

Kent Academic Repository

Full text document (pdf)

Citation for published version

Marques, Mathew, Douglas, Karen and Jolley, Daniel (2022) Practical recommendations to communicate with patients about health-related conspiracy theories. *Medical Journal of Australia*. (In press)

DOI

Link to record in KAR

<https://kar.kent.ac.uk/93561/>

Document Version

Author's Accepted Manuscript

Copyright & reuse

Content in the Kent Academic Repository is made available for research purposes. Unless otherwise stated all content is protected by copyright and in the absence of an open licence (eg Creative Commons), permissions for further reuse of content should be sought from the publisher, author or other copyright holder.

Versions of research

The version in the Kent Academic Repository may differ from the final published version.

Users are advised to check <http://kar.kent.ac.uk> for the status of the paper. **Users should always cite the published version of record.**

Enquiries

For any further enquiries regarding the licence status of this document, please contact:

researchsupport@kent.ac.uk

If you believe this document infringes copyright then please contact the KAR admin team with the take-down information provided at <http://kar.kent.ac.uk/contact.html>

**Practical recommendations to communicate with patients about health-related
conspiracy theories**

Mathew D. Marques ^a, Karen M. Douglas ^b, and Daniel Jolley ^c.

^a Mathew D. Marques is a Lecturer in Psychology at the School of Psychology and Public Health, La Trobe University, Melbourne, Australia.

^b Karen M. Douglas is a Professor of Social Psychology at the School of Psychology, University of Kent, United Kingdom.

^c Daniel Jolley is Senior Lecturer of Social Psychology at the School of Psychology, Northumbria University, Newcastle, United Kingdom.

This is an accepted (16 February 2022) peer-reviewed preprint in *The Medical Journal of Australia*.

Abstract

Health-related conspiracy theories often advance the argument that information is being kept secret from the public by powerful individuals or groups within the government or health industry. They are widespread and are associated with important health attitudes, intentions, and behaviours. Recent research suggests that individuals are attracted to conspiracy theories to satisfy three important and fundamental psychological needs: epistemic, existential, and social needs. Understanding these underlying motivations associated with health-related conspiracy theories can help address patients' beliefs. Debunking and inoculation are discussed as approaches that can be used to address patients' belief in health-related conspiracy theories.

Practical recommendations to communicate with patients about health-related conspiracy theories

Introline: Addressing patients' belief in health conspiracy theories requires an understanding of underlying motivations

On 10 September 2021, the Therapeutics Goods Administration (TGA) announced new restrictions on general practitioners prescribing oral ivermectin(1). These changes mean that general practitioners can only prescribe oral ivermectin for TGA-approved conditions, scabies and certain parasitic infections. This change was prompted by an increase in the prescription of the drug for the prevention of, or treatment for, COVID-19, despite no reliable evidence to support its effectiveness(2). This follows a similar decision in early 2020 for the TGA to restrict the prescription of hydroxychloroquine for COVID-19(3). Common to both instances, many individuals were motivated to request an unreliable, unsafe, and unproven medical intervention for COVID-19 even once a reliable, safe, and approved vaccination was available.

Research has shown that people who endorsed COVID-19 conspiracy theories (e.g., that the virus was a hoax) were more likely to believe that hydroxychloroquine was an effective treatment(4). Also, beliefs in popular “pro-hydroxychloroquine” conspiracy theories (e.g., the pharmaceutical industry, in cahoots with the government, was preventing the distribution of chloroquine treatments in order to protect its financial interests) were more positive towards hydroxychloroquine treatment, less positive towards COVID-19 vaccinations and less likely to get a vaccination(4). These recent findings illustrate how health-related conspiracy theories can have real impacts on both attitudes towards medical research, and health decisions. This article will explain what health-related conspiracy theories and their consequences are, why some patients might hold these beliefs, and will offer some practical recommendations about how to engage with patients who do.

What are health-related conspiracy theories?

