



VIEWS AND REVIEWS

TAKING STOCK

Rammya Mathew: We must not be guided by bad science on covid-19

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The covid-19 pandemic has forced the scientific world to make a huge number of decisions in an unimaginably short time. At the mercy of this new virus, and in our haste to respond, has bad science resurfaced and adversely influenced decision making, at both policy and practice level?

In the early stages of the pandemic we didn't always separate anecdote from evidence. Concerns about NSAIDs spread quickly, and oral steroids were unnecessarily withheld from patients exacerbating with asthma or chronic obstructive pulmonary disorder. Information now travels more quickly than ever, but reliable and false information both spread at pace, so we all need to judiciously appraise new information and not take what we read at face value. Many clinicians commented that messages forwarded on WhatsApp detailing one clinician's experience had somehow superseded level 1 evidence. In hindsight, we should have waited cautiously for more evidence to inform whether a change in usual practice was warranted—and been less influenced by conjecture.

An example of bad science at policy level has been the interpretation of antigen and antibody test results. Despite scientists explaining the rationale for considering pre-test probability when interpreting reverse transcription polymerase chain reaction (RT-PCR) results,¹ the NHS test and trace service continues to disregard this—and, as a result, is wrongly advising many infected patients that they no longer need to self-isolate. Similarly, a positive antibody result is seemingly viewed as an immunity passport, even by fellow healthcare professionals. Yet at present we don't know whether this confers immunity or, if it does, how long that immunity lasts.

Finally, we risk misinterpreting association as causation. The OpenSAFELY² and ISARIC³ datasets provide valuable insights into the risk factor profiles associated with poor outcomes in covid-19, but we must be careful not to interpret this as

causality. The UK's prime minister, Boris Johnson, has committed to a “war on fat” as part of the covid-19 strategy,⁴ in light of evidence suggesting that obesity is a key risk factor for poor outcomes. Any investment directed at targeting obesity is welcome, but it's important to question the basis for this when we don't know of any interventions that could feasibly reduce the prevalence of risk factors, such as obesity, during the lifetime of this pandemic. And we don't know whether the risk of poor outcomes related to covid-19 diminishes in line with an improvement in risk factor profile—making this yet another poorly thought out political decision.

The pandemic requires us to act decisively but, in the haste to do something, we shouldn't forgo the basics. Clinicians and academics still need to scrutinise the quality of decision making around the pandemic. Our collective voices are needed to ensure that we are indeed being “guided by the science” and that this isn't just rhetoric used by politicians to defend their positions.

Competing interests: I co-lead Islington GP Federation's Quality Improvement Team.

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- 1 Watson J, Whiting PF, Brush JE. Interpreting a covid-19 test result. *BMJ* 2020;369:m1808. <https://www.bmj.com/content/369/bmj.m1808.32398230>
- 2 Williamson E, Walker AJ, Bhaskaran KJ, et al. OpenSAFELY: factors associated with COVID-19-related hospital death in the linked electronic health records of 17 million adult NHS patients. *medRxiv* 2020.05.06.20092999; 10.1101/2020.05.06.20092999. <https://www.phc.ox.ac.uk/publications/1103408>.
- 3 Docherty AB, Harrison EM, Green CA, et al. ISARIC4C investigators. Features of 20 133 UK patients in hospital with covid-19 using the ISARIC WHO Clinical Characterisation Protocol: prospective observational cohort study. *BMJ* 2020;369:m1985. 10.1136/bmj.m1985 3244460
- 4 Stewart H, Walker P. Labour welcomes PM's “conversion” on obesity after coronavirus scare. *Guardian* 2020 May 15. <https://www.theguardian.com/politics/2020/may/15/labour-welcomes-pms-conversion-on-obesity-after-coronavirus-scare>.

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