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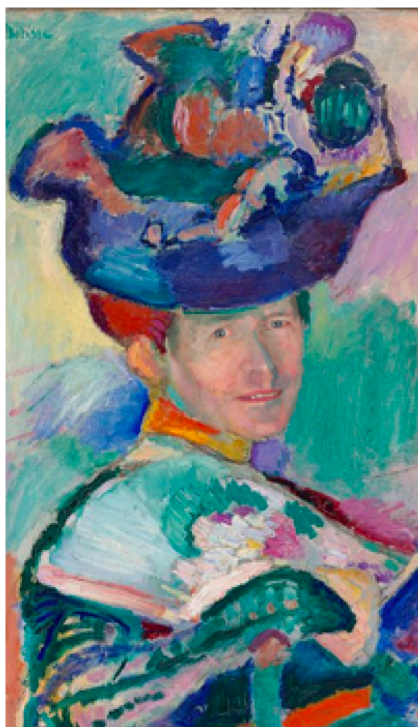
Welcome to the latest issue of your NIHR CLAHRC West Midlands News Blog.



In the latest issue of our News Blog we discuss whether we need an end to GPs' fixed consultation periods. We also feature a guest blog on perception bias; and look at recent papers on getting evidence into practice; controversy around genetically modified rice; the use of synthetic controls; a quality improvement study in a middle-income country; and the problems with SMRs and preventable deaths.

Further, we continue our Methods Matters series, looking at the concept of relative and absolute risk; highlight a PPI Adviser opportunity; bring you the latest news and upcoming events; profile Jennifer Cooper; list some of our latest publications; display some recent Tweets; and have our CLAHRC WM Quiz.

We hope that you find these posts of interest, and we welcome any comments. You can find previous issues of our News Blog here.

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Director's Blog

What is a GP for? – The End of the Fixed Consultation Period?

General Practitioners throughout the UK provide ten-minute consultation slots by default. An increasing portion of patients are seen for chronic disease and increasingly routine consultation are carried out by practice nurses. Telephone consultations are routine in many practices. The idea is that the GP should see the more complex cases. In theory this skill substitution should liberate time allowing GPs to provide larger default slots to patients. However, this has not happened, likely because demand has increased. Given that a further expansion in the GP cadre is not going to happen any time soon, should this state of affairs be accepted? It seems to me that the status quo cannot be endured – at least not without concerted effort to change it.

Consider first the patient. Can the needs of the patient really be met in such a short consultation unless they are very straightforward? And if they are straightforward, then is a highly trained and expensive professional needed? Dealing with depression, managing refractory blood pressure in a diabetic patient who is also complaining of a sore foot, counselling a patient who is considering whether or not to have a third round of chemotherapy – these are not ten minute tasks, but they are the stuff of primary care.

If you cannot provide compassionate care in five minutes, then how can you make a diagnosis? You need to record the symptoms, ask the patient to undress, elicit signs, and think about what it all means. Twenty-two percent of cancers present as emergencies,[1] and many of these patients have been seen by GPs before presentation.[2]

And what about the provider? I am consumer-orientated by philosophy, but at some point the provider interest becomes the consumer interest. Imagine consulting all day long, five days a week, for 45 years, at six patients per hour! Contrast that with an

"old-fashioned" doctor; deliver a baby, consult in rooms, set a fracture, few more consultations, home visits.

Back in the 1950s the great Michael Balint spotted the problem. He advocated fewer consultations in greater detail for non-psychotic mental illness.[3] [4] So the idea is not new, and the challenge now is to find a way to make best use of advanced medical skills. Lots of things that seemed inviolate have been changed by human agency – the closing of the great mental asylums to be replaced by community care, for example. So let's model how the service could look based on real patient lists. Then let's simulate different methods to change the pattern of care, invoking plentiful skill substitution and perhaps greater reliance on technology and self-help. Then we could pilot it and finally roll it out, seeking buy-in from professional bodies. In fact, reverse that – let the professional bodies make the running while researchers in organisations such as CLAHRCs provide scientific ballast.

-- Richard Lilford, CLAHRC WM Director

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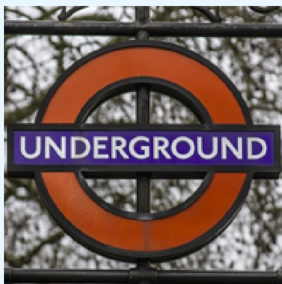

CLAHRC WM Quiz

A classic example of natural selection in action is the effect the Industrial Revolution had on the evolution of the peppered moth, resulting in two distinctly coloured sub-species. Another example has been seen on the London Underground, but in which animal?