Health-related conspiracy theories take many different forms, but typically suggest that information is deliberately concealed from the public by individuals or powerful groups within the government or health industry(5). Misinformation—or false, misleading information(6)—often contains conspiracy theories, but sometimes does not. For example, some vaccine-related misinformation (e.g., it is better to develop immunity from diseases) are not conspiracy theories because no malevolent act or actors are involved. Throughout the COVID-19 pandemic some conspiracy theories implicated health professionals, suggesting that scientists engineered the coronavirus as a bioweapon(7). Health-related conspiracy theories are amorphous and unfalsifiable since the details and specifics of a narrative may change in response to refutations. This makes conspiracy beliefs *sticky*, or resistant to change(8). Conspiracy narratives focus on health-regulators, pharmaceutical companies, scientists, and politicians as secretly conspiring against the public interest. In essence, they present these groups as dishonest and suggest they cannot be trusted to be concerned about people’s health.

Belief in health-related conspiracy theories is widespread. A recent study of Australians found that approximately 15 percent of individuals agreed that “pharmaceutical companies are hiding evidence that vaccinations can cause serious illnesses and disabilities in children”, and 10 percent agreed that “fluoride is being used in water supplies to dim minds of ordinary Australians to make them easier to control”(9). An Australian poll conducted early on during the worldwide COVID -19 pandemic in May 2020 found that 20 percent reported it true that “the number of COVID -19 deaths have been exaggerated by the media and governments to scare the population” and 13 percent that the “COVID -19 virus is not dangerous and is being used to force people to get vaccines”(10).

Why do people believe in health-related conspiracy theories?

Individuals are attracted to conspiracy theories in an attempt to satisfy three important and fundamental psychological needs(11): an *epistemic* need to understand the world and increase certainty; an *existential* need to reduce threats and maintain a safe and stable environment; and a *social* need to maintain valued interpersonal relationships and a positive image of the self and ingroup. As such, patients may be drawn to health-related conspiracy theories when they feel uncertain, vulnerable, and isolated—feelings that may have been exacerbated due to the various social and economic impacts during the COVID-19 pandemic. People *might* come to healthcare professionals with conspiracy-related suspicions, motivated by an unmet *epistemic* need to defend their beliefs(12), in search of validation or reassurance.

What are the consequences of health-related conspiracy theories?

Understanding why people endorse health-related conspiracy theories is important because these beliefs are associated with important health attitudes, intentions, and behaviours. For instance, those who engage in more conspiracist thinking—a tendency to interpret any and all events as part of a conspiracy—report more negative attitudes towards vaccinations than those who engage in less conspiracist thinking(13). Individuals who believe in specific health-related conspiracy theories, such as that government agencies are in league with pharmaceutical companies to hide natural cures for cancer, are less likely to report having annual check-ups or getting influenza vaccinations(14).

Research has also shown that exposure to, or belief in conspiracy theories, influences health-related intentions and behaviours. For example, a one study reported that mere exposure to vaccine conspiracy theory information led parents to report a decreased likelihood to vaccinate a hypothetical child due to an increase in the perceived dangers of vaccines, disillusionment with authorities involved in vaccinations, and feelings of powerlessness(15). Another study found that mere exposure to antidepressant conspiracy theories questioning the safety and efficacy of pharmaceutical interventions decreased future

health-seeking intentions by increasing powerlessness and decreasing trust in the health-industry(5). Recent COVID-19 research has shown that conspiracy beliefs relating to the pandemic prospectively predicted decreased compliance with mask wearing and getting tested for coronavirus, and an increased likelihood of testing positive for those who got tested(7).

How can we reduce belief in conspiracy theories?

