ARC West Midlands News Blog

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Some years ago, two outstanding academic leaders, Peter Pronovost and Lord Ara Darzi, wrote an article in which they argued for an end of heroism in medicine. I responded in the pages of our previous CLAHRC WM News Blog along the lines of, be careful what you wish for.

I was reminded of this interchange by the evening celebration of health workers seen across many countries of the world during the COVID-19 pandemic. What were members of the public doing, if not allowing health service to feel just a little heroic? Quite right too, health staff risk their lives on an almost daily basis and have a higher mortality compared to other people of similar ages.

One recent morning I heard a poem about nurses on the radio. The poet was making the point that nursing is not just another profession. I have been a doctor and a patient and I can tell you that from my perspective being a doctor or a nurse is certainly not just another profession. Yes, it is a calling, even if the call comes from inside.

Doctors and nurses put their lives on the line when necessary. They will work all night. They will stay on at the end of the afternoon if they still have patients to see. These are the things we do, we like to do them, and we are admired for doing them. We put ourselves out and we go the extra mile. The patient is not a client, or rather they are privileged clients.

But let us also be aware of the dangers of heroism that might turn self-indulgent and become almost narcissistic. Leadership involves determining a course of action, often an unpopular or dangerous one, and then carrying people with you. Leadership can be demonstrated anywhere within an organisation. My business colleagues talk about dispersed leadership. I have both led people senior to me and I have been led by
people junior to me. So there is no room for arrogance in leadership and leaders must listen. They must listen to others and to that quiet, still voice within.

Can leadership be taught? James Stoller has conducted a systematic review of leadership training.[3] On self-reported outcomes, leadership training provides consistent improvement. But objective evidence is hard to find. People who have done leadership training are more likely to go on to senior management roles. But this hardly proves cause and effect. Indeed, trainees who score highly on leadership qualities, such as emotional intelligence at base line, are more likely to gain senior management positions than those with lower scores. So, I would guess leadership training helps a bit, but most of the variance is explained by innate characteristics.

References:
Writing in the BMJ,[1] Vince describes a dangerous, and soon to be dire, situation in the Cox’s Bazar Forcibly Displaced Myanmar Nationals (FDMN) camp with regards to the COVID-19 pandemic. The camp in South-East Bangladesh is, for the most part, very densely packed, making separation between people and families impossible. These families, often consisting of at least five people, live in rooms no larger than 16m², with almost no separation from other families – often just a thin sheet or a bamboo wall separates ‘households’. Compounding this, large numbers of different households share the same key resources, such as water and toilets, and queue in packed lines to access said resources, as well as key items such as food, cooking gas, and soap. Further, households and families are often multi-generational, making shielding of vulnerable members near impossible as somebody must venture out of the home for supplies.

Vince correctly states that a possible saving grace in the camp is the high percentage of inhabitants who are children, but tempers this by mentioning that malnutrition and other co-morbidities are widespread. In addition, I would suspect that a large number of the adult inhabitants have chronic diseases, such as diabetes and hypertension, due in large part to a lack of adequate healthcare both prior to coming to Bangladesh and also while in Bangladesh. Little evidence exists on this, however. Further, these chronic conditions are likely to be un(der)treated, due to barriers in accessing healthcare. When we visited Cox’s Bazar, we heard informally that people fear accessing healthcare in formal facilities due to their perceived...
risk of harassment and deportation. Instead, people often seek care at unlicensed pharmacies, but these facilities are likely to provide little effective treatment.

Vince goes on to discuss the interventions taking place in Cox’s Bazar, primarily messaging and the provision of facilities for handwashing. While the correct approach for the context appears to be taken regarding messaging (using respected community leaders), the roll-out of handwashing in such a large area is challenging. Although handwashing is likely to be a high impact and cheap intervention, it requires soap and water reserves to be refilled multiple times a day in order to ensure a continuous supply. Even if proper supply was achieved, which in itself is a gargantuan feat given the size of the camp and the camp’s proclivity to occasional unrest, I suspect that soap and water from communal handwashing stations would not be used consistently, particularly at night, due to fear of going outside while dark. This fear is mostly experienced by marginalised groups such as women, the elderly, and the disabled. Gender-based violence is a large threat to women in such environments when going outside at night to the toilet, resulting in using a bucket in the home.