Email CLAHRC WM your answer.

Answer to our previous quiz: The sheep/goat disease **scarpie** has the potential to infect humans, causing a disease similar to sporadic Creuzfeldt Jakob Disease. More can be read online. However, as some readers have noted, other diseases, such as Brucella, Chlamydiosis, Campylobacter, orf, and toxoplasmosis, can also be transmitted from sheep to humans.

Congratulations to Alan B Cohen, Alan Hargreaves, Aileen Clarke and Maggie Prain who sent in correct answers.

Perception

Bias is something that affects us all; its all-pervasive nature means it influences everything we do from supermarket choices through to study design. But what of perception? Bias might lead the result of our study to be skewed or flawed, but if our perception of where the issue lies is incorrect we may select the wrong thing to study. So, how wrong can our perception be? Well, very, according to IPSOS MORI and their annual Perils of Perception report for 2015.[1]

This report polls members of the public in 33 countries on their understanding of key issues affecting their nation. The results show a significant gap between perception and reality across a number of issues that specifically relate to society and health in Great Britain.

Our perception of the distribution of wealth was one of the most distorted views. When asked what proportion of wealth the top 1% of the population own the guess was 59%, more than twice the true figure, which is 23%.

On immigration the perception of Britons is that 25% of the population are immigrants, nearly double the actual figure of 13%.

We also know we have an ageing population, but perhaps not to the extent we believe. The estimate of the average age of the population was 51 years old, when it is in fact 40.

With regard to obesity we may be complacent; the average estimate of the proportion of people over the age of 20 who are overweight or obese was 44% when it is in fact 62%.

And before you think that the Great British Public are better or worse than elsewhere, we are not. Ranked 16th of 33 countries in IPSOS MORI's provocatively titled “Index of Ignorance” we are firmly in mid-table. If you are reading the blog from either Ireland or South Korea (ranked 27th and 28th) you potentially have a better perception of issues affecting your nation than if in Mexico, India and Brazil who occupy the top 3 positions. But this is not an issue that is delineated along boundaries of low-, middle- or high-income countries in case you were to infer that from the results: New Zealand is ranked at number 5 and Belgium at number 7.

So this is all good fun, interesting stuff, but what does it mean? Well certainly not that we should quietly reassure ourselves that we would have been much closer to the real figure than most of the population. Bias and perception issues are at their most insidious when we fail to acknowledge that we may be subject to them.

These findings are in fact an endorsement of the way, as CLAHRCs, we structure what we do. By bringing together academics, patients and those involved in delivering care, we challenge each others perceptions of the issues related to service delivery. That way we can work collaboratively to solve that issues that are in fact real issues, rather than those which we perceive to be the issue.

-- Paul Bird, CLAHRC WM Head of Programme Delivery (Engagement)

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Director's Choice - From the Journals

Getting Evidence into Practice

In the early days of CLAHRCs, '*getting evidence into practice*' was an important objective. We set about closing the T2 gap and used implementation science to get doctors to prescribe evidence-based care, dentists to use tooth protecting resins, and nurses to make regular observations. That is to say, we were concerned with how to make practitioners comply with standards over which they had complete jurisdiction. Theories of individual behaviour change were invoked, and rather then choose a theory on the basis of its impressive sounding title (e.g. prospect theory, social network theory), a framework was developed to identify barriers and facilitators of change.[1]

But practitioners increasingly follow the evidence when it is compelling and when the evidence-based standard is in their gift.[2] So, the big (and much more interesting) problem now is how to change the service in a generic way rather than simply to increase performance on a specific measure - we are becoming more concerned with draining the swamp than zapping individual mosquitoes.[3] In our CLAHRC we recently evaluated a compound (multi-component) intervention to improve home dialysis rates, having promulgated a guideline supporting improved access to such a service. We showed that agreement with the proposed change among stakeholders, an agreed implementation plan, managerial support, and product champions all facilitated the success of the intervention in taking West Midlands from the worst to the best performing region in England. However, the king of all intervention components was a financial incentive.[4] Fulop and colleagues have now published a similar multi-methods evaluation of an arguably even more complex intervention to improve access to acute stroke care.[5] The findings are very similar, save that we found more emphasis on financial incentives and also more problems in

communication with patients; something that would perhaps not stand out in the hyper acute stroke context. The Fulop paper is an advance on ours in (at least) two respects. First, they compare and contrast across two regions/CLAHRCs and I always think controls should be used if possible; even one is better than none. Second, they illustrate the causal model with diagrams that make the theoretical framework they are using clear, a practice that is helpful in communicating the very real distinctions between the intervention as planned, its implementation/adaption, its upstream effects (e.g. staff knowledge/morale), its downstream effects (at the patient 'level'), and the context in which all takes place.[6] People muddle these concepts and hence fall over their feet, but Fulop and colleagues have shown themselves to be sure-footed!

