the Data Explorer Tool and dashboards for employers
		• Addressing two knowledge asymmetries will help to fully harness the potential of this data for future workforce related research
		  ○ Promoting wider awareness of the types of data held by regulators
		  ○ Promoting wider awareness of the questions that employers/providers seek to answer
		• Researchers may be well positioned to help plug these gaps in future, through reaching into both areas.
		• However, as a priority, further work is needed to develop our collective evidence base on what drives workforce retention - the effectiveness of initiatives to simply expand the workforce will be significantly undermined if we are unable to retain those that we have now (for example, research could

		focus on mapping experiences and career journeys of our registrants, and identifying the push and pull factors for individuals choosing to join or leave our registers)
Employee health and wellbeing, burnout/stress	Time pressures, lack of control over work tasks, long working hours, shift work, lack of support and reduced morale are identified risk factors for occupational stress, burnout and fatigue among healthcare professionals (35). The 'NHS Staff Survey' has identified that a high proportion of NHS staff experience negative impacts due to stress in the workplace. Unsurprisingly then, burnout significantly impacts the retention of highly skilled staff in the NHS workforce (36). Further efforts are therefore required to reduce burnout and stress and promote employee health and wellbeing in the NHS.	• Existing interventions are largely individual-focused (e.g. mindfulness) which evidence suggests can have a positive impact but risks placing the blame of poor wellbeing on individuals rather than reflecting contributing system level issues • Organisational prevention of burnout among staff is underrepresented in the existing evidence base • Barriers to implementing successful changes in this area include blame culture, failure to take action when staff raise issues of concerns and failure to value staff • Despite evidence that shift work may be harmful within this context, some of the workforce appreciate the flexibility working longer but fewer shifts per week gives, indicating that altering shift patterns may not be the solution • The post-traumatic stress of working in, and through, the pandemic needs to be acknowledged and explored further in the NHS workforce • Need to identify and establish which groups of staff are at a higher risk for poor wellbeing, such as newly qualified members of staff or those who often work alone • Through qualitative and longitudinal research, develop a better understanding of how to support staff by following their career trajectories • Qualitative research could also explore workplace factors, culture and team function and perceptions on how these aspects may impact perceptions and feelings of wellbeing • For digital interventions that promote wellbeing, we need to consider staff who do not have easy or private access to a computer at work, as this frequent

		scenario would require them to engage with materials at home, perhaps further contributing to feelings of work stress and potentially worsening the problem • Support for senior leaders also needs to be considered
Workforce staffing and healthcare outcomes	Global research shows that nurse burnout and fatigue are often associated with patient dissatisfaction and expensive adverse patient outcomes, including medical errors, more healthcare-associated infections, and more hospital readmissions (37). A recent 2023 retrospective longitudinal study also concerningly found an association between registered nursing staffing and seniority levels with patient mortality (38). It is therefore clearly evident that staff shortages across the NHS have serious and detrimental impact on services (39) and that the current staffing shortages must be urgently addressed.	• Research that explores decision-making in workforce planning is required • Need to identify the impact of teams and skill mix on patient outcomes and define outcomes (i.e. how will this be measured and what is a meaningful outcome?) • Research needs to explore how use of temporary, or agency staff may impact patient outcomes • Linking research of this theme with health economics is needed to further demonstrate impact of outcomes • Research needs to also be carried out in non-hospital settings (e.g. residential care and nursing homes)
Bullying, harassment and whistleblowing	Poor professional behaviour in the workplace has been found to be prevalent in healthcare settings (40). Recent data indicates that the issue remains (41), despite efforts to combat the problem, such as culture change programmes and the introduction of 'Freedom to Speak up Guardians' who support NHS staff to raise concerns and 'whistleblow' where appropriate (42). A recent review found that implementation of these guardian roles in NHS trusts was inconsistent, with lack of resources and time scarcity identified as negatively impacting their efforts (43). Further research to inform the evidence base for efforts to support voice and reduce inappropriate behaviour in the workplace, including bullying and harassment, in NHS organisations is required.	• Microcultures need to be investigated to understand leadership and work culture that is linked to the organisation and thus impacts attitudes towards and acceptance of speaking up • Boards should look at the voice of staff as a positive resource to identify problems and inform improvements • Current training-based interventions designed to combat/reduce unprofessional behaviour seem to have limited impact
International workforce / migration	It is estimated that one in six of NHS workers has an international background, (8) with international recruitment into the NHS workforce reportedly growing in recent years (44). This is despite some evidence	• We need to be aware of what's happening in other countries, as changes in international policies may have repercussions for the UK (e.g. Pakistan