Efforts to reduce the appeal of conspiracy theories have been varied. Debunking conspiracy theories by providing accurate, authoritative information, or links to fact-checking websites may work in some instances(16). However, given the *sticky* nature of conspiracy theories in part due to cognitive factors such as the continued influence effect (i.e., the way that falsehoods persist in our thinking even if the information has been corrected), people may continue to believe in specific conspiracy theories even once they have been debunked(17). Furthermore, correcting specific health-related conspiracy theories might be challenging given how fast they appear and how widespread they travel. For example, a study examining the spread of Zika virus conspiracy theories online on twitter during 2015-6 reported that the number of propagators of conspiracy theories twice outnumbered debunkers(18). Therefore, attempts to debunk some health-related conspiracy theories may be challenging and less effective than other approaches.

One promising tool to address conspiracy beliefs could be to harness the power of social norms. One study found that a sample of British parents overestimated how much other parents believe anti-vaccine conspiracy theories, and this overestimation influenced how strongly they believed the conspiracy theories themselves(19). However, by correcting this misperception with normative feedback (i.e., showing how people have misjudged the actual belief of others), anti-vaccine conspiracy theories beliefs were reduced. Further, the

perception that other parents were vaccinating their children increased the parents' own intentions to vaccinate a child.

Another approach is the use of inoculation, which is similar to the principle of inoculating people with a weakened form of a virus through a vaccine in order to build up their immune system against it. Giving individuals factual information can decrease the effects of specific health-related conspiracy theories and misinformation more generally (see (6) for a review on the effectiveness of pre- and de-bunking on misinformation belief). For example, one study showed that providing pro-vaccine counterarguments was effective in improving intentions to vaccinate if presented before anti-vaccine conspiracy theories, but not after(8). This approach could work well before people start thinking about specific vaccines (e.g., inoculating people before parenthood). Inoculating individuals by using online games to teach them about the common techniques used in the production of fake news has also shown to be effective in reducing belief in misinformation more generally(20). While these approaches may lessen the appeal and impact of health-related conspiracy theories in general, they may not always be practical in a specific medical setting where individuals present with specific ideas and acute problems.

What are some recommendations for healthcare workers?

Doctors and nurses remain the most trusted professions in Australia, continuing a stable trend of being rated as high in ethics and honesty for over 20 years(21). Well established principles of persuasive communication consider *who* (i.e., communicators) says *what* (i.e., message) to *whom* (i.e., audience)(22). Consistent with this approach, information from trusted influential messengers that is clear and consistent might be more successful in addressing health-related conspiracy theories in patients.

Addressing these conspiracy beliefs requires an understanding of the reasons why people are attracted to them in the first place, and careful attention to the root causes of

conspiracy beliefs(23). Consistent with research guiding health professionals addressing parental vaccination concerns(24), healthcare workers are encouraged to acknowledge patient concerns and listen carefully. Health professionals are well placed to do this, and ought to be empathetic and skilled in spotting the unsatisfied needs patients have that might attract them to conspiracy theories. For instance, they should reassure patients if they feel uncertain, make them feel more in control if they are worried or feel powerless(15), and promote social connections if they are isolated—therefore addressing needs that are associated with belief in conspiracy theories. Further, highlighting how anti-vaccine conspiracy beliefs are not as commonplace as people might think could be a practical step in harnessing the power of social norms to reduce conspiracy beliefs(19). Another is using an empathic, understanding, and open-minded approach, which facilitates trust and has been found to be a successful element for front-line practitioners in the prevention of radicalization(25)—another factor linked to conspiracy theorising and associated with harmful health-related decisions. Some suggested conversation prompts to use with patients about COVID-19 conspiracy beliefs in a vaccination setting are included in the text-box.

Conclusion

Belief in health-related conspiracy theories is widespread and has a considerable impact on health attitudes, intentions, and behaviours. It is important to recognise the underlying and unsatisfied needs of patients who present to healthcare workers. This foundation will enable medical professionals to better engage with individuals who are attracted to conspiracy theories by developing shared understanding, trust, and empathy as a platform to support patients.

TEXT BOX

Suggested conversation prompts when a patient discusses COVID-19 conspiracy beliefs whilst attending a vaccination appointment.