In my opinion, which Vince also touches on, the biggest barrier to effective outbreak control in any such setting is the difficulty in testing, tracing and isolation. As Vince states, the testing capacity of Bangladesh is already very limited, with the FDMNs likely being the last group to receive the needed supplies. Regardless, I very much doubt that any FDMN would come forward for testing, especially given the threat of isolation if found positive. Akin to the threat of isolation, recent reports of refoulement back to Myanmar, and movement of the FDMNs to the Bhasan Char Island in the Bay of Bengal, create fear of standing out and great hesitancy in being made to go anywhere, even if that is for isolation. We’ve seen in nations around the world that testing, contact tracing and isolation are the only ways of stopping the spread of SARS-CoV-2 without a vaccine. However, this does not seem to be feasible in Cox’s Bazar.

So, what is the solution? If the FDMNs were given adequate rights on arrival, such as being able to live anywhere in Bangladesh and the right to work, we would not have this problem. Malaysia, for example, is home to a large Rohingya refugee population, but due to the legal ability of the refugees to live and work almost freely in urban settings, they do not see large outbreaks among the refugee population. In the camp setting, however, options are very limited—shielding and social distancing do not work due to multigenerational households, the need for supplies, and population density; and testing and isolation does not work due to mistrust. As Bangladesh has fewer than 2,000 ventilators, of which none are in Cox’s Bazar, COVID-19 is close to a death sentence for the elderly and those with chronic conditions. [2] In all honesty, other than the eventual vaccine, I see little recourse against the virus.

**References:**


2. Save the Children. COVID-19: Bangladesh Has Less Than 2,000 Ventilators Serving a Population of 165m, Warns Save the Children. 6 April 2020.
Researchers at the University of Ibadan in Nigeria have been sharing rapid research findings across national media outlets in the country to assist the government in making evidence-informed policy interventions in order to curtail the spread of COVID-19 in urban slums. Taming the spread of the virus in densely crowded urban slums, where many residents also have underlying health issues, is particularly challenging.

Through the NIHR Global Health Research Unit on Improving Health in Slums (directed by Prof Richard Lilford), the Nigerian team, led by Professor Akinyinka Omigbodun, swiftly mobilised to undertake some stakeholder engagement within three slum communities based in Ibadan and Lagos. Through this they aimed to determine their awareness of the virus, coverage of the government’s COVID-19 taskforce teams in the slums, and what could be done to limit the spread of the virus.

Reported findings included poor adherence to social distancing due to deteriorating socio-economic conditions by staying at home; scarcity of personal protective equipment; a reluctance to access healthcare facilities due to fear of contracting the virus; and also late presentation of the virus at facilities.

Recommendations by the research team for Lagos and Oyo state governments were the following:

- Consider measures to alleviate the social and economic deprivation experienced by slum dwellers in order to help them observe preventative measures to help stop community spread of COVID-19.
- For other states across Nigeria to follow the decision of Lagos state and pay enhanced hazard allowances to health workers.
• Distribute free hand sanitisers and face masks across urban slum communities.
• Set up COVID-19 testing facilities within slum communities to improve early detection of the virus and limit community transmission.

These findings were widely reported across the country, with articles published in ten national news outlets [1-10] and one state newspaper.[11] Within days of the newspaper articles appearing, the government’s relevant COVID-19 taskforce and communication commissioner went to the specific slum communities where the research took place to raise awareness of the virus, provide more information for residents, and to distribute free personal protective equipment, such as face masks and hand sanitisers.

The findings of this in-depth analysis are broadly in line with findings from a telephone survey that collected information on resident’s knowledge, attitudes, practices and needs around COVID-19 across households in five Nairobi urban slums recently published in the Conversation.[12]

Furthermore, a previous article published in an earlier issue of this News Blog,[13] authored by Profs Akinyinka Omigbodun and Richard Lilford, that advised against lock down in urban informal settlements in developing countries was picked up by the Tony Blair Institute for Global Change and incorporated in their advice to governments around the world.