	suggesting that Brexit may have contributed to recruitment stagnation of European workers in some medical fields (45). Despite this recruitment, 17% of international nursing recruits leave their trust within two years of employment (46). Having appropriate training programmes, communication lines and strong pastoral care and robust onboarding processes for international recruits has been found to boost this type of recruitment in one rural NHS trust (47) but it remains unclear how international recruitment levels relate to and may impact the ongoing staffing crisis in the wider health and social care system.	training more doctors as the diaspora remittance is beneficial). • Need to make the UK more competitive and attractive for international doctors • Migration is beneficial for the UK but need to consider this depletes resource from potentially low/middle income countries • Further (qualitative) research to explore experiences of the international workforce
Pay and rewards strategies	Positive correlation between rewards and employees' performance, retention and productivity has previously been established (48) confirming that pay and reward strategies would be useful action to boost staff numbers and retention in the NHS (33). However, previously the focus has been on areas that are incentivised, rather than exploring areas which aren't – including non-financial incentives.	• Evaluate existing pay incentives, opportunity to compare across devolved nations, e.g. training fee in Wales, impact of access to training in Scotland related to reduced debts • Better understanding of value-based reward, including drivers to enter and stay in profession • Explore opportunities to personalise pay rewards e.g. parental pay or other benefits and compare with private sector competitor offer • Further research into gender, ethnicity and medical pay gaps • Need to rationalise the narrative around pay for NHS staff and to balance tension between national pay agreements and local needs e.g. agency staff or locally employed doctors offer providers more payment flexibility
Management and leadership	NHS managers have a duty to provide an adequately staffed and skilled workforce(49) with it being highly likely that workforce quality is enhanced when there is strong leadership and management (50). Capabilities and leadership styles of individuals in management roles are therefore an important workforce related consideration.	• Differentiation between 'leadership' and 'management' skills • Learn from different sectors – examine how they make decisions at senior leadership level • Need to improve and understand how we define and measure successful leadership • Need to consider the relationship between personality and effective leadership

		• Need to fully understand and identify the skillset we want future leaders to have • Need to understand the recruitment process to ensure we recruit the type of leaders who meet NHS needs
Research funding / setting future agenda	Funding dedicated to applied health research has reduced in the UK over recent years (52) and comparative spend is lower than that of Canada and the United States (51). Workforce research funding in this country is often dispersed and fragmented, although there are examples of important landmark studies. Funding for workforce research has often been responsive rather than programmatic and there is scope for more strategic priority-setting.	• Workforce research funding can be fragmented and poorly coordinated, with researchers relying on informal networks to know about funding opportunities – but researchers are good at following the money! • Researchers may need to consolidate and form partnerships – experience of funders is that many workforce applications are small-scale and lack grounding or expertise in range of disciplines needed for national traction • Useful pockets of funding in profession-specific streams (including regulators, educators) or condition-specific such as charities • `Orphan' areas of research not well covered by existing funding streams include education and training (although recent NIHR interest), non-clinical and `back office' staff and studies looking at NHS and local government as employers (e.g., apprenticeships, flexible working) • Need to think about how and who sets priorities with risk of capture by dominant voices and need for mediation in future workforce research agendas