

1	Where Has All the Low Hanging Fruit Gone in Service Delivery Research?	Do Candidates' Physical Attributes Affect Results of Clinical Examinations?	13
3	ARC WM Quiz	Breast Cancer Screening Frequency	14
4	Engaging More Schools in Mental Wellbeing Data Collection and Interventions	Implementation Trial Guidelines	15
7	Supporting Citizens as We Exit Lockdown	Real World Evidence Studies Guidelines	16
9	Reflecting on Public Involvement in ARC WM	Latest News & Events	17
11	New Evidence for a New Future: Adult Social Care Research Event	Recent Publications	19

ARC West Midlands News Blog



Service Delivery Research: Where Has All the Low Hanging Fruit Gone?

Richard Lilford, ARC WM Director

There was once a time when service delivery and public health research was mainly observational. For example, researchers made progress simply by describing variations in practice or in outcomes. Indeed, it was large-scale observational studies of this sort that characterised these subjects in the early days. As time wore on, however, people wanted to intervene, not just observe. So, the era of randomised trials came to service delivery and public health research. Many service and public health interventions cannot be hypothesised at the individual level, so a substantial proportion of trials were at the cluster level. Jeremy Grimshaw, a member of our ARC WM scientific advisory committee, tells me that he has assembled over 600, *yes 600*, trials of different service interventions for diabetes care. In many, indeed the great majority, of service trials the intervention has been designed by researchers and paid for largely from research allocations.

However, research allocations can only fund inexpensive and logistically straightforward interventions. In the early days of trials this was not a problem. However, much of the low hanging fruit has been plucked. Now, many of the questions that can be answered inexpensively have been put to bed. This leaves larger questions, which cannot be funded by research grants. For example, what is the effect of different nurse to patient ratios in high-income countries, or of emergency ambulance services in low-income countries? These questions are hopelessly confounded in observational research, yet the cost of the interventions is beyond most research funders. Take, for instance, a project on which ARC WM is working. We wish to intervene to reduce

burn injuries in cities in low-income countries. There have been lots of trials of educational and community interventions showing a small effect. Arguably these interventions are neither sustainable nor scalable. So, what we would like to do is replicate the large-scale environmental modifications that have been responsible for substantial reductions in burn injuries in high-income countries – enforcement of regulation, wide-scale adoption of smoke alarms, and safety at work design. However, interventions of this type are simply out of the scope for a research funder.

The corollary of these observations is that researchers have to partner very closely with policymakers and managers; the people who control the purse strings. Policy makers work to an agenda that is not, and can never be, set by the researcher. So, researchers need to be embedded within policy units. Better still would be a blurring between the role of a researcher and a policy maker. Likewise, the typical grant cycle from research funders needs to change. The research needs to take place when the policy maker intervenes, since it will always be hard to get the policy maker to implement a new policy on the research timetable. The Bill and Melinda Gates Foundation took on the role when it funded [large water and sanitation projects](#) in Asia and East Africa, ensuring that they were evaluated in cluster RCTs.[1]

Here in ARC WM, we march to the policy drum. We are always on the lookout for nascent large-scale service interventions to evaluate prospectively. We provide a set of examples of such ‘rapid response’ empirical research on the next page:

UK-Based Projects *

Project	Summary Findings
Implementation of guidelines to reduce falls in hospital.	Implementing NICE guidelines at University Hospitals Coventry & Warwickshire saw a statistically significant drop in falls on time-series analysis.[2]
Effectiveness of various nudge theory-informed reminder letters on uptake of seasonal flu vaccine by front-line hospital staff.	There was no evidence that uptake of the vaccine was affected by the various reminders using nudge theory. [3]
Evaluate how a financial incentive could increase home-based dialysis treatment.	Using targets with financial penalties resulted in a significant increase in uptake across the West Midlands, not seen in other regions.[4]
Comparison of weight reduction programmes for weight loss in obesity.	Commercially provided weight management services are more effective and cheaper than primary care-based services led by trained staff.[5]
RCT of a Pregnancy Outreach Worker service for nulliparous women with social risk.	Significant improvement in symptoms of depression among women with at least two social risk factors in the intervention group.[6]
Evaluation of data presentation methods in English NHS acute care hospital board papers.	Control charts can help board members identify pertinent information, though they are not often used. [7]
Evaluation of effectiveness of health and wellbeing financial incentives offered to small and medium enterprises.	Study ongoing. <i>Protocol available</i> .[8]

* Note that we also carry out frequent systematic review and knowledge management work to inform service development and implementation development.

International Projects

Project	Summary Findings
Evaluation of introduction and removal of user fees on outpatient attendances and diagnoses of infectious diseases in Malawi.	User fees were shown to present a barrier to accessing healthcare and reduced diagnosis of diseases.[9]
Evaluation of a service intervention designed to encourage self-care and self-help in people affected by leprosy in Nepal.	Study ongoing. <i>Protocol submitted</i> .
Evaluation of a large programme to detect and prevent leprosy in India.	Study ongoing.
Evaluating impact of community health worker programme in Malawi.	Study ongoing. <i>Protocol available</i> .[10]

References on next page.