-- Richard Lilford, CLAHRC WM Director

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References

Golden Rice Controversy

Genetically modified rice – called 'golden rice' – can increase yields and, since it produces beta-carotene, can prevent the sequelae of vitamin A deficiency that is common in those with a predominantly rice-based diet. For an interesting article on the controversy over use of this GM crop in Bangladesh, and its potential costs-benefit, please read Uttam Deb's article from the Copenhagen Consensus Center.[1]

-- Richard Lilford, CLAHRC WM Director

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Reference

The Synthetic Control: an Important Statistical Method for Cluster Interventions when Randomised Controls are not Available

Consider an intervention or event that has occurred in a single site, such as one state in the US. The standard method for evaluation of the effects would be to compare aggregate outcomes across the intervention site and control sites. The synthetic control method is a refinement of this standard approach. Here pre-intervention data from controls is used to determine a weighted average of the *controls* that reproduces the pre-intervention trend in the intervention site.[1] In this way the outcome observed in the intervention sites is compared with the intervention that would have been expected in the intervention sites if it behaved in the same way as the synthetic control. The synthetic control can be considered the counter-factual outcome at the intervention site. The choice of controls is not left to the investigator and the difference in expected outcomes between the intervention and the control units is made explicit. The method reminded me of propensity scoring in clinical

epidemiology, in the sense that both methods seek to provide an unbiased estimate of the treatment effect.

-- Richard Lilford, CLAHRC WM Director

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Reference

A Proper Large-Scale Quality Improvement Study in a Middle-Income Country

The vast majority of studies testing an intervention to improve quality/safety of care are conducted in high-income countries. However, a cluster RCT of 118 Brazilian ICUs (6,761 patients) has recently been reported.[1] The intervention was compound (multi-component), involving goal setting, clinician prompting, and multi-disciplinary ward rounds. Although mortality and other patient outcomes were not improved, clinical processes (e.g. use of appropriate settings on the ventilator and avoidance of heavy sedation) did improve. The nub of my argument is that clinical outcomes are insensitive indicators of improved practice, and we should be content with showing improved adherence to proven care standards – the argument is laid out numerically elsewhere.[2] The safety and quality movement is doomed so long as we insist on showing improvements in patient level outcomes.

-- Richard Lilford, CLAHRC WM Director

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References

On Standardised Mortality Ratios and Preventable Deaths

Helen Hogan has summarised the problems with both Standardised Mortality Ratios (SMRs) and preventable deaths, and News Blog readers might like to read her report.[1] The signal to noise ratio with SMRs is lousy so they don't even qualify as a screening test and would not pass the NHS screening committee – not by a wide margin.[2] Case-note review of deaths to determine preventability is fraught with difficulties relating to measurement error.[3] Neither is a good option, but if I had to choose I would go for case-note review every time. Why? Because at least it provides learning about quality of care issues. For example, we found problems with failure to use non-invasive ventilation and excessively rapid lowering of high potassium levels in our reviews of case-notes.[4] These provide real learning opportunities akin to the excellent clinical review meetings we would conduct when I was a young doctor on the medical wards.

-- Richard Lilford, CLAHRC WM Director

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Method Matters

Last issue we launched Method Matters, which attempts to explain concepts used in applied health research in a light, accessible format. Thank you for the feedback received so far; if you have any further feedback, suggestions for topics to cover, or how we can present these, please contact Magdalena Skrybant (PPIE Lead) at: m.t.skrybant@bham.ac.uk *- we'd love to hear from you!*

Risky Business: Absolute Risk, Relative Risk and Making Sense of Headlines

"Glass of wine a day increases breast cancer risk"
"Two fizzy drinks a week '...raise your chance of ... pancreatic cancer by 87%'"
"Too much tea can treble cancer risk in women"

It seems that every day there's another attention-grabbing headline telling us that something we consume or do is harmful to us. In the examples above, drinking tea, fizzy drinks or a glass of wine are all said to increase our chances of getting cancer. But how can we make sense of the headlines?