References:
12. Austrian K, Abuya T. We wanted to know how coronavirus affects Nairobi’s slum residents. What we found. The Conversation. 5 May 2020.
On 1 April 2020, the NIHR launched its new Centre for Engagement and Dissemination. One of the key areas of activity for the new Centre is to run a series of ‘innovation projects’ that will harness the ‘best engagement and dissemination ideas coming from the community’.

Sophie Staniszewska, ARC WM’s Professor of Patient and Public Involvement and Experiences of Care, is proud to be leading one of the first innovation projects, which focusses on public involvement/engagement in commissioned research, in collaboration with Magdalena Skrybant, ARC WM PPIE Lead.

New innovation projects announced for the Centre for Engagement and Dissemination: Developing high quality commissioning of Public Involvement and Engagement in NIHR

Sophie Staniszewska, Professor of Patient and Public Involvement and Experiences of Care; Magdalena Skrybant, PPIE Lead

Why is it important to improve the quality of commissioning PIE?

Public involvement and engagement (PIE) is routinely included in research bids. Ideally, public contributors should be involved to shape initial research ideas and research designs, and bids should include well-thought out plans for how the public can be involved meaningfully throughout the project. However, the quality of the PIE commissioned within a study may not be provided in enough detail or scrutinised as closely as other aspects of the research, and there is a real danger that the potential for public involvement and engagement plans will not be fully realised. The reality of public involvement in a research project versus the intended vision for public involvement is often under-reported.
There are several reasons for this: the researcher may feel nervous about including an element to evaluate public involvement/engagement, or maybe there isn’t enough money in the budget. Poorly specified or poorly reported public involvement/engagement can represent a form of research waste, as valuable knowledge and experience is lost to the developing PIE evidence base, vital for enhancing PIE practice.[1, 2]

How can we achieve high-quality commissioning of PIE?

A key way in which we could improve the quality of PIE within studies is by setting clearer expectations within the commissioning process, for example by panels encouraging clarity about the aims and methods of PIE, two aspects required for high-quality reporting.[3]

At present:

• We do not have clarity on what commissioning panels should expect or ask for to ensure high-quality PIE is delivered within a study.

• We do not know whether the current NIHR Standards for Involvement support high-quality commissioning.

• We are also unclear whether there are wider organisational and system changes needed within the NIHR to support higher-quality PIE commissioning.

Developing such clarity could help panels commission high-quality PIE, so maximising value and avoiding research waste.

How will we deliver our project?

Our innovation project will address the lack of clarity on high-quality commissioning of PIE in the following ways:

1. We will work in partnership with our public contributors to develop a checklist to enhance the quality of PIE commissioning.

2. We will develop a set of organisational and system recommendations.

3. We will undertake a set of stakeholder interviews to identify the key aspects of high-quality commissioning that should underpin the checklist and organisational recommendations.

4. Throughout, we will explore whether the NIHR Standards for Public Involvement support high-quality commissioning.

We will disseminate the checklist and organisational recommendations across NIHR and internationally, enabling the implementation of the checklist and recommendations by funding panels to enhance the quality of the PIE they commission.

For further details on this project, please contact Sophie Staniszewska: sophie.staniszewska@warwick.ac.uk.

References:


The most recent Nobel prize for Economic Sciences was awarded to Banerjee, Duflo and Kremer. The ARC WM Director is a fan. These researchers have a long history of excellent randomised trials of social policy and economic interventions. One poorly recognised feature of the trails landscape is that trials do not only answer individual questions one by one, but can be synthesised across many interventions to learn more general scientific questions and develop theories that are broader than can be studied by any particular RCT.

