NIHR | Applied Research Collaboration West Midlands

Volume 4, Issue 12

ARC West Midlands News Blog

16 December 2022

Social Care:
Much More Than Hospital Discharge

Robin Miller, ARC WM Social Care Theme Lead

Social care is rarely out of the news these days and sadly this never seems to be for positive reasons. The huge cracks in the system caused by years of chronic underfunding, major workforce challenges connected in part with Brexit, and a lack of political courage to address the underlying issues mean that life is difficult for those who access services or work in social care. Covid too has left a painful legacy through the trauma of so many deaths and the reality that the sector, and more importantly the people who depend on its support, were seen as of secondary importance to acute health care.

When social care is currently discussed in the media there are two topics which are focussed on. Firstly, supporting people to be discharged from hospital when medically fit to leave and the problems caused by social care being unable to respond to level of demand. Secondly, the delayed proposal to cap the costs that older people pay from their private assets. Both these issues are of course important, but this narrow focus means that the full breadth of social care is therefore lost.

Social care is much more than hospital discharge and care homes for older people. Alongside supporting people all ages with disabilities and / or frailty with personal care in their own homes through the vital work of domiciliary care agencies, social care has an innovative range of support options. This includes direct payments, in which the person manages their own budget to create flexible packages, shared lives schemes in which a person will stay with another family for a short or long-term basis, and supported accommodation in which people have their own apartment or house with access to a range of care options.

Social care's purpose goes beyond keeping people safe and tending to their personal hygiene, and (as set out in the Care Act) is about promoting an individual's overall wellbeing. This involves taking a holistic view of a person and what will enable them to have a fulfilling and rewarding life from their perspective. Wellbeing (and therefore social care) embraces aspects of someone's life such as accommodation, participation in education and/or employment, relationships and family life, and economic well-being.

Resources to promote wellbeing are not only contained within local authorities and care providers, but also within the myriad of charities, voluntary organisations, and community groups that support people on a local and / or national basis. Strengths-based (also called asset-based) practice is a contemporary approach within adult social care which helps people to complement

their personal and family resources through accessing these community opportunities alongside accessing formal care services when necessary. The emphasis in social care on co-production being at the heart of how services are designed and delivered helps communities to identify and respond to local needs and opportunities.

And finally, social care goes beyond the practical support of individuals and families to promote social justice to address underlying disadvantages and inequities. Such principles are at the heart of its core professions and motivates people across the sector to embark on an adult social care career. Alongside advocating at a local and national level for communities who are commonly overlooked and excluded, social care can itself be a major investment in people, economies, and places.

ARC West Midlands researchers are working with colleagues across the UK to investigate the current 'hot topics' of hospital discharge and self-funded care. It is important that we support best practice in these aspects but also that we explore the wider contribution of social care as it is likely to be in its less discussed areas that innovation will provide the much needed solutions to the long-standing issues.

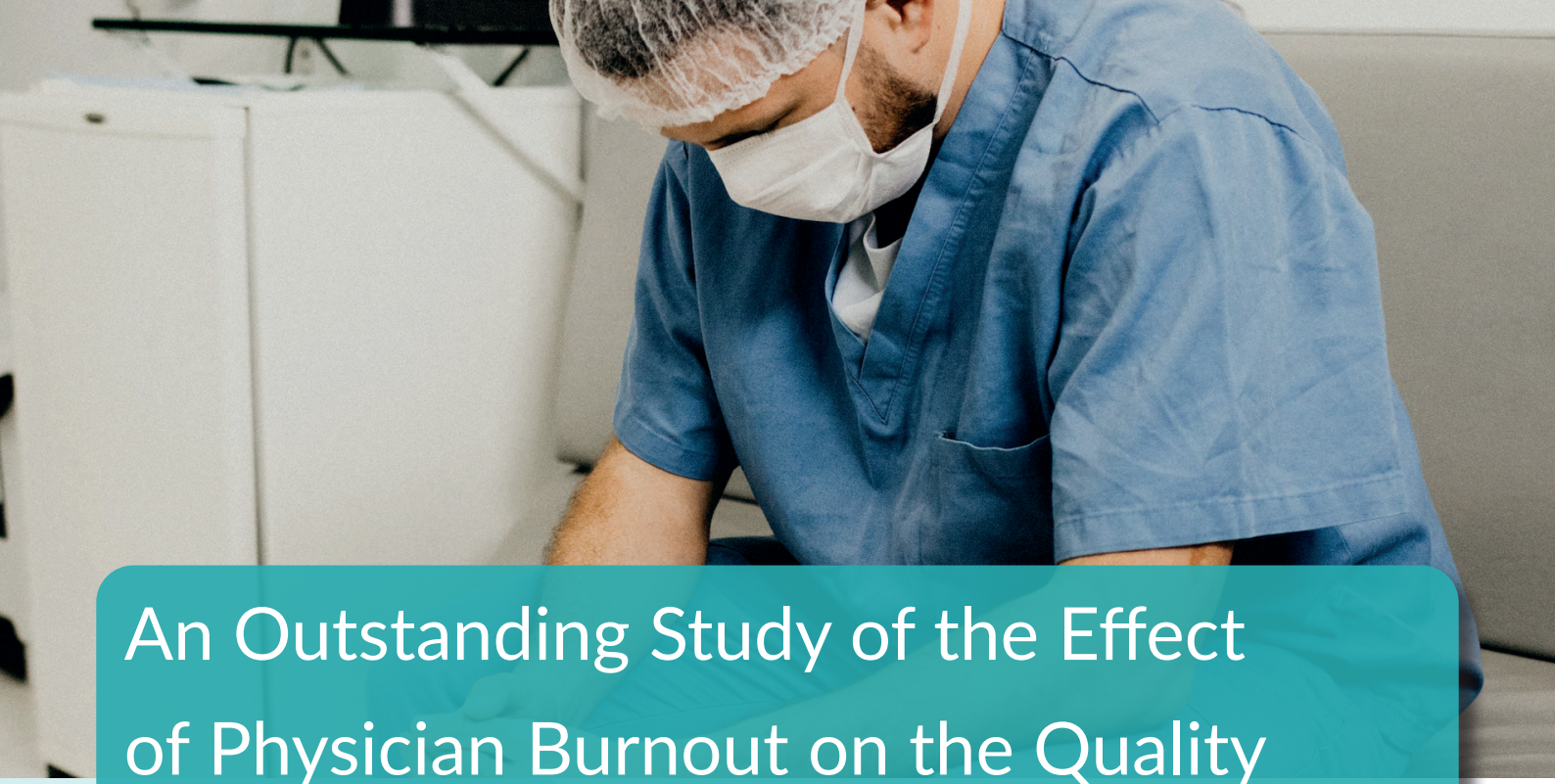
For more on ARC West Midlands work on Social Care, please visit: https://arc-wm.nihr.ac.uk/social-care.