When we talk about risks, there are two important concepts: **absolute risk** and **relative risk.** The chances of something happening is known as the absolute risk. The relative risk is how much more or less likely this is to happen. **In order to make sense of your *relative risk*, you need to know the *absolute risk*.**

Let's imagine that I'm enjoying my breakfast - two pieces of white toast and a bowl of cornflakes - when I read the headline '*White bread and cornflakes increases risk of lung cancer by 50%*'. My initial reaction would probably be one of shock. Fifty percent - that's a lot! But the newspaper headline is only giving me half of the information: it's only telling me my **relative risk.** So, I know that I am 50% *more likely* to get lung cancer if I eat cornflakes and white bread than someone who doesn't, but I'm still none the wiser as to what my chances of getting lung cancer are in the first place. How will I know whether to ditch the cornflakes and white bread in favour of porridge and a banana?

Let's imagine the **absolute risk** of getting lung cancer is 10% (ten in every hundred people). If my risk of getting lung cancer increases by 50% if I eat white bread and cornflakes (relative risk), my risk of getting lung cancer increases to 15% (fifteen in every hundred people).

Now let's imagine the **absolute risk** of getting lung cancer is 1% (one in every

hundred people). If my risk of getting lung cancer increases by 50% if I eat white bread and cornflakes (relative risk), my risk of getting lung cancer increases to 1.5% (one and a half people in every hundred people). Now I know you can't have half a person, but you can see from the example above that if there is a low absolute risk, even a big relative risk might not make that much of a difference to convince me to change my habits.*

So, I'm off now to increase my chances (my relative risk) of winning the lottery by 100% by going out and buying two lottery tickets instead of just one. But before I get too excited and start planning how to spend all those winnings, I'll just check my chances of winning the lottery in the first place (my absolute risk). With the chance of winning the national lottery at 1 in 14 million, by buying two tickets, I increase my chances of winning to 2 in 14 million. Maybe I should curb my enthusiasm...

-- Magdalena Skrybant, PPIE Lead

** Examples are for illustrative purposes only. See Cancer Research UK for more information on cancer statistics.*

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PPIE News

PPI Adviser Opportunity

CLAHRC WM are recruiting a new PPI Adviser for Theme 4, Chronic Diseases, to join the four existing Advisers on the theme. Theme 4 aims to evaluate new ways of delivering integrated care to people with long-term conditions, and of improving patient well-being. Finding new, sustainable and cost effective ways of managing people with long-term conditions is increasingly being recognised as the next big challenge for health and adult social care. Many people with long-term conditions have complex needs because they have more than one condition and need services across hospitals, general practice, community services and social care. However, many people's experience is that care is fragmented and not integrated across different services. More information on Theme 4 is available online.

Meaningful patient and public involvement is essential to ensuring that research is more relevant and cost-effective. We are looking to recruit an enthusiastic and committed PPI Adviser who will work with our existing Advisers to ensure that the patient voice is present at all stages of the research cycle: from generating research ideas, designing the research, evaluating research data, right through to disseminating and implementing research findings.

Our PPI Advisers contribute their knowledge, skills and unique experiences as a patient or member of the public to research projects. Experience of long-term conditions or chronic disease (either living with a condition or caring for/assisting

someone with a chronic condition/long-term disease) is not essential, but would be an advantage. Additionally, the PPI Adviser will be a member of our PPI Supervisory Committee, who ensure that the patient and public voice is represented at all levels of CLAHRC WM.

CLAHRC WM value the contributions of our Advisers, and Advisers will be reimbursed for their time and expenses. More information on PPI in CLAHRC WM is available online.

How do I apply?

A full role description of the PPI Adviser is available online.

To apply for the Patient and Public Involvement Adviser post, please complete this short application form. The deadline for applications is **17:00 Friday 29 July 2016**.

Candidates shortlisted for the position will be invited to attend an informal interview at the University of Birmingham.

For further information on PPI, please contact Magdalena Skrybant (PPIE Lead) at: m.t.skrybant@bham.ac.uk or +44(0)121 414 6026.

For further information on Theme 4, or the PPI Adviser role in the theme, please contact Francesca Taylor (PPI Liaison for Theme 4) at: f.taylor@bham.ac.uk or +44(0)121 414 7661.

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News

Nurses, Midwives and Allied Health Professionals in Clinical Academic Research

A sub-group for nurses, midwives and allied health professionals (AHPs) has been formed within CHAIN (Contact, Help, Advice and Information Network) with support from the NIHR Clinical Academic Training Advocates to encourage greater linkage across communities, to promote clinical academic research, and to help and support those wanting to apply for NIHR awards and other sources of research funding. The sub-group will operate for the benefit of the membership and will seek to extend the formal and informal links and facilitate the sharing of intelligence and access to advice across and within these professional groups.