References:

1. Cumming O, Arnold BF, Ban R, et al. The implications of three major new trials for the effect of water, sanitation and hygiene on childhood diarrhoea and stunting: a consensus statement. *BMC Med.* 2019; **17**: 173.
2. Sheppard D, Clarke E, Hemming K, Martin J, Lilford R. An opportunistic evaluation of a routine service improvement project to reduce falls in hospital. *BMC Health Serv Res.* 2021; **21**: 79.
3. Schmidtke KA, Nightingale PG, Reeves K, et al. Randomised controlled trial of a theory-based intervention to prompt front-line staff to take up the seasonal influenza vaccine. *BMJ Qual Saf.* 2020; **29**: 189-97.
4. Combes G, Allen K, Sein K, Girling A, Lilford R. Taking hospital treatments home: a mixed methods case study looking at the barriers and success factors for home dialysis treatment and the influence of a target on uptake rates. *Implement Sci.* 2015; **10**: 148.
5. Jolly K, Lewis A, Beach J, et al. Comparison of range of commercial or primary care led weight reduction programmes with minimal intervention control for weight loss in obesity: Lighten Up randomised controlled trial. *BMJ.* 2011; **343**: d6500.
6. Kenyon S, Jolly K, Hemming K, et al. Lay support for pregnant women with social risk: a randomised controlled trial. *BMJ Open.* 2016; **6**: e009203.
7. Schmidtke KA, Poots AJ, Carpio J, et al. Considering chance in quality and safety performance measures: an analysis of performance reports by boards in English NHS trusts. *BMJ Qual Saf.* 2017; **26**(1): 61-9.
8. Thrive at Work Wellbeing Programme Collaboration. Evaluation of a policy intervention to promote the health and wellbeing of workers in small and medium sized enterprises – a cluster randomised controlled trial. *BMC Public Health.* 2019; **19**: 493.
9. Watson SI, Wroe EB, Dunbar EL, et al. The impact of user fees on health services utilization and infectious disease diagnoses in Neno District, Malawi: a longitudinal, quasi-experimental study. *BMC Health Serv Res.* 2016; **16**: 595.
10. Dunbar EL, Wroe EB, Nhlema B, et al. Evaluating the impact of a community health worker programme on non-communicable disease, malnutrition, tuberculosis, family planning and antenatal care in Neno, Malawi: protocol for a stepped-wedge, cluster randomised controlled trial. *BMJ Open.* 2018; **8**: e019473.

ARC WM Quiz

How did James Harrison save over 2 million babies throughout his lifetime?

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



Answer to previous quiz: The oldest known living organism (that can be precisely measured) is a bristlecone pine tree named Methuselah, at over 4,850 years old.

Congratulations to those who answered correctly.



Engaging More Schools in Mental Wellbeing Data Collection and Interventions



Helena Tuomainen, Michelle Dyer, Colin Palmer
Integrated Care in Youth Mental Health theme

C OVID-19 and home-schooling have upset the routine for children and young people (CYP). A simple calculation shows that CYP normally spend a considerable amount of time in school. The average length of a school day is 6.5 hours, which translates to 1,235 hours in a year of 190 school days, and 17,290 hours in 14 years – reception to year 13.

This makes schools and colleges an ideal setting for identifying CYP struggling with emotional or behavioural problems. Students are also a captive audience for interventions aimed at improving their mental wellbeing. Due to the large network of schools with access to a significant population of CYP, schools are optimum sites for delivering large-scale preventative public health initiatives for mental health. Birmingham education authority alone, with 422 state funded primary and secondary schools and colleges, reaches over 80% of 5-19 years olds in the city, nearly 197,000 students.

There is increasing international evidence that school-based interventions can improve mental health and wellbeing, prevent or change health risk behaviours associated with the development of mental disorders (e.g., smoking, alcohol and drug use), and help prevent specific mental disorders (e.g., depression and anxiety), suicide, stigma and discrimination.[1] Interventions targeting wellbeing can boost resilience and help CYP cope better with stress,[2] improve academic outcomes,[3] and bring substantial improvement across the whole lifespan.[4]

Yet not all interventions in schools have produced positive results. A recent systematic review found the effectiveness of school-based universal mental health interventions in England delivered to all pupils to be neutral or small.[5] More positive effects were found for poorer quality studies and those based in primary schools.

A contributing factor may be the difficulties associated with implementing interventions and evaluation studies in schools. The curriculum is packed and adding extra activities within the school day can be difficult. Students may not access mental health interventions even if made available in school, possibly due to continued stigma around mental health problems.[6] Gaining consent from parents for younger children is an additional hurdle. Establishing proper collaboration and efficient intervention delivery and data collection takes time and effort.[7] Little guidance is available on how best to engage schools and teachers, or how to get students involved in intervention activities and data collection.

Therefore, as part of a pragmatic qualitative study, we have been exploring the barriers and facilitators linked with school-based mental health interventions and research. We have interviewed several experienced researchers, key stakeholders and school staff working across Coventry, West Midlands and wider afield. COVID-19 lockdown and restrictions have, unsurprisingly, hampered data collection in schools, but valuable insights have been gained from a more national population of researchers. Our goal is to generate a guidance document to help improve the implementation and uptake of future public mental health interventions and research in schools.

It is now more important than ever to use schools as settings to improve CYP mental wellbeing. The current trend of rising prevalence of emotional disorders in young people, worsened by COVID-19 lockdown restrictions, is increasing demand from already overstretched specialist mental health services. Approximately one in five young people in England report symptoms of an emotional disorder.[8] However, only one in four young people with a diagnosable mental health disorder gets professional mental help within a year of diagnosis.[9] Promoting student wellbeing and preventing the development or

worsening of mental health problems in schools is one of the best ways of counteracting these adverse trends.