ARC WM Quiz

Who was the first person to warn about global warming, more than 100 years ago?

email your answer to: ARCWM@warwick.ac.uk

Answer to previous quiz: The British surgeon Robert Liston was described as "*The fastest knife in the West End*" and could allegedly amputate a limb in 28 seconds from initial cut to final stitch. Congratulations to Alan Hargreaves who was first to answer correctly.



An Outstanding Study of the Effect of Physician Burnout on the Quality of Patient Care

Richard Lilford, ARC WM Director

This paper, recently published in the BMJ,[1] is a monumental meta-analysis involving no less than 170 observational studies. The study, which was part funded by NIHR ARC West Midlands, will be extremely influential. It is a landmark study and my congratulations to the authors. They have conducted an excellent analysis, despite difficulties caused by a very heterogeneous data set.

The study confirms that physician burnout, measured on various scales, is associated with medical error and decreased patient satisfaction. The problem is most severe in emergency medicine and intensive care. Of course, staff turnover is also associated with burnout.

The question now, of course, is what to do about it. Here the authors have little to offer, although this is not a criticism! They recommend initiatives to support physicians, but do not suggest what forms these might take. I was struck by the fact that one component of the burnout inventory was most strongly diagnostic – the depersonalisation subscale. This suggests that it might be possible to screen for burnout.

Given that burnout is associated with a loss of staff, interventions are likely to prove cost-effective if they are effective.

Reference:

1. Hodkinson A, Zhou A, Johnson J, et al. Associations of physician burnout with career engagement and quality of patient care: systematic review and meta-analysis. *BMJ*. 2022; **378**: e070442.

Measuring and Incentivising Quality Improvement of Physicians

Richard Lilford, ARC WM Director

Physicians in the United States take part in a merit-based incentive payment system – according to how they perform, their fee for service payments can vary by up to 7%.[1] The physician scores are based on the cost of care that they provide, the quality of care measures against certain criteria, taking part in improvement activities, and promoting inter-operability (whatever that means!).

But as with many routine systems for quality assessment, they are introduced with little empirical evidence.

An important paper in JAMA examines how the scores are associated with clinical process measures, patient outcomes, and the characteristics of physicians.[2] They find no consistent pattern regarding processes and outcomes. Since the study was based on over 80,000 physicians and about 3.5 million patient episodes, tiny differences are significant. However, criteria move in different directions across high and low scoring positions. Worryingly, physicians with low scores tended to be those treating sicker patients. This means that doctors caring for less healthy people have a greater probability of being penalised by their institution.

Would it not be nice if, at the level of physicians and the institutions in which they work, a scoring system genuinely correlated with the quality of care. All sorts of remedies could then be applied. However, the world is not created to serve the needs of the people who inhabit it. The hard truth, which policy makers seem reluctant to swallow, is that inspections are an incredibly blunt tool. Worse, they may be discriminatory because institutions and physicians who care for the most vulnerable people, are penalised by the scoring systems. An underlying problem here is the inadequacy of risk-adjustment methods to level the playing field when comparisons are made.[3] It is about time that policy makers adopted the physicians code of 'first do no harm'.

References:

1. Quality Payment Program. Quality Payment Program Participation in 2019: Results at a Glance. Centers for Medicare & Medicaid Services. 2020.
2. Bond AM, Schpero WL, Casalino LP, et al. Association Between Individual Primary Care Physician Merit-based Incentive Payment System Score and Measures of Process and Patient Outcomes. *JAMA*. 2022; **328**(21): 2136-46.
3. Lilford R, Mohammed MA, Spiegelhalter D, Thomson R. Use and misuse of process and outcome data in managing performance of acute medical care: avoiding institutional stigma. *Lancet*. 2004; **363**(9415): 1147-54.

Health Systems, Health Services, and Health Equity Research – Integral to Each Other?

Aileen Clarke, Emeritus Professor of Public Health & Health Services Research, University of Warwick and Honorary Professor and Senior Clinical Academic Research Fellow, University of Oxford

I was invited to give a paper at the 15th European Public Health conference held in Berlin in November 2022 at a round table where the topic of discussion was the links, overlaps and synergies between research in health systems (funding and design of services), health services (local configuration and functioning) and health equity (inequalities in access, choice, uptake and treatments). The underlying premise was that, as researchers '*we are siloed through specialization. We need to show the added value of combining the three types of research: health services, systems and equity*.' This was the conclusion of a background paper written by Professors Alastair Leyland from Scotland, Ilmo Keskimäki from Finland and Peter Groenwegen from the Netherlands.