Advocates, and their students, who are not already CHAIN members are invited to join by completing this form (choosing the sub-group for '*nurses, midwives, and allied health professionals*').

NIHR Knowledge Mobilisation Research Fellowships

A new round of Knowledge Mobilisation Research Fellowships will open on **Wednesday 20 July** *(deadline 15 September 2016)*, and there will be a webinar for aspiring award holders ahead of the launch on **Thursday 7 July at 11:00 -** see Events below for more details.

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Events

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7 July 2016, 11:00
NIHR Knowledge Mobilisation Research Fellowship Webinar
Online

A new round of Knowledge Mobilisation Research Fellowships will open on **Wednesday 20 July** *(deadline 15 September 2016)*, and there will be a webinar for aspiring award holders ahead of the launch on **Thursday 7 July at 11:00**. The webinar will cover:

- An overview.
- Eligibility requirements.
- Previous applications.
- Things to consider prior to applying.
- A live question and answer session - questions can be sent in advance by emailing tcc@nihr.ac.uk with the subject line 'KMRF Programme webinar question'.

To register for the webinar please vist: http://bit.ly/KMRFwebinar

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12 July 2016, 10:30-15:00
LYNC Study Consensus Conference
Coin Street Conference Centre, London

The LYNC Study observed and interviewed nearly 200 health care professionals across the UK who were working with young people living with long term conditions, including diabetes, cancer, mental illness, liver disease, kidney disease, blood disorders, cystic fibrosis, inflammatory bowel disease and arthritis. The research team will share the LYNC findings and ask for guidance on delivering digital care services in the NHS.

For more information, and to register to attend, please visit: https://www.eventbrite.co.uk/e/lync-study-consensus-conference-tickets-25812628266.

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Profile

Jennifer Cooper

Miss Jennifer Cooper is a PhD student based within the Division of Health Sciences at Warwick Medical School and funded by the NIHR CLAHRC West Midlands. She obtained her BSc in Biological Sciences from the University of Warwick in 2011 where her final year project focussed on diagnostic tests for bacteria in Cystic Fibrosis patients, followed by an MSc in Management from Warwick Business School in 2013. She has previously worked at Warwick Clinical Trials Unit on ‘PETNECK’, a multicentre, randomised phase III trial for head and neck cancer patients. Her research interests include cancer screening, diagnostics/test performance, electronic health records and risk prediction models.

Jennifer’s PhD research focuses on improving the performance of colorectal cancer (CRC) screening through a risk adjusted testing approach. A new screening test (faecal immunochemical test – FIT) has been piloted in the UK showing improved uptake and the ability to detect more cancers and advanced adenomas. As of January 2016, the NSC (National Screening Committee) has recommended a change from the current gFOBT (guaiac faecal occult blood test) to the FIT. Jennifer is using this FIT pilot data to determine whether incorporating routinely available risk factors (such as age, gender, IMD from postcode and screening history) with the screening test improves test performance by developing a risk prediction model. This model will then be developed further using more complex statistical techniques, including neural networks, to take into account potential non-linear associations. She is also collecting lifestyle data (such as smoking, alcohol consumption & dietary factors) to determine whether this improves the algorithm further.

Jennifer has recently been awarded the NIHR Infrastructure Doctoral Training Exchange Scheme Award where she will be using the THIN database (anonymised electronic GP records) under Professor Tom Marshall and Dr Ronan Ryan based at Birmingham University. She will be determining the feasibility and accuracy of using electronic GP record data in a risk prediction model for CRC screening referral and investigating the value of using the FOBT in symptomatic patients based on NICE guidelines.

Outside of research, Jennifer has represented GB at American Flag Football at the 2015 European Championships in Spain and is a passionate fitness instructor.

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Fortnight's Publications & Grants

Aldridge C, Bion J, Boyal A, et al. Weekend specialist intensity and admission mortality in acute hospital trusts in England: a cross-sectional study. *Lancet*. 2016. [ePub].

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Tweets

Symposium on innovation in health care kicks off in Italy. We have representatives presenting from Warwick #healthprato @health_arc

-- *CLAHRC West Midlands, 29 June 2016*

Zoe Gray on key features of INVOLVEs new national to local way of working, underpinned by established values http://tinyurl.com/guxxyu6

-- *NIHR INVOLVE CC, 29 June 2016*

Six ways in which NHS financial pressures can affect patients' access to high-quality care [Link]

-- *The King's Fund, 23 June 2016*

The A-Z of the NIHR is now complete! Download a poster of the full A-Z here: www.nihr.ac.uk/about/a-z-of-the-nihr.htm #NIHRat10

-- *NIHR Research, 22 June 2016*

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