Another of our endeavours is linked with facilitating regular digital wellbeing data collection in schools. The aim is to help improve school level understanding of wellbeing and to create a baseline for other measurements or interventions. During CLAHRC-WM we designed and developed a data collection platform (“SchoolSpace”) specifically for this purpose. In 2019, pupils in 17 Coventry schools completed either the 14-item [Warwick-Edinburgh Mental Wellbeing Scales](#) (WEMWBS) (secondary schools),[10] or the 15-item Stirling Children’s Wellbeing Scale (primary schools) [11] on the SchoolSpace platform. COVID-19 lockdown in spring 2020 hampered data collection, but the pandemic has heightened the need to be able to digitally measure student wellbeing. Monitoring wellbeing across schools provides also an accessible, low-risk approach to understanding factors that influence mental health and wellbeing in CYP.

Birmingham education authority has plans to use the SchoolSpace platform going forward. If all goes well, we expect that most of the 422 schools in the city will conduct regular wellbeing assessments by 2024. This will meet the Public Health England recommendation to make use of school and college level data to identify the mental wellbeing needs of students and determine how best to boost these.

“Efforts taken by schools and colleges to promote the physical and mental health of the student population creates a virtuous circle, reinforcing attainment and achievement that in turn improves student wellbeing, enabling students to thrive and achieve their full potential”.[4]

From a researcher's perspective this is a very exciting prospect. Successful implementation of yearly wellbeing monitoring in schools will take the form of a longitudinal survey and open up an avenue for more robust big data, which can be analysed and interpreted for trends, as well as for the development or identification of effective solutions.

For policymakers this provides an evidence base to target interventions and initiatives based on risk. Early intervention and preventative mental health programmes for CYP are a cost-effective way of improving young people's lives. They offer tangible economic benefits to the public purse and wider society, such as savings in subsequent costs to public services.[12]

References:

1. Champion J. Public mental health: Evidence, practice and commissioning. *Royal Society for Public Health*; 2019.
2. Public Health England. Improving Young People's Health and Wellbeing: A Framework for Public Health. London: Public Health England; 2014.
3. Amholt TT, et al. Psychological Well-Being and Academic Achievement among School-Aged Children: a Systematic Review. *Child Indicators Research*. 2020;**13**(5):1523-48.
4. Public Health England. Measuring Mental wellbeing in Children and Young People. London: Public Health England; 2015.
5. Mackenzie K, Williams C. Universal, school-based interventions to promote mental and emotional well-being: what is being done in the UK and does it work? A systematic review. *BMJ Open*. 2018;**8**(9):e022560.
6. Fazel M, Hoagwood K, Stephan S, Ford T. Mental health interventions in schools 1: Mental health interventions in schools in high-income countries. *Lancet Psychiatr*. 2014;**1**(5):377-87.
7. Bartlett R, et al. Schools as Sites for Recruiting Participants and Implementing Research. *J Community Health Nurs*. 2017;**34**(2):80-8.
8. Deighton J, et al. Prevalence of mental health problems in schools: poverty and other risk factors among 28 000 adolescents in England. *Br J Psychiatr*. 2019;**215**(3):565-7.
9. NHS Digital. Mental Health of Children and Young People in England, 2017 - Summary of key findings. Health and Social Care Information Centre; 2018.
10. Tennant R, et al. The Warwick-Edinburgh Mental Well-being Scale (WEMWBS): development and UK validation. *Health Qual Life Outcomes*. 2007;**5**(1):63.
11. Liddle I, Carter GFA. Emotional and psychological well-being in children: the development and validation of the Stirling Children's Well-being Scale. *Educ Psychol Practice*. 2015;**31**(2):174-85.
12. Department of Health. Future in mind: Promoting, protecting and improving our children and young people's mental health and wellbeing. London: NHS England; 2015.

Roadmap 2021: Helping Community Partners Support Citizens as We Exit Lockdown

Prof Kelly Ann Schmidtke; Prof Ivo Vlaev

Imaginative scenario planning provides a safe environment for policymakers and organisational leaders to think through the consequences of potential actions before similar scenarios occur in real-life. This was formalised in the [Rubber Windmill Simulations](#), which were used to anticipate the effects of Margaret Thatcher's reforms in healthcare. More recently, [Event 201](#) brought together world leaders to discuss how they should respond to a future pandemic. Many decisions made in Event 201 mirror those realised during the COVID-19 pandemic. As we plan the ground war for this pandemic and preparations for the next, policymakers and organisational leaders should adopt this strategy.

To empower policymakers and organisational leaders in the West Midlands to take up imaginative scenario planning, Ivo Vlaev and Kelly Ann Schmidtke co-hosted a scenario planning workshop. This workshop was attended by 20 civil servants and community partners, e.g., city council members, police force members, public health officials, etc. The workshop focused on opportunities for non-coercive [nudges](#) rather than restrictions or mandates. The workshop aimed to facilitate conversations around plausible scenarios that could throw England off its four-step, one-way [roadmap](#) for exiting lockdown by 21 June 2021, while also drawing out examples of how nudges could be applied using the [MINDSPACE](#) principles.

Kelly Ann Schmidtke started the workshop with a brief explanation of the roadmap and its four tests (Figure 1). Then she announced that attendees would collaboratively consider five roadblocks concealed, placed in sealed envelopes for visual impact (Figure 2). Each scenario was discussed for approximately ten minutes. The scenarios are listed here.