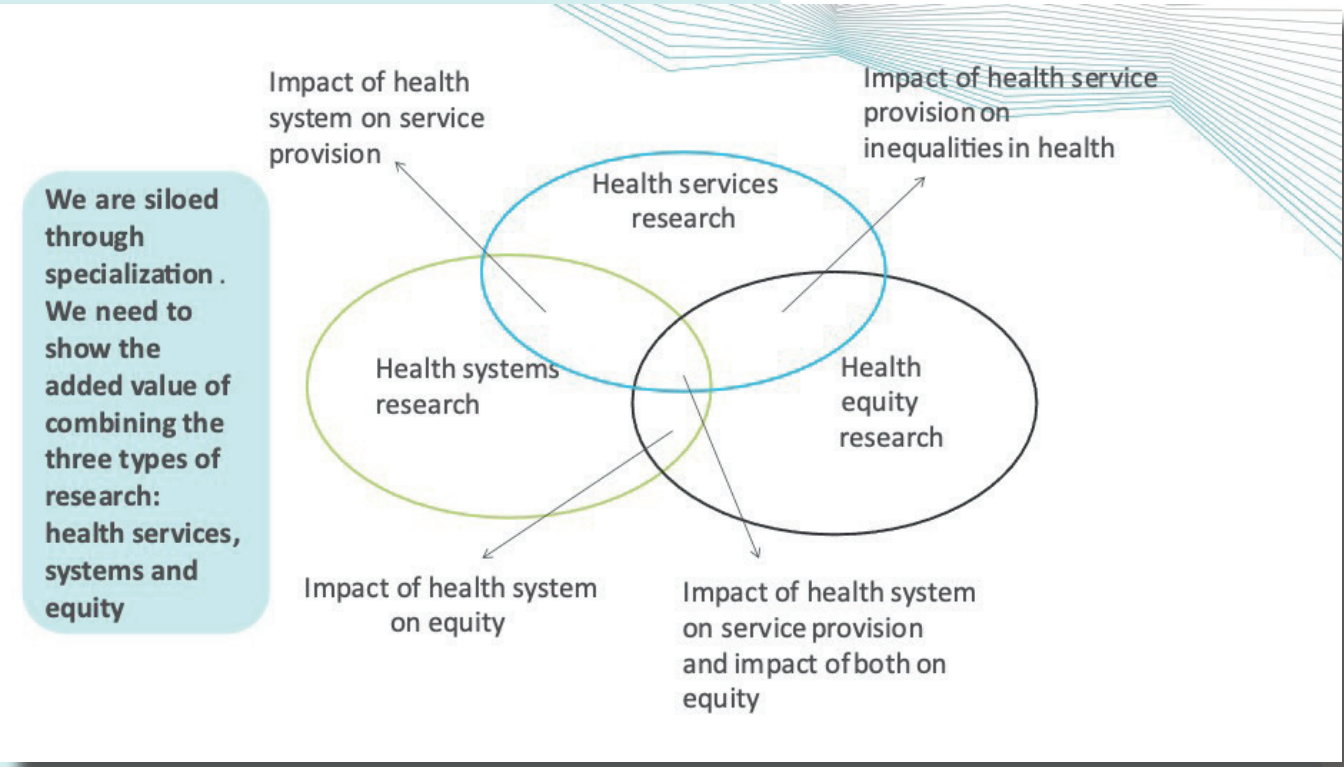


Figure 1: Health services, systems and health equity research and areas for potential impact. *From Groenewegen P, Keskimäki I, Leyland AEPH 2022 EUPHA-HSR-EPI.*

I think that there are several issues at play here, not excluding a slightly pessimistic northern European winter take on the world! I started my talk by considering the background context that all our health systems and services are operating in at present. There is a responsibility shift between individuals and collective health bodies/professionals in health care, with the balance moving more towards the individual. [1,2] This is coupled with a consumerisation shift with greater emphasis on consumer-style relationships between health care providers and users ('I want this and I want it now!') in place of a fiduciary, citizenship or trust/governance relationship between professional and client (please wait patiently – there are only 7 million of you in the queue).[3] We also have a huge wave of digitalisation in health care, where our services are becoming self-organized, around access to computing and smart phones, etc.[4] In addition, our populations are experiencing continuing austerity and embedded inequalities characterised by those who are in poverty, refugees, the homeless, the very elderly and those with drug and alcohol problems or disabilities.

In this context health system and health services provide a framework against which we, as individual consumers work towards what we see as achieving the best health for ourselves and our families, using our own health maintenance activities and e.g., proactively proffered health interventions such as vaccinations and screening. Otherwise, we engage with health information and health care as best we can. This context can be seen to bring tremendous potential for inequities in access to care and in the abilities of health systems and services to improve health equitably.

I used three contrasting examples of my own health services research to illustrate the links overlaps and synergies between health systems, health services and health equity research and to make the point that the methods we use in these types of research are similar, that the overarching aims of undertaking research in these areas are the same and that the differences and divides are not as great as we might think.

In the first example we investigated attendance and uptake of breast screening in a systematic review. Undertaken by one of our ARC-funded PhD students, it is the first of its kind to look across all different published factors internationally.[5] We found that, whilst age (above or below 60) did not appear to affect attendance, owning your own home, being born in the country where the screening was held and being married, or cohabiting were all associated with increased attendance. A previous false positive result was associated with decreased attendance. These findings are all evidence of inequity in health services and will eventually translate into inequity in population health outcomes. The potential for reducing inequity lies with both health systems, ensuring that funding and infrastructure are equitable and health services, reaching out to populations who find it more difficult to attend.

In the second example I describe work I am currently involved in on the 'Remote by Default' research programme in Oxford. This is a very large programme of mainly qualitative mixed methods research studying UK general practices as they try to balance remote and in-person care, with recurrent waves of COVID-19 and various post-pandemic backlogs. Researchers are following the progress of 11 UK general practices for two years via staff and patient interviews, documents and ethnography. To date we have found that the practices share common health system themes, for example system-level stressors, such as high workload and problems in negotiating the UK's technical and regulatory infrastructure. As far as health services research is concerned, we have identified some of the difficulties practices have in managing access and triage, whilst trying to balance capacity and demand, and in how they maintain adequate quality and safety in remote consultations.

Equity is often compromised. Understandings of intersectionality can contribute to our awareness of how those who are multiply disadvantaged and (digitally) marginalised, struggle to gain access.