Strategy	Aim	Examples
Open-minded approach. Ask questions and listen(25)	Build understanding with the patient, listen carefully, and avoid defending your own beliefs at all costs.	“When did you first start believing in [briefly include the conspiracy, e.g., COVID-19 vaccine has been developed for financial gain by health professionals] and how has this impacted you psychologically?”; “What do these beliefs offer to you?”
Work on conversational receptiveness(26)	Foster empathy and increase understanding to bridge the gap between the beliefs of the patient and health care worker.	“I understand that...”; “So what you’re saying is...”; “How does this make you feel?”; “Tell me more”; “I’m listening. Thank you for sharing”.
Affirm values of critical thinking(27)	For patients who perceive themselves as critical thinkers (<i>epistemic</i> need), affirm these values and redirect this towards a deeper examination of the conspiracy theory.	“We likely both agree that asking questions is important – but it is key we evaluate all pieces of evidence. That is, integrate information that makes sense to us but also evidence that makes us feel uncomfortable”.
Work at restoring personal control(15)	Attenuate the need to believe in conspiracy theories to reduce <i>existential</i> concerns. This may be especially pertinent during the pandemic, where many people feel they have lost control of their lives.	“It is a difficult and anxiety-provoking time, and we need to work together to get through this crisis.”; “We must listen to each other – your voice matters, and I’m here to answer all questions you have about the vaccine today.”
Highlight how conspiracy theories are not as commonplace as people might think(19)	This can help address protecting one’s ingroup (<i>social</i> need).	“Our community is overwhelming getting vaccinated; it is far more commonplace for your neighbours to get vaccinated and protect themselves against COVID-19.”; “It is key that we work together to protect our community”.

References

1. Therapeutic Goods Administration. New restrictions on prescribing ivermectin for COVID-19 [Internet]. Therapeutic Goods Administration (TGA). Australian Government Department of Health; 2021 [cited 2021 Nov 10]. Available from: <https://www.tga.gov.au/media-release/new-restrictions-prescribing-ivermectin-covid-19>
2. Popp M, Stegemann M, Metzendorf M-I, Gould S, Kranke P, Meybohm P, et al. Ivermectin for preventing and treating COVID-19. *Cochrane Database Syst Rev* [Internet]. 2021 [cited 2021 Nov 10];(7). Available from: <https://www.cochranelibrary.com/cdsr/doi/10.1002/14651858.CD015017.pub2/full>
3. Therapeutic Goods Administration. New restrictions on prescribing hydroxychloroquine for COVID-19 [Internet]. Therapeutic Goods Administration (TGA). Australian Government Department of Health; 2020 [cited 2021 Nov 10]. Available from: <https://www.tga.gov.au/alert/new-restrictions-prescribing-hydroxychloroquine-covid-19>
4. Bertin P, Nera K, Delouvée S. Conspiracy beliefs, rejection of vaccination, and support for hydroxychloroquine: A conceptual replication-extension in the covid-19 pandemic context. *Front Psychol*. 2020;11:2471.
5. Natoli EE, Marques MD. The antidepressant hoax: Conspiracy theories decrease health-seeking intentions. *Br J Soc Psychol*. 2021;60(3):902–23.
6. Ecker UKH, Lewandowsky S, Cook J, Schmid P, Fazio LK, Brashier N, et al. The psychological drivers of misinformation belief and its resistance to correction. *Nat Rev Psychol*. 2022 Jan;1(1):13–29.
7. van Prooijen J-W, Etienne TW, Kutiyski Y, Krouwel APM. Conspiracy beliefs prospectively predict health behavior and well-being during a pandemic. *Psychol Med*. 2021 Oct 13;1–25.
8. Jolley D, Douglas KM. Prevention is better than cure: Addressing anti-vaccine conspiracy theories. *J Appl Soc Psychol*. 2017;47(8):459–69.
9. Marques MD, Ling M, Williams MN, Kerr JR, McLennan J. Australasian Public Awareness and Belief in Conspiracy Theories: Motivational Correlates. *Polit Psychol* [Internet]. 2021 [cited 2021 Apr 23]; Available from: <http://onlinelibrary.wiley.com/doi/abs/10.1111/pops.12746>
10. Belief in Conspiracy Theories [Internet]. The Essential Report. 2020 [cited 2022 Jan 25]. Available from: <https://essentialvision.com.au/belief-in-conspiracy-theories>
11. Douglas KM, Sutton RM, Cichocka A. The psychology of conspiracy theories. *Curr Dir Psychol Sci*. 2017;26(6):538–42.
12. Ståhl T, van Prooijen J-W. Epistemic rationality: Skepticism toward unfounded beliefs requires sufficient cognitive ability and motivation to be rational. *Personal Individ Differ*. 2018;122:155–63.