Roadblock A: The Government Budget

On 3 March, before Stop 1, Rishi Sunak announces staggered increases in corporation tax from 19% to 23% by the next general election. A large employer from the West Midlands threatens to relocate to Ireland and stop encouraging their public-facing staff to get tested.

Roadblock B: Testing Children

From 16 March, in Stop 1, pupils in year 7 and up will be given two lateral flow rapid testing kits to administer at home each week. Some parents complain that their children are not bringing the tests home. Others are unsure what to do if one child tests positive, but their others do not.

Roadblock C: Warming Weather

On 15 April, in Stop 2, universities seem to be no longer tightly monitoring student actions. Groups of 6 students quickly merge into groups of 12 or 18 for prolonged periods as they enjoy the warming weather. They are not being asked to disperse, so long as they are not being loud or otherwise obnoxious.

Roadblock D: Failing tests

On 20 May, in Stop 3, a new variant of COVID-19 appears in Spain that seems more aggressive (the 4th test failed) and within two weeks the infection rates in London are spiking (the 3rd test fails – locally). The Government decides to return to Stop 1 across England.

Roadblock E: Staying alert when everything seems okay

The vaccination schedule is progressing well. On the 21 June, we enter Stop 4, and 70% of people from the top 6 priority groups are taking up invitations to receive their 1st dose (the 1st test passed). Hospitalisation and death rates are decreasing (the 2nd test passed). An online forum pops up aggressively stating that a 2nd dose of the vaccine is not necessary. Many people seem to agree.

Workshop attendees applied eight of the nine **MINDSPACE** principles. The **messenger** principle (*we are heavily influenced by who communicates information*) was applied while discussing the importance of selecting the right people to deliver their communications. For instance, attendees highlighted Chris Whitty and Jonathan Van-Tam as trusted messengers who could explain why some children were not expected to carry out lateral flow tests. The **incentives** principle (*our responses to incentives are shaped by predictable mental short-cuts, such as strongly avoiding losses*) was applied where attendees desired to help citizens conduct quick risk assessments around what behaviours were appropriate. The benefits of receiving the vaccine should be highlighted in community communications. The **norms** principle (*we are strongly influenced by what others do*) was applied where attendees considered the possible spread of businesses leaving or the spread of slight deviations from the rules beyond university campuses. The **defaults** principle (*we “go with the flow” of pre-set options*) was considered where it is possible to block residents before they start gathering in attractive locations, e.g., beaches could be closed.

The **salience** principle (*our attention is drawn to what is novel and seems relevant to us*) was applied for conveying complicated rules, with the suggestion that a video link may be well suited to explain how to administer and evaluate lateral flow tests for children. The **affect** principle (*our emotional associations can powerfully shape our actions*) was applied as attendees noted that community communications would need to not only educate citizens but would also need to emphasise with their distress. The **commitment** principle (*we seek to be consistent with our public promises and reciprocate acts*) was suggested as a way to get patients to sign up for their second vaccination as they take up their first. Lastly, the **ego** principle (*we act in ways that make us feel better about ourselves*) was recognised as a way to help students maintain their self-image of being altruistic as they followed the rules. Ego

could also be used to encourage vaccine uptake. One consequence explored had to do with financial incentives. Here attendees cautioned that financial incentives may also motivate undesirable behaviour and scams, e.g., producing fake documents. The only principle that was not explicitly discussed while considering each scenario was **priming** (*our acts are often influenced by sub-conscious cues*). Ivo Vlaev explained potential applications of the priming principle while summarising the workshop. For example, a return to Step 1 may not be traumatic because citizens have memories about what Step 1 was like and beliefs that they can get through it. Kelly Ann Schmidtke ended the workshop by stating that she hoped the workshop itself had acted as a prime for all the attendees to use the MINDSPACE principles as they developed further non-coercive strategies. All attendees were invited to approach Ivo or Kelly for further support, and particularly with opportunities to engage in research to improve the health, wealth, and wellbeing of citizens living in the West Midlands.

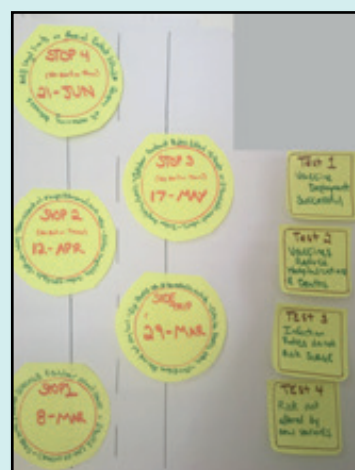


Fig 1: Roadmap visual used during workshop

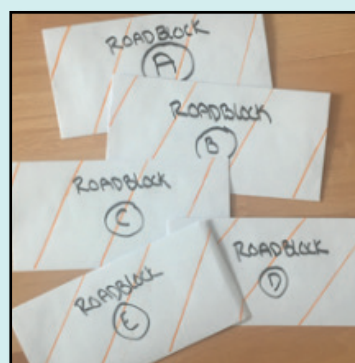


Fig 2: Roadmap envelopes used during workshop



Using the *NIHR Standards for Involvement* as a Framework to Reflect on Public Involvement in ARC WM

Dr Magdalena Skrybant, PPIE Lead

As Public Involvement and Engagement Lead, I am always striving to continually improve our ways of involving and engaging people in our activities. Each time I think about something we're doing, be it planning involvement on a project we're just about to start or reporting involvement on a project that's nearing its conclusion, I'm always thinking we could (and sometimes should) be doing so much more.