In the last example I describe work (supported by the ARC) comparing readmissions data between two health systems in the Netherlands and the UK,[6] drawing on previous work we had undertaken looking at the avoidability of readmission.[7]

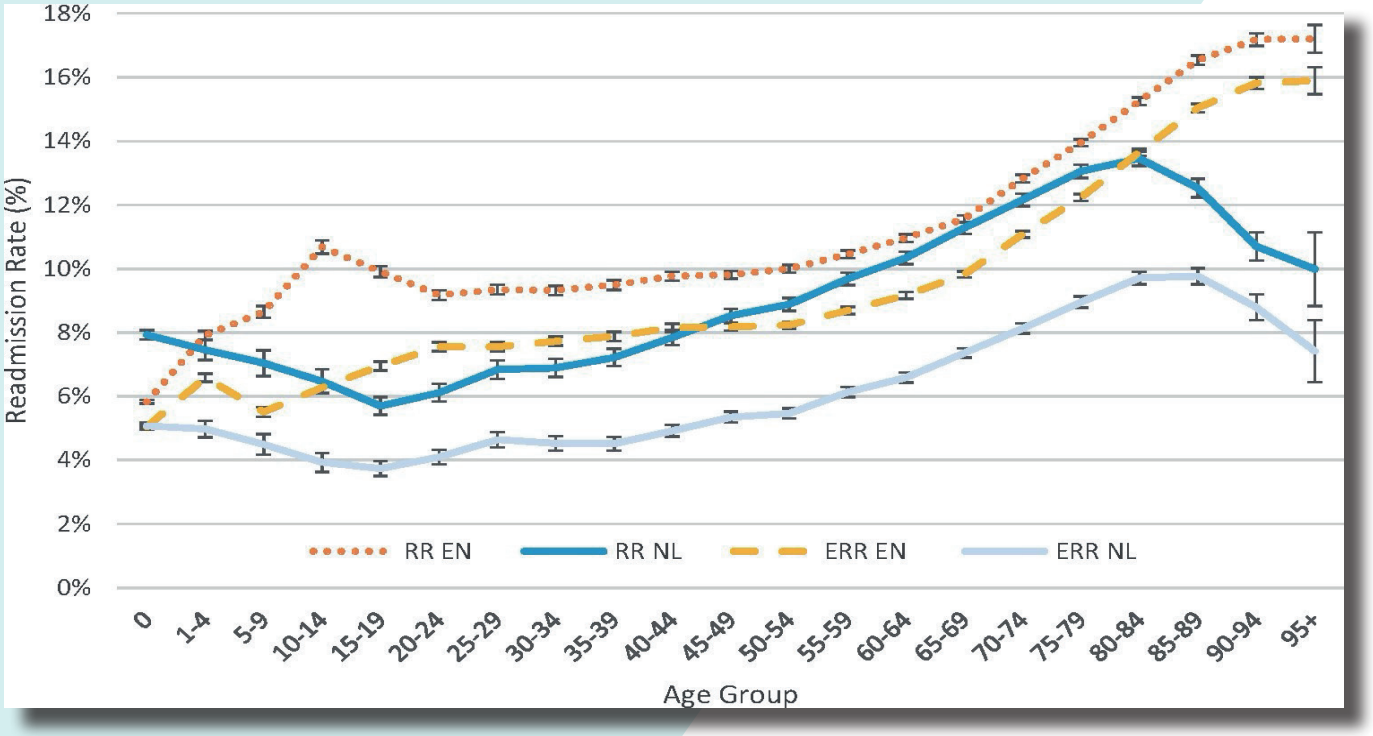


Figure 2. *Re-admission rates (RR) and emergency re-admission rates (ERR) adjusted for age and gender by age group.[6]*

The work shows that 'England had a higher 30-day re-admission rate (adjusted for age and gender) compared to the Netherlands: 11.17% (95% CI 11.14-11.20%) vs. 9.83% (95% CI 9.77-9.88%). The main differences appeared to be in re-admissions for the elderly (England 17.2% vs. the Netherlands 10.0%) and in emergency re-admissions (England 85.3% of all 30-day re-admissions vs the Netherlands 66.8%). In the Netherlands, however, more emergency re-admissions were classified as potentially preventable, compared to England (33.8% vs. 28.8%)'. This health service research work highlights how differences in health systems (step down and community care patterns differ between the two countries) can result in apparent differences in health outcomes, and in inequities in experiences, particularly of the elderly between countries.

In conclusion, three very different examples of research nicely demonstrate the links and overlaps between health services, health systems and health equity research. They show three different methods, systematic literature reviews, qualitative methods and quantitative methods. Each of these methods can clearly be used to understand health services, health systems and health equity. In my talk I concluded that the three types (health services, health systems and health equity research) are almost always integral to each other - to understand mechanisms and to design change to improve health outcomes. The overarching aims of undertaking research in these areas are the same and it is clear that the differences and divides are not as great as we might think!

References:

1. Nuffield Council on Bioethics. Medical profiling and online medicine: the ethics of 'personalised healthcare' in a consumer age. Nuffield Council on Bioethics: London; 2010.
2. Iliffe S & Manthorpe J. Medical consumerism and the modern patient: successful ageing, self-management and the 'fantastic prosumer'. *J Roy Soc Med*. 2020; **113**(9): 339-45.
3. PA Media. Record 7.1m people in England waiting for NHS hospital treatment. *The Guardian*. 10 Nov 2022.
4. Department of Health & Social Care. A Plan for Digital Health and Social Care. 29 June 2022.
5. Mottram R, Knerr WL, Gallacher D, et al. Factors associated with attendance at screening for breast cancer: a systematic review and meta-analysis. *BMJ Open*. 2021; **11**: e046660.
6. Hekkert K, van der Brug F, Keeble E, et al. Re-admission patterns in England and the Netherlands: a comparison based on administrative data of all hospitals. *Eur J Public Health*. 2019; **29**(2): 202-7.
7. Blunt I, Bardsley M, Grove A, Clarke A. Classifying emergency 30-day readmissions in England using routine hospital data 2004–2010: what is the scope for reduction? *Emerg Med J*. 2015; **32**(1): 44-50.