13. Lewandowsky S, Oberauer K, Gignac GE. NASA faked the moon landing – therefore, (climate) science is a hoax: An anatomy of the motivated rejection of science. *Psychol Sci*. 2013;24(5):622–33.
14. Oliver JE, Wood T. Medical conspiracy theories and health behaviors in the United States. *JAMA Intern Med*. 2014;174(5):817–8.
15. Jolley D, Douglas KM. The effects of anti-vaccine conspiracy theories on vaccination intentions. *PloS One*. 2014;9:e89177.
16. Lewandowsky S, Cook J. The Conspiracy Theory Handbook [Internet]. 2020. Available from: <https://sks.to/conspiracy>
17. Lewandowsky S, Ecker UKH, Seifert CM, Schwarz N, Cook J. Misinformation and its correction: Continued influence and successful debiasing. *Psychol Sci Public Interest*. 2012 Dec 1;13(3):106–31.
18. Wood MJ. Propagating and Debunking Conspiracy Theories on Twitter During the 2015–2016 Zika Virus Outbreak. *Cyberpsychology Behav Soc Netw*. 2018 Aug 1;21(8):485–90.
19. Cookson D, Jolley D, Dempsey RC, Povey R. A social norms approach intervention to address misperceptions of anti-vaccine conspiracy beliefs amongst UK parents. *PLOS ONE*. 2021 Nov 12;16(11):e0258985.
20. Maertens R, Roozenbeek J, Basol M, van der Linden S. Long-term effectiveness of inoculation against misinformation: Three longitudinal experiments. *J Exp Psychol Appl*. 2021 Mar;27(1):1–16.
21. Roy Morgan. Roy Morgan Image of Professions Survey 2021: In a year dominated by COVID-19 - health professionals including Nurses, Doctors and Pharmacists are the most highly regarded; but almost all professions down from pre-pandemic [Internet]. Roy Morgan. 2021 [cited 2021 Nov 15]. Available from: <http://www.roymorgan.com/findings/8691-image-of-professions-2021-april-2021-202104260655>
22. Hovland CI, Janis IL, Kelley HH. *Communication and persuasion: Psychological studies of opinion change*. New Haven, CT: Yale University Press; 1953.
23. Douglas KM. Are conspiracy theories harmless? *Span J Psychol*. 2021;24:e13.
24. Leask J, Kinnersley P, Jackson C, Cheater F, Bedford H, Rowles G. Communicating with parents about vaccination: a framework for health professionals. *BMC Pediatr*. 2012 Sep 21;12(1):154.
25. Ponsot AS, Autixier C, Madriaza P. Factors facilitating the successful implementation of a prevention of violent radicalization intervention as identified by front-line practitioners. *J Deradicalization*. 2018 Sep 22;(16):1–33.
26. Yeomans M, Minson J, Collins H, Chen F, Gino F. Conversational receptiveness: Improving engagement with opposing views. *Organ Behav Hum Decis Process*. 2020 Sep;160:131–48.

27. Voogt S. Countering far-right recruitment online: CAPE's practitioner experience. *J Polic Intell Count Terror*. 2017 Jan 2;12(1):34–46.