

# It is illegal to post this copyrighted PDF on any website. How Should Psychiatry Respond to COVID-19 Anti-Vax Attitudes?

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Public health crises do not often fall within the direct purview of psychiatry. Since the beginning of the COVID-19 pandemic, psychiatrists have dealt mainly with depression, anxiety, isolation, grief and loss, stress management, trauma and posttraumatic stress disorder, coping, self-care, substance use, and burnout. The world's collective sentiment finally turned toward optimism after COVID-19 vaccines gained US Food and Drug Administration emergency use authorization status in December 2020—following which, deaths and case counts plummeted while activity restrictions gradually lifted. Now, a new COVID-19 public health crisis has arisen as those trends abruptly reversed as substantial numbers of eligible individuals are refusing vaccination. The psychological and mental health underpinnings of vaccine refusal deserve our examination, particularly because psychiatrists possess a skill set to comprehend anti-vax attitudes and potentially intervene.

Public doubts about vaccine safety and efficacy are far from new, and injecting a dose of catastrophic thinking can easily amplify fear. Memorably, in 1998, Wakefield et al<sup>1</sup> observed 8 cases of autism following infant immunizations against measles/mumps/rubella (MMR) and proposed a causal association. A subsequent public outcry involved more calls against vaccinations than for scientific rigor to differentiate cause from coincidence. Even though extensive case-control and cohort studies eventually disproved a causal link between childhood vaccinations and autism,<sup>2</sup> those efforts did little to dispel lingering beliefs among subgroups who remained invested in opposing the vaccine.

Vaccine “hesitancy” falls along a spectrum of intensity and carries its own differential diagnosis. Some people may eschew the concept of vaccines or the relevance of medical expertise because they wrongly overestimate their ability to appraise their own medical safety. Known in social psychology as the Dunning-Kruger effect, this phenomenon describes a misperception of higher-than-actual competence by people who are unaware of their own shortfall in knowledge and expertise. As an example, an unpublished MIT study<sup>3</sup> analyzing social media posts found that anti-vax

proponents often professed high scientific literacy but drew alternative data interpretations from those of mainstream health authorities about risks for COVID-19 infection.

Vaccines can serve as the object of projection. Vague uncertainties about their safety can intensify and transform into a more florid paranoid stance. Paranoia can become an organizing, clarifying force in the face of perceived threat, but it too can escalate with contagion to stoke fears among the confused, uninformed, or uncertain. Vaccines may then come to embody an incomprehensible threat that surpasses the COVID-19 virus itself, perceived as a toxic bioweapon inflicted by ruthless authoritarians with persecutory intent. Farther down the continuum of psychosis, paranoia can give way to magical thinking or quintessentially bizarre and implausible ideas (eg, “The vaccine makes people magnetic”). Without psychiatric commentary and guidance, how does the public at large comprehend breakdowns in reality testing?

Paranoia can spill into aggression when the perception of a threat intensifies.<sup>4</sup> We then face a more nuanced clinical problem: when anti-vaxxers inflict wanton harm to others by causing viral spread, but cloak their actions in language about personal freedom (“my body, my choice”), should psychiatrists confront this as abject antisocial behavior, or instead try to save victims of the Dunning-Kruger effect from their own ignorance? Can it be both?

Short of a frankly antisocial lack of concern for inflicting harm on others, a more technically oppositional-defiant stance pertains to some vaccine refusers. “Do not tell me what I can or cannot do” is a politically conservative value against societal “mandates” per se, reflecting ideals about government decentralization. It collides with basic survival when the results encourage fatalities. Think opposition to drunk driving laws, seat belts, or smoking indoors. Perhaps vaccine mandates elicit stronger opposition and psychic horror because they literally involve forcible body penetration.