Financial Incentives to Lose Weight

Peter Chilton, Research Fellow

For many, the New Year brings with it the desire to make resolutions, with the most common being to improve fitness, to improve diet or to lose weight.[1] But what is the best strategy? A recent study in JAMA looked at whether providing financial incentives could help people with obesity lose weight compared to providing weight-management resources.[2]

The trial randomised 668 people with obesity (mean BMI of 37.95) who lived in low-income areas (40th percentile), to one of three interventions – using goal-directed financial incentives (linked to evidence-based weight-loss behaviours), outcome-based financial incentives (linked to percentage of weight loss), or providing resources only (such as subscription to a 1-year weight-loss programme and health education). Those in the incentive groups were able to earn a maximum of US$750.

After six months, 22.1% of those in the resources-only group, 39.0% in the goal-directed group, and 49.1% in the outcome-based group had lost at least 5% of their baseline weight (adjusted proportions). At 12-months, these figures were 31.3% (resources-only), 41.9% (goal-directed), and 41.4% (outcome-based). The mean percentage of weight loss was similar in both of the financial-incentive arms – around 4.5kg at 6 months and 5kg at 12 months (compared to 2.2kg and 2.7kg in the resources-only group). There was also a significant decrease in waist circumference amongst those in the financial-incentive groups compared to the resources-only group.

Those in the goal-directed group earned a mean average of US$440.44, while those in the outcome-based group earnt an average of US$303.56, so future work could aim to address the cost-effectiveness of these strategies, along with longer-term outcomes.

References:

1. Ibbetson C. What New Year's resolutions are people setting for 2022? YouGov. 29 December 2021.
2. Ladapo JA, et al. Effectiveness of Goal-Directed and Outcome-Based Financial Incentives for Weight Loss in Primary Care Patients With Obesity Living in Socioeconomically Disadvantaged Neighborhoods. A Randomized Clinical Trial. *JAMA Intern Med.* 2022.

Young at Risk of Hearing Loss

Peter Chilton, Research Fellow

Heading through university campus, it seems as if almost every student is wearing a pair of headphones or ear-buds. Although many phones have a volume limiting function when using headphones, it is easily bypassed with a click of a button. There is growing concern among healthcare professionals that young people may thus be exposing themselves to long-term damage and risking hearing loss.[1]

The authors of a recent BMJ Global Health paper carried out a systematic review and meta-analysis of 33 studies on personal listening devices (PLDs), as well as attendance at loud entertainment venues.[1] These studies encompassing ~19,000 people aged 12-34 years old. Pooled prevalence estimates of a person's exposure to unsafe listening from PLDs was 23.81% (95% CI, 18.99-29.42%), which did not vary significantly across age categories or income groups. Due to limited certainty in the estimate for loud entertainment venues, the authors used a model to estimate prevalence as 48.20%.

Assuming a global population of 2.8 billion people aged 12-34 years, the authors estimate that 0.67-1.35 billion young people could be at a risk of hearing loss in the future.

References:

1. World Health Organization. World hearing day 2015: Make listening safe. 2015.
2. Dillard LK, Arunda MO, Lopez-Perez L, et al. Prevalence and global estimates of unsafe listening practices in adolescents and young adults: a systematic review and meta-analysis. *BMJ Glob Health*. 2022; 7: e010501.

"It's not just hard work, it's heart work." ARC WM's approaches to establishing and sustaining links with diverse communities across the West Midlands.

Magdalena Skrybant, PPIE Lead; Niyah Campbell Public Involvement Officer

In April 2022, the NIHR launched a new Programme Development Grant. In this funding scheme, applicants could apply for up to £150k funding to "*provide a springboard for developing enduring health and social care research collaborations and relationships that benefit all parties*". The funding scheme recognises the benefits of true partnership working with communities, voluntary organisations and charities. In addition to ensuring that research finds "*better solutions*" for health and care problems that communities face, communities would have agency in determining research agendas, helping to tackle inequalities in health and care and embedding equality, diversity and inclusion in research.

Similarly, ARC WM also recognises the importance of developing partnerships. Members of our Public Involvement Team and researchers within our Themes invest time and resource into connecting with local communities and establishing relationships of trust, finding ways of working that can benefit all partners, and identifying opportunities where partners can work together.

Engaging communities: both 'hard work' and 'heart work'

Anyone that has experience of engaging and involving communities will know that establishing 'meaningful' relationships built on foundations of trust is not something that can be achieved overnight. Moreover, striking up a relationship with a community or organisation you may never have worked with before can feel intimidating. It's difficult to know where to start and approaches to engaging with partners needs to be tailored to each community group or organisation. It's 'hard work' making sure that the approach is right, particularly as first impressions count. One size most definitely does not fit all; one approach might be attending events hosted by a community, introducing yourself to organisers, sending follow-up emails before arranging a first meeting; whereas another approach might involve following an organisation on Twitter, responding to tweets, retweeting posts and then making contact.

Once initial contacts have been established, developing relationships is key. That's when the real 'heart work' comes into play. It takes real dedication to sustain relationships over a longer period – sending regular communications, making telephone calls, attending events organised by a community, offering opportunities that might be relevant to a group or organisation – it takes real commitment to keep the relationship alive.

"Coming together is a beginning, staying together is progress, and working together is success." **(Henry Ford)**

Once partnerships are 'established', the next step is identifying opportunities that are right for all partners to work together. It's difficult to know at the start of any relationship where the partnership will lead. Working together is the ultimate goal, but whilst sometimes opportunities might be evident early on in the relationship, at other times it may take longer for the right opportunity to come along. And that's fine. In ARC WM we are ready to continue to invest in maintaining relationships, knowing that when the right opportunity does come along, the doors are open for working together.

Growing our community partnerships

ARC WM is fortunate to draw on skills and experiences of Niyah Campbell, our Public Involvement Officer, to develop our links with local community partners. Niyah brings experience of engaging with diverse communities and involving young people (18-25) in mental health research. Since Niyah started working in ARC WM, he has reached out to a range of local, diverse communities including: Forward Carers Birmingham hub, an organisation that provides support to carers; Coventry and Warwickshire Mind, a charity supporting people to make the right choices about treatment and get the right support; We Don't Settle, an organisation with a commitment to 'nurturing a community of empowered young people who are minoritised by society, systems and structures'; and 'Beatfreeks', an organisation that is renowned for being an influential and innovative youth engagement organisation within Birmingham and has been commissioned to deliver national youth-focussed projects. Niyah has invested time in getting to know organisations and identifying ways that partners can work together so that all partners benefit from the relationship.

