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# Good science, bad science

The pandemic has generated a dangerous infodemic

THE covid-19 pandemic has upended many of the things that we once took for granted, but perhaps the most insidious is what it is doing to our ability to tell fact from fiction.

Science remains the best tool we have – though by no means a perfect one – for creating reliable knowledge. It is playing a central and mostly heroic role in the fight against the coronavirus. Yet it is also becoming hard at times to sort good science from bad, and worthwhile hypotheses from conjecture, hyperbole and nonsense. The result is widespread confusion and scarce resources being squandered (see page 12).

There are many causes of this, but the main one is that masses of people suddenly have access to raw scientific information – without necessarily knowing how to judge it – plus the

tools to spread their opinions of it far and wide. This isn't an elitist gripe, merely a simple statement of fact: becoming, say, an epidemiologist takes many years of education, not a week scanning scientific preprint studies and a working knowledge of spreadsheet graphing tools or Twitter.

**"Masses of people suddenly have access to raw scientific information, plus the tools to broadcast their opinions"**

Posting research to preprint servers is also to blame. Science has embraced them as a way of quickly disseminating preliminary findings. That works well when only other qualified scientists (and science journalists) are paying attention. But when the world

is thirsting for knowledge, it can fail.

There are no easy fixes, yet scientists are increasingly recognising what is going wrong and taking action. They need help, though. Non-scientists have many roles to play in defeating the virus, but becoming armchair scientists isn't one of them. If we are to develop, say, a robust testing regime (see page 10) or behavioural science interventions for staying safe (see page 38), scientists must be allowed to disseminate their findings without fear of being horribly misrepresented or misinterpreted.

Once the covid-19 pandemic is over, investigations will delve into what went wrong and how to prevent similar crises from ever happening again. These must take a hard look at the so-called infodemic of poor information that has helped make a bad situation that much worse. ■

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