

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

Addressing patients' beliefs 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 GPs 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, coronavirus disease 2019 (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 (eg, 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 (eg, the pharmaceutical industry, in collusion 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 COVID-19 vaccine.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 explains what health-related conspiracy theories and their consequences are and why some patients might hold these beliefs, and will offer some practical recommendations about how to engage with patients who believe in these theories.

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 information⁶ — often contains conspiracy theories, but sometimes it does not. For example, some vaccine-related misinformation, including that it is better to develop immunity from diseases, is not a conspiracy theory 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, as 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 about 15% of individuals agreed that “pharmaceutical companies are hiding evidence that vaccinations can cause serious illnesses and disabilities in children,” and 10% agreed that “fluoride is being used in water supplies to dim the minds of ordinary Australians to make them easier to control”.⁹ An Australian poll conducted early on during the COVID-19 pandemic in May 2020 found that 20% reported it true that “the number of COVID-19 deaths have been exaggerated by the media and governments to scare the population,” and that 13% believed 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 in-group. As such, patients may be drawn to health-related conspiracy theories when they feel uncertain, vulnerable and isolated — feelings that

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may have been exacerbated due to the various social and economic impacts of the COVID-19 pandemic. People might come to health care 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, 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 COVID-19, 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 (ie, the way that falsehoods persist in our thinking even if the information has been corrected), people might 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 2015–2016 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.

Suggested conversation prompts when a patient discusses coronavirus disease 2019 (COVID-19) conspiracy beliefs while 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; for example, the COVID-19 vaccine has been developed for financial gain by health professionals] and how has this impacted you psychologically?”; “What do these beliefs offer 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 (epistemic 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 existential concerns. This may be especially pertinent during the pandemic, when 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 in-group (social need).	“Our community is overwhelmingly 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.”

One promising tool to address conspiracy beliefs could be to harness the power of social norms. A study found that a sample of British parents overestimated how much other parents believe antivaccine conspiracy theories, and this overestimation influenced how strongly they believed the conspiracy theories themselves.¹⁹ However, by correcting this misperception with normative feedback (ie, showing how people have misjudged the actual belief of others), antivaccine 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 against 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 — a review on the effectiveness of pre- and debunking on misinformation belief has been published elsewhere.⁶ For example, one study showed that providing pro-vaccine counterarguments was effective in improving intentions to vaccinate if presented before antivaccine conspiracy theories but not after.⁸ This approach could work well before people start thinking about specific vaccines (eg, 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 medical setting where individuals present with specific ideas and acute problems.

What are some recommendations for health care 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” (communicators) says “what” (message) to “whom” (audience).²² Consistent with this approach, information from trusted influential messengers that is clear and consistent might be more successful in managing patients' beliefs in health-related conspiracy theories.

Dealing with 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 health care workers are encouraged to acknowledge patients' 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 antivaccine 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 step is using an empathic, understanding and open-minded approach, which facilitates trust and has been found to be a successful element for frontline practitioners in the prevention of radicalisation²⁵ — another factor linked to conspiracy theorising and associated with harmful health-related decisions. The **Box** includes some suggested conversation prompts to use with patients about COVID-19 conspiracy beliefs in a vaccination setting.

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 health care 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.

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- 1 Therapeutic Goods Administration. New restrictions on prescribing ivermectin for COVID-19 [media release]. 10 Sept 2021. <https://www.tga.gov.au/media-release/new-restrictions-prescribing-ivermectin-covid-19> (viewed Nov 2021).
- 2 Popp M, Stegemann M, Metzendorf MI, et al. Ivermectin for preventing and treating COVID-19. *Cochrane Database Syst Rev* 2021; (7): CD015017.
- 3 Therapeutic Goods Administration. New restrictions on prescribing hydroxychloroquine for COVID-19 [alert]. 24 Mar 2020. <https://www.tga.gov.au/alert/new-restrictions-prescribing-hydroxychloroquine-covid-19> (viewed Nov 2021).
- 4 Bertin P, Nera K, Delouvé S. Conspiracy beliefs, rejection of vaccination, and support for hydroxychloroquine: a conceptual replication-extension in the COVID-19 pandemic context. *Front Psychol* 2020; 11: 565128.
- 5 Natoli EE, Marques MD. The antidepressant hoax: conspiracy theories decrease health-seeking intentions. *Br J Soc Psychol* 2021; 60: 902-923.
- 6 Ecker UKH, Lewandowsky S, Cook J, et al. The psychological drivers of misinformation belief and its resistance to correction. *Nat Rev Psychol* 2022; 1: 13-29.
- 7 van Prooijen JW, Etienne TW, Kutiyski Y, Krouwel APM. Conspiracy beliefs prospectively predict health behavior and well-being during a pandemic. *Psychol Med* 2021; 10.1017/S0033291721004438 [Epub ahead of print].
- 8 Jolley D, Douglas KM. Prevention is better than cure: addressing anti-vaccine conspiracy theories. *J Appl Soc Psychol* 2017; 47: 459-469.

- 9 Marques MD, Ling M, Williams MN, et al. Australasian public awareness and belief in conspiracy theories: motivational correlates. *Polit Psychol* 2022; 43: 177-198.
- 10 Essential Research. Belief in conspiracy theories: the Essential report, 2020 [website]. <https://essentialvision.com.au/belief-in-conspiracy-theories> (viewed Jan 2022).
- 11 Douglas KM, Sutton RM, Cichocka A. The psychology of conspiracy theories. *Curr Dir Psychol Sci* 2017; 26: 538-542.
- 12 Ståhl T, van Prooijen JW. Epistemic rationality: Skepticism toward unfounded beliefs requires sufficient cognitive ability and motivation to be rational. *Personal Individ Differ* 2018; 122: 155-163.
- 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: 622-633.
- 14 Oliver JE, Wood T. Medical conspiracy theories and health behaviors in the United States. *JAMA Intern Med* 2014; 174: 817-818.
- 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. *Skeptical Science* 2020; 7 May. <https://sks.to/conspiracy> (viewed Nov 2021).
- 17 Lewandowsky S, Ecker UKH, Seifert CM, et al. Misinformation and its correction: continued influence and successful debiasing. *Psychol Sci Public Interest* 2012; 13: 106-131.
- 18 Wood MJ. Propagating and debunking conspiracy theories on Twitter during the 2015–2016 Zika virus outbreak. *Cyberpsychology Behav Soc Netw* 2018; 21: 485-490.
- 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; 16: 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; 27: 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; 2021 [website]. <http://www.roymorgan.com/findings/8691-image-of-professions-2021-april-2021-202104260655> (viewed Nov 2021).
- 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, et al. Communicating with parents about vaccination: a framework for health professionals. *BMC Pediatr* 2012; 12: 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; 16: 1-33.
- 26 Yeomans M, Minson J, Collins H, et al. Conversational receptiveness: improving engagement with opposing views. *Organ Behav Hum Decis Process* 2020; 160: 131-148.
- 27 Voogt S. Countering far-right recruitment online: CAPE's practitioner experience. *J Polic Intell Count Terror* 2017; 12: 34-46. ■