We are grateful that already there have been opportunities where partnership working has benefited all partners. Some examples are provided below:

Envision – Empowering young changemakers to shape their futures (https://envision.org.uk)

Following a period of volunteering as a Business Mentor, Niyah has a long-established relationship with Katie Booth (Regional Manager) and George Kearney-Bambridge (Director of People and Partnerships & Deputy CEO) at Envision. The organisation works directly with young people from less-advantaged backgrounds to support them to develop a range of skills and competencies.

Through Envision, ARC WM has recruited young people to be involved in project-specific activities. Members of the Envision Youth Board, for example, were recruited to participate in a workshop that formed part of a project on the topic of Vaccine Hesitancy (PI: Kelly Schmidtke). In this project, ARC WM was able to benefit from using Envision's networks to recruit from diverse communities. For Envision, its members were offered opportunities to participate in a research project and were renumerated for their contributions.

The findings of the project were published and ARC WM ensured that Envision were acknowledged in the publication for their role in supporting recruitment to the workshops.

Taraki – Working with Punjabi communities to improve access to mental health (https://taraki.co.uk/)

Following meeting in many spaces where the main topic of discussion was mental health research and community engagement, Niyah has forged a good relationship with Shuranjeet Singh, founder of Taraki and Lived Experience consultant to the Wellcome Trust's Mental Health Priority area.

Niyah linked Shuranjeet with ARC WM colleagues Domenico Giacco and Carla Toro to be involved in developing two Mental Health Implementation Network projects: Project 1 (Community engagement systems for people from ethnic minority communities to improve access to mental health care) and Project 2 (Improving Access to Psychological Therapies (IAPT)-style services for children and adolescents, especially in schools). Shuranjeet was involved as a co-applicant on Project 1 and although both applications were unfortunately unsuccessful, there are plans to continue to build the relationship, linking researchers in the Integrated Care in Youth Mental Health team with Punjabi communities.

Promoting Opportunities Through Facebook Groups

When opportunities to become involved or engage with research, Niyah utilises Facebook groups to post opportunities in online spaces where Niyah can reach members of the public that are not typically engaged with research. An example is using the 'Black Owned Birmingham' Facebook page. When the ARC WM and Institute of Mental Health at the University of Birmingham hosted a joint Black History Month event, information about the event was posted on the Black Owned Birmingham Facebook page. This approach was effective in attracting sign ups from people that had no prior contact with health and care research, thus opening up opportunities for attendees to learn more about involvement in health and care research.

Reaping What We Sow

The examples above demonstrate how investing both 'hard work' and the 'heart work' can have great benefits to all partners. In ARC WM, we are already seeing fruits from our partnership working, and we are optimistic that future relationship building will lead to more opportunities for working together! When NIHR presented its ten-year vision for public involvement in 2015, Going the Extra Mile, partnership working was identified as critical to the future of health and care research. In this conclusion, the report includes this quote from Helen Keller: "Alone we can do so little, together we can do so much". We couldn't agree more.

Causal Pathways Analysis Workshop

Jennifer Knight, IAHR Administrator [University of Birmingham]

In August 2022, ARC West Midlands held a summit with leading experts in causal chain analysis to discuss the state-of-the-art along with future developments. Professor Richard Lilford began the session by questioning what the next steps should be following on from the updated Medical Research Council (MRC) framework for developing and evaluating complex interventions.[1] This stated that "a sharp distinction between one primary outcome and several secondary outcomes is not necessarily appropriate, particularly where the programme theory identifies impacts across a range of domains".[1] Richard started the session by providing an illustrative example of causal chain analysis from the MaaCiwara study, a cluster randomised trial of food safety, hygiene and nutrition intervention in villages in Bamako, Mali for which he is Co-Principal Investigator alongside Professor Semira Manaseki-Holland (University of Birmingham).[2]

Dr Sam Watson from the University of Birmingham then presented on an example of causal chain analysis from a study focussing on specialist intensity in hospitals,[3] demonstrating how causal chain analysis can help to spot bias. This was followed by a presentation by Professor Matt Sutton (University of Manchester) who discussed his experience of causal chain analysis from an econometric perspective in a study looking at the late-life effects of childhood variables using two separate cohort studies.[4]

Professor Jouni Kuha (London School of Economics) presented on causal vs descriptive mediation analysis in answering the methodological research question 'how can we carry out mediation analysis of population associations between categorical variables?'. The final presentation of the day was given by Professor Jonathan Sterne who joined virtually from the University of Bristol. His talk focussed on causal inference in epidemiological research that sparked discussion as he suggested that to make a causal inference, we must first think how patient pathways compare from the point at which people in an observational study would have been randomised had they been participants in a trial.

Following a lengthy discussion led by Professor Peter Diggle (University of Lancaster) and Professor Richard Lilford, several next steps were agreed:

- A small rising group will be brought together to discuss causal chain analysis.
- A broader group will be created to provide steer to the rising group.
- There will be a series of meetings with leading experts resulting in the production of guidance similar to the MRC to determine what should be explored further in the area of causal chain analysis/define the questions that need to be answered.
- Begin to work towards the production of a possible framework that can be used for causal chain analysis.

References:

1. Skivington K, et al. A new framework for developing and evaluating complex interventions: update of Medical Research Council guidance. *BMJ*. 2021; **374**: n2061.
2. Watson SI, et al. Protocol for a cluster randomised trial to evaluate a community-level complementary-food safety and hygiene and nutrition intervention in Mali: The MaaCiwara study. *medRXiv*. 2021.
3. Watson SI, et al. Estimating the effect of health service delivery interventions on patient length of stay: a Bayesian survival analysis approach. *J Roy Stat Soc Series C (Appl Stat)*. 2021.
4. Turner AJ, Fichera E, Sutton M. Estimating the late-life effects of social and emotional skills in childhood using midlife mediators. *Soc Sci Med*. 2022; **292**: 114522.