With so many potential areas of growth, it's important to create opportunities to consider how we can improve, but it's also hard to know where to start! In ARC WM, we've committed to holding an annual event to 'take stock' on how we involve and engage the public in our activities. Whilst there are different approaches you can take to reflect on involvement, we're using the NIHR UK Standards for Involvement as a framework.

Having just held our first 'ARC WM Standards for Involvement' Workshop, here are my top tips for using the UK Standards for involvement to reflect on public involvement and engagement.

1 The UK Standards for Involvement provide a really useful framework to reflect on public involvement. The Standards are designed to 'encourage approaches and behaviours that are the hallmark of good public involvement'. The six Standards (shown above) each cover different aspects of involvement. Each Standard has a description and questions to help you and your contributors reflect on how you are 'meeting' the Standard. In our workshop, we focussed on ARC WM involvement at central level, but the Standards could be used to reflect on involvement at theme and project level.

2 Create ‘safe spaces’ for discussions. To get the most out of discussions, it’s important that people are open and honest about what’s working well and where there is room for improvement. Set some ground rules at the start, explaining the purpose of the exercise is to improve ways of working. Emphasise the need to be respectful of others and of their views.

3 Ensure sessions are well-facilitated. Some people are more confident than others, and it’s important that everyone has opportunity to contribute. It’s also important that there is enough time to discuss all of the Standards in sufficient detail. Having a strong facilitator can help make sure that the discussions ‘keep moving’ and that everyone has the opportunity to share their views.



4 Make it more than a ‘talking shop’. Whilst it’s good to talk, it’s important that the reflective discussions lead to change. During the sessions, ask people to reflect on ways that challenges can be overcome. Based on our discussions, we’re developing clear action plans for each Standard to improve our ways of working with public contributors.

5 Communication is key. Time is precious, and in the world of public involvement, people are very generous. If people have committed time to reflecting and providing feedback, it’s important to communicate back how those discussions have made a difference.

6 Standards are for life, not just for Christmas. Okay, not necessarily the right phrase, but hopefully, you know where I’m going with this! Although it’s useful to have a clear commitment to reflect on public involvement, in our case, an annual workshop, it’s just as important to have regular opportunities for reflection. For us, once we’ve developed our clear actions, we will revisit these regularly to maintain momentum in improving our ways of involving the public in research.

7 Continuous improvement is better than delayed perfection. This quote, from author Mark Twain, is a great source of inspiration. In public involvement, whilst we can always achieve more, having regular spaces for reflection helps us continue to improve.

Further Information:

- [The Standards](#) : The six UK standards and supporting materials.
- [Putting the Standards into practice](#) : The Standards were put into practice by a wide range of groups and organisations between April 2018 and May 2019. Our previous centre, CLAHRC WM, was a ‘freestyler’ and Keele University was a ‘test bed’, both contributing to the refinement of the final Standards.



New Evidence For a New Future: Adult Social Care Research Event



Robin Miller (Social Care Theme Lead)

ARC WM hosted a virtual research event in February 2021, in collaboration with the [West Midlands branch of the Association of Directors of Adult Social Services](#). This provided an opportunity for those in practice and academia to come together with those who have lived experience of services to discuss and reflect on the role of research in improving adult social care. Chaired by [Professor Robin Miller](#), there were key note speeches from [Anna Severwright](#), [Dr Richard Harling](#), [Professor Martin Knapp](#) and [Richard Humphries](#). Interactive sessions considered recent adult social care research in the West Midlands in relation to the themes of Markets & Personalisation, Strength Based Practice, and Outcomes & Data. These sessions were jointly chaired by academics and practice leads.

Debates that arouse from the talks included:

- Research can provide insights into current best practice, future opportunities, and what is not working well at present within adult social care.

- People with lived experience help ensure that the topics of most importance are being researched and the actual impact of interventions on people's lives.
- Money is sometimes invested badly because commissioners have not engaged with people with lived experience at an early point – qualitative research can also help ensure that people's voices are heard.
- Research should never be about proving something works to justify a decision, but instead seek to understand if it works, what its limitations are, and how it can be improved.
- People in practice and policy can find researchers too slow, too distant, too expensive and too theoretical.
- Researchers can bring the 'backstory' (i.e. what do we already know), help to understand why something works or doesn't, and provide important caveats and cautions.
- Practitioner researchers are less common in social care than health but could make an important contribution.

- There are still areas of social care that are largely an ‘evidence free zone’, such as those who self-fund their care.

[Professor Catherine Needham](#) concluded the event with a reflection on the importance of such opportunities for people with different experience and interests to meet and debate adult social care and the role that research can play in shaping its future.

For more details of the social care research within ARC West Midlands, please contact the research team: <http://arc-wm.nihr.ac.uk/social-care/team/>





Do Candidates' Physical Attributes Affect Results of Clinical Examinations?