The decision to forgo vaccination, like any other medical procedure, presumes intact capacity to understand the nature of the intervention and its consequences. Capacity to understand a hazard can be diminished by erroneous preconceptions (eg, disavowing the morbidity and mortality of COVID-19, or having feelings of invincibility), mistrust of public health information (which unavoidably changes over time as the pandemic, the virus, and our understanding of both evolve), and desire to embrace misinformation as accurate if it conforms to one's pre-held psychological narrative. Capacity can also be diminished by psychosis, cognitive rigidity, or nonpsychotic denial of reality (as when an angina patient refuses assessment, insisting he cannot possibly be having a heart attack). Psychiatrists

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should be able to differentiate vaccine refusal based on non-psychopathological grounds (eg, fear of needles; desire to first see results in more inoculants; faulty appraisals of one's own risk for contracting COVID-19 and its potential for morbidity and mortality) from frank psychopathology. Fear of the unknown may transform caution into paranoia, growing into more elaborated idiosyncratic ideas that intensify anti-vax beliefs. The circumscribed, false fixed belief of likely harm from a medical procedure, despite evidence to the contrary, is captured in the *DSM-5* construct of delusional disorder.

"Mass hysteria" rather than "mass delusion" is the term colloquially invoked to describe culturally shared and sanctioned false beliefs among large groups in response to a perceived threat—a commonly cited example being the Salem witch trials. Perceived threats can foster cultish atmospheres, wherein leaders dominate psychologically vulnerable prospective members by claiming to offer protection from a perceived shared danger. "Promised protection" from the incomprehensible threat fosters a sense of psychological safety, intensified by the shared beliefs and feelings of like-minded members, who defend the cult itself from perceived outside threats.<sup>5</sup> Witches, plagues, vaccines, or other perceived threats to one's basic safety and well-being can all evoke either mistrust or paranoia, a matter differing by degree.

Psychiatrists should rightfully also explore a vaccine-hesitant patient's past experiences that could prompt bona fide mistrust of the healthcare system. Apart from correcting factual misinformation about vaccine safety and efficacy, or assessing predispositions to paranoia or irrational anxiety, one hopes that our field is sensitized to patients' first- or second-hand experiences with disenfranchisement of the underserved, structural racism, and the impact of historical debacles such as the Tuskegee syphilis project. Psychiatrists can listen, explore reasons for anti-vax attitudes with hypotheses but not biases, evaluate and validate reasons for possible wariness, and work to help overcome barriers to basic trust.

Psychiatrists perform a primary care role when asking patients about vaccination (akin to counseling patients about smoking cessation or wearing seat belts). They implicitly undertake capacity evaluations when they assess a patient's understanding about vaccinations and potential reasons for refusal. In so doing, they essentially undertake two tasks: first, they distinguish levels of misunderstanding, which can range from faulty but correctable premises to frank paranoia; second, they dispel misinformation and provide the equivalent of informed consent, to the extent the patient is receptive. Depending on the situation, they may then explore ambivalence, address inconsistencies of logical reasoning, employ cognitive reframing, or pursue motivational interviewing. Such interventions hinge on recognizing the level of distortion or rigidity. Would it help a cult follower

to point out how they have been manipulated, or would pointing out flaws in logical reasoning simply alienate them further from objective reality? Would it allay fears of outside control to empathize with fear itself, or is that unlikely to lead to healthier self-care? Can self-styled lay experts meaningfully entertain the arguments of designated health authorities? And finally, when people (regardless of their capacity) willfully refuse medical recommendations that endanger public safety—increasing exposure to children and others; facilitating further viral mutation into newer strains that can worsen the course of the pandemic—society must determine when its response justifies restricting human rights, as occurs for patients who refuse treatment after testing positive for tuberculosis.

In the admittedly unlikely event that someone with strong anti-vax attitudes would seek psychiatric consultation, all of the above features would come to bear. That means exploring cognitive flexibility versus rigidity as a broader feature; evaluating vulnerabilities both to psychosis and to distorted ideologies when facing primal fears; and addressing ambivalence about self-care and the ramifications of one's actions on others. On a broader public health level, now is not the time for psychiatrists to remain professionally silent. We can share frank opinions, raise awareness, correct misinformation, encourage dialogue, counsel nonpsychiatric colleagues about distorted thinking, point out overt delusional ideation, link vaccine refusal with capacity assessments, identify psychopathy, and loudly voice our professional opinions in the national dialogue about restricted freedoms for those who willfully pose public health hazards.

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