Mr Mohammed Belal, the First Person in the UK to Perform Surgery After Paralysis

Philip Simmons, ARC WM Project Administrator

Growing up, Mohammed Belal attended school at King Edward's in Edgbaston, Birmingham, before successfully pursuing a degree in medicine at the University of Cambridge. He then undertook surgical training at Guy's Hospital, London, as well as at the Bristol Urological Institute. Mohammed then received further surgical training after winning a fellowship place, in Melbourne, Australia.

In 2011 Mohammed joined Queen Elizabeth Hospital, Birmingham as a consultant urologist. He became one of the most experienced surgeons in the UK for operating on the autologous pubovaginal sling, an operation to treat stress incontinence.

In February 2021, Mohammed was cycling in Berkswell (a small village between Coventry and Meriden in the West Midlands), when a tree fell in front of him. Unable to stop at high speed he crashed into the tree and immediately knew that his legs had been left paralysed. Initially he was taken to University Hospitals Coventry and Warwickshire before being transferred to London for a 14-hour surgery. After undergoing over 1,000 hours of rehabilitation, Mohammed returned to work in November 2022, and is believed to be the first person in the UK to perform surgery after becoming paralysed below the waist. The University of Birmingham Hospitals NHS Trust has provided him with an electric wheelchair, specially modified to allow Mohammed to be able to stand and lean forward, allowing him to complete life-changing surgeries for his patients once more.

Patient & Public Involvement in Research: Drop-in Sessions

If you have any questions on involving patients and the public in research, then you are welcome to come along to one of our online drop-in sessions for tailored advice for any stage of research and any level of experience.

Upcoming dates are:

- Thur 12 January, 12:00-14:00
- Wed 8 February, 11:00-13:00
- Fri 15 March, 09:30-11:30.

Book a slot via email: PPI@contacts.bham.ac.uk.

HSR UK Conference 2023 – Call for Proposals

The call for contributions to the upcoming Health Service Research UK Conference, which will take place at the University of Birmingham on 4–6 July 2023, is now open. Contributions can be proposals for individual research presentations (oral or poster), workshops, or learning and development sessions. There is a particular interest in contributions which come from across the four nations of the UK or a variety of professional settings, including nursing and allied health professions.

For more information, including submitting a proposal, please visit:

https://www.eventsforce.net/eventage/frontend/reg/thome.csp?pageID=106720&ef_sel_menu=2042&eventID=209

The deadline for submission is **16 January 2023, 12:00**.

How Research Can Improve Social Care in Practice

The West Midlands Social Care Research Partnership, together with the NIHR School of Social Care Research are hosting a free online event to discuss how research can help improve social care practice. The event will provide an opportunity to share ideas about what research means for social care practitioners, and what the community can learn from social workers and social care staff.

It will be held on **25 January 2023, 10:00-12:30**. For more details and to register, please visit: https://www.eventbrite.co.uk/e/how-research-can-help-improve-social-care-practice-tickets-483393893147

NIHR Your Path in Research

NIHR ARCs feature prominently in NIHR's *Your Path in Research* campaign this year.

A special edition newsletter has been produced, compiling blogs and videos from across the ARCs, illustrating how ARC interns, students and researchers have found their way into research from various walks of life and how ARCs helped them pave the way.

It is available online at: http://eepurl.com/h-5rLn

YOUR PATH IN RESEARCH

National NIHR ARC Newsletters - Nov & Dec 2022

The November and December issues of the national NIHR ARC newsletter are now available online at http://eepurl.com/icft_P and http://eepurl.com/iel_EX.

These issues feature a report on vaping in England; the launch of sexual health test vending machines; the frequency of patient and public health involvement in studies; unintended consequences of patients accessing their health records; and hospital admissions in people with severe mental illness.

To subscribe to future issues, please visit: https://tinyurl.com/ARCsnewsletter.

NIHR RfPB Nursing & Midwifery Highlight Call

The NIHR Research for Patient Benefit programme are highlighting under-represented disciplines and specialisms, starting with an upcoming research call for nurses and midwives. The call opens on on Wednesday 25 January 2023, while a pre-launch webinar will take place on Monday 16 January 2023.

For more information, please visit: https://www.nihr.ac.uk/funding/rfpb-under-represented-disciplines-and-specialisms-highlight-notice-nurses-and-midwives/32059.

Research Culture & Capacity in Health Care Organisation Survey

The University of Sheffield, through ARC Yorkshire & Humber, are running a survey for any health care professionals working at least one day per week in any UK healthcare organisation. It doesn't matter if you are involved already in research or have no such experience, you are still invited to share your views.

The survey is available until mid-January 2023 at https://forms.gle/4hJV6JZUpXSsvqi26.

NIHR Advanced Fellowship Congratulations

Congratulations to Dr Ellie Jones, who previously completed a CLAHRC-WM funded PhD in 2019, who has secured a prestigious NIHR Advanced Fellowship to explore smoking cessation interventions for pregnant women with moderate to severe mental illness. She continues to work alongside our Maternity theme team on a number of maternal health research projects.

EPSRC: Funding for early career researchers

The EPSRC has the following funding opportunities available:

Early career researcher collaborations for global development: Funding to initiate or develop new international partnerships with researchers overseas and to tackle the challenges faced by developing countries. [Link]

Early career researcher international collaboration grants: Funding to initiate or develop new international partnerships with researchers overseas. [Link]

Deadline for both proposals is **18 January 2023**.

Recent Publications

Andaur Navarro CL, Damen JA, van Smeden M, Takada T, Nijman SW, Dhiman P, Ma J, Collins GS, Bajpai R, Riley RD, Moons KG, Hooft L. Systematic review identifies the design and methodological conduct of studies on machine learning-based prediction models. *J Clin Epidemiol*. 2022: S0895-4356(22)00300-6.

