

Book Review: Vaccine Hesitancy: Public Trust, Expertise, and the War on Science

Title: Vaccine hesitancy in the era of COVID-19 pandemic

With the steady increase in COVID-19 vaccine supplies, hesitancy and refusal to be vaccinated is becoming the central problem for high vaccine coverage in many parts of the world. In her book *Vaccine Hesitancy: Public Trust, Expertise, and the War on Science*, philosopher Maya Goldenberg provides insights into vaccine hesitancy, its genesis, rationales, and potential solutions using a multi-disciplinary approach to ground the arguments.

Goldenberg introduces how vaccine hesitancy in the west is imbued in social, cultural and historical context. For instance, the structural racism and neglect, and the historical legacy of medical establishment that discriminated and exploited Black Americans can engender mistrust towards vaccine and health interventions offered by the US health system. The debates over value versus evidence-based medicine are the outer layer to a deep divide between scientists and the public—a crisis of trust which shapes vaccine hesitancy. The perceived superiority of science, and expertise over the lay opinion, increasing technological intrusion, and multi-culturalism are some of the broader contextual factors that explain the division between science and public.

In part I, Goldenberg discusses about a ‘war on science’. She eschews attributing poor public understanding as a cause of vaccine hesitancy, calls for deeper analysis of the reasons including historical evidence. One historical account discussed is of Wakefield’s notorious Lancet publication about a fallacious association between MMR vaccines and autism which eroded the trust of an entire generation towards vaccines. Goldenberg offers compelling arguments for high vaccine hesitancy to be scientists’ inadequate investment in science translation that may well be driven by the scientists’ assumption that generated evidence is comprehensible and practicable to the public. Nonetheless, Goldenberg cautions against the supercilious notion of correcting the publics’ misunderstanding to fix the problem of vaccine hesitancy.

Goldenberg also illustrates the limitation of educational intervention in mitigating the vaccine hesitancy. Many antivaxxers tend to avoid new information which can challenge their beliefs. Various nomenclatures have been assigned to such a phenomenon, for example confirmation bias, motivated scepticism, motivated social cognition and identity-protective cognition. The motivation is not to deny the truth, but to reconcile truth when it is too threatening to our self-identities and the values we cherish. Fighting against the conviction can be strenuous because people generally want to be reaffirmed of their opinion—this is called ‘self-affirmation theory’. Goldenberg discusses how values and fact-based decision-making needs to be harmonized. Facts when congenially blended with value-based reasoning can motivate towards immunization and was a central tenet of an ‘I

Immunise' campaign from Western Australia where vaccine promotion messages were blended with the cultural values of the residents who valued 'eco-friendly' lifestyles such as home birthing, cloth diapers, and alternative medicine. Instead of discounting these value-based decision making, the campaign successfully harmonized the vaccine promotional message with their values and enhanced vaccine uptake.

Goldenberg further explores the inconsistent relationship between experts and the public by responding to the notion of 'Death of Expertise'. *'I argue that the publics do not think they know better. Rather, they are not buying what the experts are selling'*. She emphasizes the need for meaningful public engagement rather than facile calls to trust science. The flourishing of conspiracy theories against the science alludes to the expanding sites of knowledge-generation. One of the caveats of knowledge production is how science cannot be value free when maintaining the epistemic standards *'no scientist can operate outside of their cultural framework'*, and... *'there is no 'objective' frame of reference that anyone can operate from'*. Science and evidence generation should not be limited to experts alone, it should equally involve its stakeholders. The public concerns around vaccine can be value driven and reflect cultural anxieties that needs responses by science and policy translations.

In part-II, Goldenberg frames 'war on science' as 'a crisis of trust'. Her reviews on trust towards vaccine hesitancy distils to the *epistemic* trust that entails trusting the competence of an information provider. Her further analysis highlights how trusting others involves a negotiation of vulnerability and confidence, and implies the precarity of trust. For instance, a person may place confidence in their physician but not on the health system due to historical injustice. Nonetheless, trust is an essence, a core element and a crux for decision-making, and trusting involves a 'leap of faith' towards the unknown. The leap of faith has been an established mechanism where the public place their faith in the face of incomplete knowledge, and anxiety over uncertainties. The decision making is also influenced by peers, professionals and scientific institutions. Nevertheless, the decision-making process or the trust to take vaccine is not entirely rational, in fact is a combination of cognitive, affective, and conative processes.

In the final part of the book, Goldenberg offers some suggestions on how to address declining vaccine confidence. Blaming, shaming, and punishing for their beliefs, or lack of trust on science alienates and deepens the divide. Trust is necessary between experts and the publics and can only be built through an open and honest relationship built on mutual respect. She concludes by highlighting the areas that need attention to strengthen the trust in vaccines including health care provider-patient encounters, public health messaging, vaccine mandates, diversity, inclusion, and representation in health sectors, and industry influence on health care.

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