ARC WM researchers have used this concept to compare the same treatment across different conditions, thereby discovering, for example, that adjuvant chemotherapy is effective across all cancers.[1] Similarly, trials of different methods to improve adherence with treatments for diabetes, have shown what works for whom where.[2] Synthesising evidence across a large range of individual economies or cities has come up with an important finding – that the gap in productivity between the highest and lowest performing institutions is much wider in low-then in high-income economies. It is easy to create one or two beacons of excellence, but much harder to ensure more pervasive high performance. This general rule likely applies also in the healthcare industry.

References:

Synthesising Evidence Across Trials

Richard Lilford, ARC WM Director

Synthesis Without Meta-Analysis

Richard Lilford, ARC WM Director

Another BMJ, another reporting guideline.[1] This one is really quite important because it deals with a somewhat nebulous area: that of synthesis without meta-analysis. The guideline seeks to make the synthesis more transparent, in an area that is inevitably subjective. While there is an inevitable overlap between a guideline for reporting and a guideline for the conduct of a study, the two are not equivalent and should not be treated as such. Readers are directed to chapter 12 of the Cochrane handbook for advice on the conduct of a synthesis without meta-analysis.[2]

The authors writing in the BMJ, eschew the term ‘narrative synthesis’. I agree with them, all research must synthesise a story in narrative form and the term is used to cover up all sorts of sloppy practice.

References:
There is a fear that we are becoming an increasingly sedentary society, with a number of studies linking time spent sitting with a higher risk of cardiovascular disease, for example.[1] Some have suggested that the human body did not evolve to being sedentary, even though evolutionary pressures should favour such energy-minimising strategies.

To shed light on this, a team of researchers examined inactivity in the Hadza people, an indigenous ethnic group in Tanzania, who are one of the last hunter-gatherer societies remaining.[2] They found that people from both the Hadza tribe and from industrialised populations have similar levels of total non-ambulatory time. However, people from the Hadza tribe predominantly spent this ‘sedentary’ time in ‘active rest’ postures, such as squatting. These postures required significantly more levels of lower limb activity than the equivalent time sitting in a chair.

The authors propose an ‘Inactivity Mismatch Hypothesis’, proposing that human physiology could be adapted to consistently active muscles derived from physical activity and non-ambulatory postures with extensive muscle contraction. This hypothesis may offer a route to reducing the negative impacts associated with our own inactivity.

References:

ARC WM Quiz

Which patron saint of plagues was also patron saint of dogs?

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

Answer to previous quiz: The virus responsible for COVID-19 is thought to have passed from bats to humans via pangolins. Congratulations to Herbert Evans who was first to answer correctly.
A recent RCT in the BMJ reported a reduction in migraine in patients receiving acupuncture compared to those receiving sham acupuncture.[1]

The trial was small, at less than 100 participants, and the improvement modest. The applicants make a claim that the participants could not distinguish between sham and real acupuncture, because when asked there was no significant difference in detection between the two groups.

However, neither the applicants, nor the writer of an accompanying editorial,[2] point out the obvious fallacy in such a conclusion. The statistical comparison is woefully under powered to detect a difference in detection rates that might be sufficient to skew the results. In fact, the direction of the effect was such that four people were not fully taken in by the sham procedure.

Many acupuncture trials have a three-way comparison: control, sham and full acupuncture. They seem to show a pattern of increasing effect across these three groups. A plausible explanation, for at least part of the effect, is that a proportion of people in the sham group suspect that this is the case, thereby reducing the placebo effect, which is not reduced in the full acupuncture group. It would be interesting to carry out a multi-indication systematic review across all acupuncture trials.

References:

Should we Trust Sham Acupuncture in Acupuncture Trials?
Richard Lilford, ARC WM Director
I am grateful to Fergus Hamilton for drawing an important paper in Nature to my attention.[1] This paper compares models of the spread of an epidemic according to assumptions about the variance in infectivity from one infected person to another. $R_0$ represents the mean infectivity of an infected person, but some infected people seldom spread the disease, while others are super spreaders.

In this paper, a model, which assumes a symmetrical distribution of infectivity around the mean, is compared with more realistic models, which are heavily right skewed towards super spreaders.