Richard Lilford, ARC WM Director

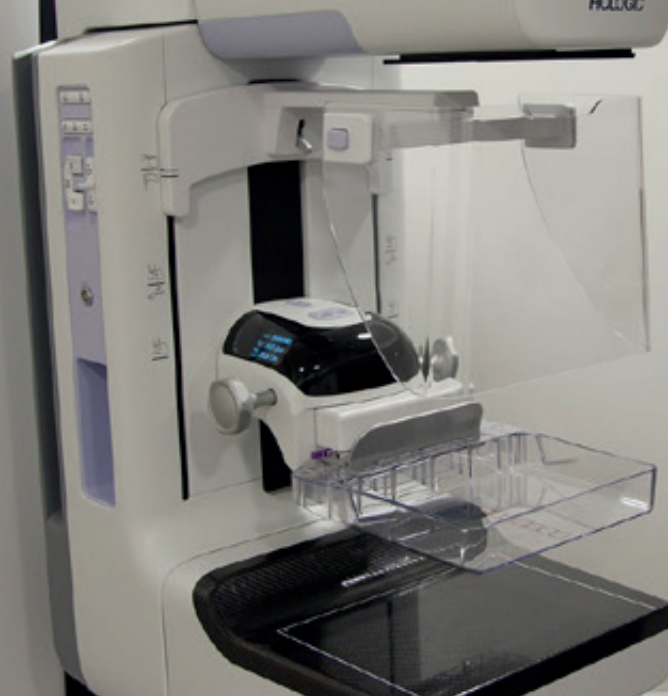
I thank Celia Brown, University of Warwick, for bringing this fascinating paper to my attention.[1] The authors wanted to find out whether judgments of clinical competency would be affected by the physical attributes of the candidates. Videotaped clinical examinations were scored by assessors. The candidates either had no particular feature, or they had a tattoo, purple hair or a Liverpool accent.

Take a moment to reflect on what they might have found.

In the event, they found that the physical features of the clinician had no effect on the examination mark awarded. This result is at variance with much of the existing literature. It is possible that publication bias has distorted this literature or, more hopefully, that medical examiners have learned to avoid bias based on physical features.

Reference:

1. Sam AH, Reid MD, Thakerer V, Gurnell M, Westacott R, Yeates P, Reed MWR, Brown CA. [The influence of candidates' physical attributes on assessors' ratings in clinical practice.](#) *Med Teach.* 2021.



More Harm than Good?

Breast Cancer Screening Frequency

Peter Chilton, Research Fellow

UK guidelines recommend that breast cancer screening is carried out every three years from age 50 to 71. In contrast, guidelines in the USA vary between organisations, though the CDC use the recommendation of the USPSTF, with women at average risk to be screened every two years between 50-74 years.

A research letter published in JAMA reports on a cross-sectional study that looked at various recommendations for starting age and interval for breast cancer screening from over 600 American breast cancer centres.[1] Of the 487 centres with available recommendations, 431 specified a starting age – the vast majority (87.2%) of these were to start screening at 40 years old. In the 429 centres that recommended both a starting age and screening interval, 347 centres (80.9%) recommended annual screening from the age of 40 – again different from that recommended by USPSTF.

For women aged 40-49 years there are a number of potential harms that can result from earlier screening, with only a smaller (and more

uncertain) estimated reduction in breast cancer mortality. Previous data have suggested a higher risk of false-positive findings, unnecessary biopsies/operations, increased rates of anxiety and discomfort, over-diagnosis and over-treatment of indolent (slow-growing) cancers, and increased costs of low-value care. Meanwhile, evidence shows that biennial screening has similar benefits to annual screening, but with fewer harms (e.g., false-positive rates over ten years for annual screening are 61%, compared to 42% for biennial screening).[2]

References:

1. Patel NS, Lee M, Marti JL. [Assessment of Screening Mammography Recommendations by Breast Cancer Centers in the US.](#) *JAMA Intern Med.* 2021.
2. Nelson HD, Cantor A, Humphrey L, et al. [Screening for Breast Cancer: A Systematic Review to Update the 2009 US Preventive Services Task Force Recommendation.](#) Rockville (MD): Agency for Healthcare Research and Quality; 2016.

More Guidelines: Implementation Trials

Richard Lilford, ARC WM Director

It is our habit to alert News Blog readers to new guidelines for applied research. A recent BMJ paper from Canada and Australia tackles the above topic.[1] This guideline is especially useful in classifying the various types of implementation trial. Borrowing on previous literature, trials are classified on a spectrum - from a standard public health trial, through various hybrids to the 'full fat' implementation trial. The public health trial is concerned mostly with effectiveness in improving patient or population health. The 'full fat' trial of implementation will consider only implementation outcomes. According to *Lilford's Taxonomy* the latter examines the necessary, rather than the sufficient, conditions for improved health. The paper deals with various intermediate outcomes between intervention and the patient or population, but does not explicate the multi-level causal chain that we use in ARC WM.[2] The paper mentions implementation mechanisms, but is strangely silent on mediator variable analysis [3] and

causal path way thinking.[4] This paper also fails to deal with the scenario where the intervention is entirely designed by the service, but is nevertheless introduced around an evaluation framework.[5] [6] This is a useful article that News Blog readers should be aware of, although it is a little out of date in some of its thinking.