Bernard SA, Bray JE, Smith K, Stephenson M, Finn J, Grantham H, Hein C, Masters S, Stub D, Perkins GD, Dodge N, Martin C, Hopkins S, Cameron P; EXACT Investigators. Effect of Lower vs Higher Oxygen Saturation Targets on Survival to Hospital Discharge Among Patients Resuscitated After Out-of-Hospital Cardiac Arrest: The EXACT Randomized Clinical Trial. *JAMA*. 2022; 328(18):1818-26.

Ellard OB, Dennison C, Tuomainen H. Review: Interventions addressing loneliness amongst university students: a systematic review. *Child Adolesc Ment Health*. 2022.

Fabritz L, Connolly DL, Czarnecki E, Dudek D, Guasch E, Haase D, Huebner T, Zlahoda-Huzior A, Jolly K, Kirchhof P, Obergassel J, Schotten U, Vettorazzi E, Winkelmann S, Zapf A, Schnabel RB; for the Smart in OAC - AFNET 9 investigators. Smartphone and Wearable Detected Atrial Arrhythmias in Older Adults. Results of a fully digital European Case Finding Study. *Eur Heart J Digit Health*. 2022.

Fisher ML, Sutcliffe P, Southern C, Grove AL, Tan BK. The Effectiveness of Interventions for the Prevention or Treatment of Paternal Perinatal Anxiety: A Systematic Review. *J Clin Med*. 2022; **11**(22): 6617.

Gauly J, Ulahannan A, Grove A. The Extended Pillar Integration Process (ePIP): A data integration method allowing the systematic synthesis of findings from three different data sources. *J Mixed Meth Res*. 2022.

GBD 2019 Healthcare Access and Quality Collaborators. Assessing performance of the Healthcare Access and Quality Index, overall and by select age groups, for 204 countries and territories, 1990-2019: a systematic analysis from the Global Burden of Disease Study 2019. *Lancet Glob Health*. 2022; **10**(12): e1715-43.

Gerritsen SE, van Bodegom LS, Overbeek MM, Maras A, Verhulst FC, Wolke D, Rizopoulos D, de Girolamo G, Franić T, Madan J, McNicholas F, Paul M, Purper-Ouakil D, Santosh PJ, Schulze UME, Singh SP, Street C, Tremmery S, Tuomainen H, Dieleman GC; MILESTONE consortium. Leaving child and adolescent mental health services in the MILESTONE cohort: a longitudinal cohort study on young people's mental health indicators, care pathways, and outcomes in Europe. *Lancet Psychiatr*. 2022; **9**(12):944-56.

Giacco D. Loneliness and mood disorders: consequence, cause and/or unholy alliance? *Curr Opin Psychiatr*. 2023; **36**(1): 47-53.

Hooper A, Nolan JP, Rees N, Walker A, Perkins GD, Couper K. Drug routes in out-of-hospital cardiac arrest: a summary of current evidence. *Resusc*. 2022: S0300-9572(22)00694-3.

Knight T, Parulekar P, Rudge G, Lesser F, Dachsel M, Aujayeb A, Lasserson D, Smallwood N. Point-of-care lung ultrasound in the assessment of COVID-19: results of a UK multicentre service evaluation. *Acute Med*. 2022;**21**(3):131-8.

Kwok CS, Muntean EA, Mallen CD, Borovac JA. Data Collection Theory in Healthcare Research: The Minimum Dataset in Quantitative Studies. *Clin Pract*. 2022; **12**(6): 832-44.

Manbinder Sidhu M, Litchfield I, Miller R, Fulop NJ, Janta B, Tanner JR, Maistrello G, Bousfield J, Vindrola-Padros C, Sussex J. Using pulse oximeters in care homes for residents with COVID-19 and other conditions: a rapid mixed-methods evaluation. *Health Soc Care Deliv Res*; 2022; **10**(35).

O'Mahoney LL, Routen A, Gillies C, Ekezie W, Welford A, Zhang A, Karamchandani U, Simms-Williams N, Cassambai S, Ardavani A, Wilkinson TJ, Hawthorne G, Curtis F, Kingsnorth AP, Almaqhawi A, Ward T, Ayoubkhani D, Banerjee A, Calvert M, Shafran R, Stephenson T, Sterne J, Ward H, Evans RA, Zaccardi F, Wright S, Khunti K. The prevalence and long-term health effects of Long Covid among hospitalised and non-hospitalised populations: A systematic review and meta-analysis. *EClinicalMedicine*. 2022; **55**: 101762.

Singh SP. Stairway to Heaven: A First-Person Account of Noesis. *J Nerv Ment Dis*. 2022; **210**(11): 850-4.

Spiers J, Kokab F, Buszewicz M, Chew-Graham CA, Dunning A, Taylor AK, Gopfert A, van Hove M, Teoh KR, Appleby L, Martin J, Riley R. Recommendations for improving the working conditions and cultures of distressed junior doctors, based on a qualitative study and stakeholder perspectives. *BMC Health Serv Res*. 2022; **22**(1): 1333.

Syed MA, Aiyegbusi OL, Marston E, Lord JM, Teare H, Calvert M. Optimising the selection of outcomes for healthy ageing trials: a mixed methods study. *Geroscience*. 2022.

Tyldesley-Marshall N, Ghosh I, Singh M, Kudrna L, Mehaan E, Taylor-Phillips S, Ayorinde A, Clarke A, Al-Khudairy L, Grove A. Investigating informed choice in screening programmes: a mixed methods analysis. *BMC Public Health* 2022; **22**: 2319.

Vardy ER, Lasserson D, Barker RO, Hanratty B. NEWS2 and the older person. *Clin Med (Lond)* 2022; **22**(6): 522-4.

Whitaker KL, Krystallidou D, Williams ED, Black G, Vindrola-Padros C, Gill P, Braun S. Understanding Uptake and Experience of Interpreting Services in Primary Care in a South Asian Population in the UK. *JAMA Netw Open*. 2022; **5**(11): e2244092.