The skewed models, when compared with symmetrical models, predict much more rapid spread and shorter lasting epidemics.

Data for the COVID-19 pandemic are not yet available. However, the degree of skewness is available for many other diseases. For example, plague is not very skewed; the proportion of transmissions due to the most infectious cases is relatively low. On the other hand, measles and SARS are more skewed, and over 80% of transmissions are caused by just 20% of infected people.

Heterogeneity of infectiousness can explain why only about 20% of spouses catch the disease when living with an infected partner. One hopeful corollary is that a disease can be extinguished when $R_0$ is greater than one, if infectiousness is highly variable across the population. That said, quarantine can increase heterogeneity, favoring extinction but risking further sporadic outbreaks.

Reference:
Fellows at Academy of Medical Sciences

The Academy of Medical Sciences have recently announced their list of newly elected Fellows, the UK’s most prominent biomedical and health scientists. Among those elected include Prof Christine MacArthur, Professor of Maternal and Child Epidemiology at the University of Birmingham and researcher for our Maternity Services theme. Speaking of her election, Prof Christine MacArthur said:

“I am very pleased to receive this award and particularly delighted for the recognition it gives to research on maternal health and the problems that women can experience after childbirth. I have no doubt that this award also recognises the collaboration and support of the many colleagues that I have worked within my time at the University of Birmingham.”

Congratulations to Christine, and all the other Fellows.

Movie Award

A case study on psychosis, conducted under our predecessor CLAHRC West Midlands by Prof Swaran Singh (Integrated Care in Youth Mental Health theme), was recently adapted into a short film entitled ‘Command and I Shall Obey’. Satyakam Anand, the actor who played the part of Balram, has been announced as the winner of the Best Actor Award at the prestigious 10th Dada Saheb Phalke Film Festival - 2020 in India. Congratulations to all involved.


The NIHR will soon launch a new funding call for Artificial Intelligence for Multiple Long-Term Conditions (AIM). This will spearhead the use of advanced data science and AI methods, combined with existing methodology and expertise in clinical practice, applied health and care research and social science, to systematically identify or explore clusters of disease and trajectories to develop insights for the prevention, identification, management and treatment of multiple long-term conditions (multi-morbidity) - MLTC-M.

The call is organised into two main funding streams:

- **Research Collaborations**: up to £2.5m is available for Research Collaborations delivered over a period of up to 30 months.

- **Development Grants**: up to £150k for up to 9 months is available to undertake preparatory work to develop a future programme of research (e.g. develop collaborations, data access and linking, proof of concept/feasibility work) but broader ranging development work is permitted.

A third funding stream is expected to be included to establish an expert Research Support Facility that will provide centralised technical (e.g. AI focussed), methodological and organisational support to successful applicants.

The draft specification can be found online at: [nihr.ac.uk/documents/nihr-artificial-intelligence-for-multiple-long-term-conditions-aim-clusters-call-research-specification/24646](http://nihr.ac.uk/documents/nihr-artificial-intelligence-for-multiple-long-term-conditions-aim-clusters-call-research-specification/24646).

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**Co-funded Advanced (post-doctoral) Fellowship (NIHR)**

The Joint NIHR Dunhill Medical Trust Advanced (post-doctoral) Fellowship is aimed at anyone with a PhD who hasn’t yet been awarded a chair. Whether you are someone who has recently been or about to be awarded a PhD, or someone with several years of post-doctoral experience, the scheme is particularly suited to:

- Individuals who have recently completed or soon to be awarded a PhD, but haven’t yet established themselves as an independent researcher.

- Individuals either starting to establish themselves as an independent researcher, or who are already established as an independent researcher but are not yet recognised as an international leader in their field.

- Individuals looking to transition into applied health research from a basic science or non-health research background.

- Individuals who are seeking to re-establish their research career following a significant career break.

The deadline for proposals is 29 July 2020.

More information can be found at: [dunhillmedical.org.uk/research-fellowships/co-funded-rtfs/](http://dunhillmedical.org.uk/research-fellowships/co-funded-rtfs/).