References:

1. Wolfenden L, Foy R, Pesseau J. [Designing and undertaking randomised implementation trials: guide for researchers](#). *BMJ*. 2021; **372**: m3721.
2. Lilford RJ, Chilton PJ, Hemming K, et al. [Evaluating policy and service interventions: framework to guide selection and interpretation of study end points](#). *BMJ*. 2010; **341**: c4413.
3. Lilford R, Watson S. [Use of Causal Diagrams to Inform the Analysis of Observational Studies](#). *NIHR ARC WM News Blog*. 20 Nov 2020; **2**(11): 1-2.
4. Pearl J, Glymour M, Jewell NP. *Causal Inference in Statistics: A Primer*. Chichester: Wiley; 2016. p. 35.
5. Watson SI, Dixon-Woods M, Taylor CA, et al. [Revising ethical guidance for the evaluation of programmes and interventions not initiated by researchers](#). *J Med Ethics*. 2020; **46**: 26-30.
6. Sheppard D, Clarke E, Hemming K, Martin J, Lilford R. [An opportunistic evaluation of a routine service improvement project to reduce falls in hospital](#). *BMC Health Serv Res*. 2021; **21**: 79.

Yet Another Research Guideline: Real World Evidence Studies

Richard Lilford, ARC WM Director

By real world studies it turns out that the authors mean studies based on electronic data collected during routine healthcare processes.[1] ARC WM carries out numerous database studies, in collaboration with ARC East Midlands, through the [Margaret Peters Centre](#). This paper was therefore of considerable interest to us.

The paper presents a structured template that is based on other published templates, such as that for the International Society for Pharmacoeconomics and Outcomes Research.

The description starts with PICOT objectives: Population, Intervention, Comparator, Outcome and Time horizon. The importance of an organised catalogue of computer codes and what they mean is stressed. A useful study design diagram is presented. The stipulations are quite exacting, for example conducting a focus group with experts in order to finalise the data collection and analytical pathway.

Entry criteria should be specified, for example new users of a drug, versus newly diagnosed cases with a particular condition. It must be specified whether diagnostic codes are in the prime position or whether they are incidental to a clinical encounter. It must also be defined as to how many times a person might enter the cohort.

The analysis section should specify primary and secondary analyses, software packages, models that are fitted to the data, adjustment for other variables, and clear specification of parameters, such as truncation rules. Sensitivity analyses and handling of missing data should be specified. It should be possible to share data and code.

I note that this guideline is for clinical, rather than service delivery research. It also does not deal with the quite common scenario where baseline data are collected specifically for study purposes, but where follow up is entirely by computer. That is not a criticism, and of course many of the same principles apply. We shall certainly refer to this set of guidelines in further work through the Margaret Peters Centre.

Reference:

1. Wang SV, Pinheiro S, Hua W, et al. [STaRT-RWE: structured template for planning and reporting on the implementation of real world evidence studies](#). *BMJ*. 2021; **372**: m4856.

Latest News and Events

Postgraduate Research Opportunities

A number of postgraduate research opportunities are currently available within ARC WM:

- An MSc on *Reducing health inequalities through increased screening in people with intellectual disability* within our Youth Mental Health theme. Further details available at: <https://warwick.ac.uk/fac/sci/med/study/researchdegrees/howtoapply/hs>.
- Two fully-funded, full time, three-year PhD studentships available from September 2021. Further details available at: findaphd.com/phds/program/nihr-applied-research-collaboration-west-midlands/?p4765
- A 4-year PhD studentship based at Warwick Business School, to study Innovation in Healthcare, commencing October 2021. Further details available at: http://arc-wm.nih.ac.uk/news-events/latest-news/wbs_innovation_in_healthcare_phd.pdf

Workshop Report: Using Data to Drive Quality Improvement in Healthcare

On 10 March 2021, a virtual workshop was held on using data to drive quality improvement in healthcare, jointly funded by NIHR ARC WM and Research England's Quality Related research fund.

This workshop focussed on the CLAHRC-ARC research evaluation of 'Making Data Count', which is an initiative that promotes the use of 'Statistical Process Control' (SPC) charts in healthcare (see prior news blog, [Feb 26 2021; 3\(2\):5-6](#)). Mohammed Mohammed, Professor

of Healthcare Quality and Effectiveness at the University of Bradford, gave a keynote talk. Our collaborators from NHS-Improvement/England shared their experience of implementing the initiative. We also presented the preliminary positive results of our evaluation and discussed next steps with the audience. Attendees were a mix of around 40 senior NHS analysts working on quality, academics, public contributors, and others generally interested in the role of data in decision-making.

National NIHR ARC Newsletter



The March issue of the national NIHR ARC newsletter is now [available online](#), with reports on supporting mothers with mental health issues; rehabilitation to help support COVID recovery; and a blog by Michele Harris-Tafri (ARC South London & ARC West Midlands) on [using electronic patient health records from maternity and mental health to improve care](#).

To subscribe to future issues, please visit: <https://tinyurl.com/ARCSnewsletter>.

Improving Outcomes When Care Homes Close

The University of Birmingham and the NIHR have [recently announced](#) a new £1.2 million study to explore what happens to older people and to care staff if care homes have to close, with a number of our ARC WM team involved.

The programme of research will explore what happens to older people and care staff when homes close, how best to manage closures in a

way that minimises negative outcomes for older people and families, and key lessons for Councils as they manage future closures.

Jon Glasby, lead, discusses this new programme in an [NIHR blog](#).

More information can be found on the [project website](#).

Improving the Meaningful Involvement of Patients and the Public in Systematic Reviews

Dr Alex Pollock, Senior Research Fellow, at the *Nursing, Midwifery and Allied Health Professions Research Unit* is giving a seminar at Warwick Evidence on **Tuesday 25 May, 11:00-12:00** over MS Teams.

Dr Pollock has particular expertise relating to systematic reviews of complex interventions, leading methodological work, completing and supporting systematic reviews across the Unit. She is an associate editor with the Cochrane Stroke Group and Co-ordinating Editor for Cochrane Stroke. Dr Pollock has an active interest in public involvement in research and

has led and contributed to a number of research prioritisation projects, including three with the James Lind Alliance. She led the ACTIVE project, funded by Cochrane Training, aimed at supporting review authors have meaningful involvement of patients and the public in systematic reviews.

If you would like to join, please contact: Mitra Murray, Warwick Evidence Project Manager, warwickevidence@warwick.ac.uk

Questions are welcome in advance.

Health Services Research UK Conference 2021

Registration is now open for this year's Health Services Research UK Conference, which will take place online from **6-8 July 2021**.

A wide range of live plenaries, workshops and discussion groups are being offered across the three days, as well as over 150 research presentations that which will be accessible on demand.

Plenaries will include:

- Long COVID: patient experience and the

developing research agenda.

- Meeting future challenges for the NHS workforce.
- Diversity and inclusion in health and care research.
- Science, evidence and government policy: lessons from the COVID-19 pandemic.

For more information, and to register, please visit: www.eventsforce.net/hsruk2021.

Recent Publications

Allen K, Damery SL, Sein K, Johnson DW, Davies SJ, Lambie M, Holvoet E, Combes GM. [How do patients and their family members experience the transition from peritoneal dialysis to in-centre haemodialysis? A multisite qualitative study in England and Australia.](#) *Perit Dial Int.* 2020.

Briggs ADM, Fraser C. [Is NHS Test and Trace exacerbating COVID-19 inequalities?](#) *Lancet.* 2021; **396**(10267): 1972.

Crawford-Manning F, Greenall C, Hawarden A, Bullock L, Leyland S, Jinks C, Protheroe J, Paskins Z. [Evaluation of quality and readability of online patient information on osteoporosis and osteoporosis drug treatment and recommendations for improvement.](#) *Osteoporos Int.* 2021.

Cruz Rivera S, Mercieca-Bebber R, Aiyegbusi OL, Scott J, Hunn A, Fernandez C, Ives J, Ells C, Price G, Draper H, Calvert MJ. [The need for ethical guidance for the use of patient-reported outcomes in research and clinical practice.](#) *Nat Med.* 2021.

Denis JL, Côté N, Fleury C, Currie G, Spyridonidis D. [Global health and innovation: A panoramic view on health human resources in the COVID-19 pandemic context.](#) *Int J Health Plann Manage.* 2021.

Elias TCN, Bowen J, Hassanzadeh R, Lasserson DS, Pendlebury ST. [Factors associated with admission to bed-based care: observational prospective cohort study in a multidisciplinary same day emergency care unit \(SDEC\).](#) *BMC Geriatr.* 2021; **21**(1): 8.

Lilford R, Nepogodiev D, Chilton PJ, Watson SI, Erlangga D, Diggle P, Girling AJ, Sculpher M. [Methodological issues in economic evaluations of emergency transport systems in low income and middle-income countries.](#) *BMJ Glob Health.* 2021; **6**: e004723.

Lyness E, Vennik JL, Bishop F, Misurya P, Howick J, Smith KA, Ratnapalan M, Hughes S, Dambha-Miller H, Bostock J, Morrison L, Mallen C, Yardley L, Leydon G, Little P, Everitt H. [Exploring patient views of empathic optimistic communication for osteoarthritis in primary care: A qualitative interview study using vignettes.](#) *BJGP Open.* 2021.

Mohamed MO, Roddy E, Ya'qoub L, Myint PK, Al Alasnag M, Alraies C, Clarson L, Helliwell T, Mallen C, Fischman D, Al Shaibi K, Abhishek A, Mamas MA. [Acute Myocardial Infarction in Autoimmune Rheumatologic Disease: A Nationwide Analysis of Clinical Outcomes and Predictors of Management Strategy.](#) *Mayo Clin Proc.* 2021; **96**(2): 388-99.

Nakafero G, Grainge MJ, Card T, Mallen CD, Zhang W, Doherty M, Taal MW, Aithal GP, Abhishek A. [What is the incidence of methotrexate or leflunomide discontinuation related to cytopenia, liver enzyme elevation or kidney function decline?](#) *Rheumatol.* 2021: keab254.

Nakafero G, Grainge MJ, Valdes AM, Townsend N, Mallen C, Zhang W, Doherty M, Mamas M, Abhishek A. [β-blocker prescription is associated with lower cumulative risk of knee osteoarthritis and knee pain consultations in primary care: a propensity score matched cohort study.](#) *Rheumatol.* 2021: keab234.

Swaithes L, Paskins Z, Duffy H, Evans N, Mallen C, Dziedzic K, Finney A. [Experience of implementing and delivering group consultations in UK general practice: a qualitative study.](#) *Br J Gen Pract.* 2021.

Taylor A, Taylor RS, Ingram WM, Dean S, Jolly K, Mutrie N, Lambert J, Yardley L, Streeter A, Greaves CJ, McAdam C, Price L, Anokya N, Campbell J. [A randomised controlled trial of an augmented exercise referral scheme using web-based behavioural support for inactive adults with chronic health conditions: the e-coachER trial.](#) *Br J Sports Med.* 2020.

Turner GM, McMullan C, Aiyegbusi OL, Bem D, Marshall T, Calvert M, Mant J, Belli A. [EXPRESS: Stroke risk following traumatic brain injury: systematic review and meta-analysis.](#) *Int J Stroke.* 2021.