

Political dimensions of misinformation, trust, and vaccine confidence in a digital age

Global health leaders often dismiss politics as antithetical to the aims of public health, but **Luisa Enria and colleagues** argue that political analysis can offer new ways to build trust in vaccination in the context of growing online misinformation

In April 2020, as covid-19 spread across the world, the director general of the World Health Organization, Tedros Adhanom Ghebreyesus, appealed to the global community: “please do not politicise this virus.” Later that year, as covid-19 vaccines became available, scientists expressed concerns about the dangers of immunisation becoming political. This desire to keep politics separate from health is “misguided,” as the two are “inexorably intertwined.”¹ Rather than wish politics away, understanding exactly how it shapes health outcomes can help to identify new ways to tackle global health challenges. Vaccine confidence is a prime example of this.

Vaccine confidence refers to trust in the safety or efficacy of vaccines, encompassing trust in the vaccine (the product), the vaccinator (the service provider), and those who make decisions about vaccine provision (the policy maker).² Conversely, vaccine hesitancy refers to “refusal, delay or acceptance with doubt about vaccine usefulness.”³ In 2019 WHO declared vaccine hesitancy to be among the top global health challenges. In recent years, mistrust in

vaccination has come centre stage in the aftermath of resurgent outbreaks of preventable diseases and through the rise of organised anti-vaccination movements that became particularly visible during the covid-19 pandemic. These concerns are further heightened in the context of what many are calling an “infodemic”—that is, the drastic increase in circulation of information, including misleading and false news, that has accompanied the rise of social media and hyperconnectivity in the digital age.⁴

Public health approaches to these challenges have tended to focus on individual or cognitive drivers of decision making around vaccination. Resulting strategies such as “debunking” assume that the problem is poor or insufficient information.⁵ However, by focusing on individual exposure to misinformation, such approaches may miss how people’s collective experiences, as well as broader societal, historical, and political contexts, shape how they interpret different types of information and make decisions about immunisation. Growing evidence in the social sciences shows that engagements with vaccination are “socially and politically embedded processes,” requiring that we widen our lens beyond the individual.⁵

In this article, we argue that a political analysis can help us to view vaccine confidence in context and develop more holistic approaches to tackling mistrust. Such analysis highlights both the direct and indirect political factors that may influence perspectives of and decisions about vaccination. These include, for example, experiences of marginalisation and (mis)trust in government institutions, as well as political decisions about levels of investment in health services and the explicit mobilisation of voters around the question of vaccination (box 1). We illustrate this approach through a discussion of trust and distrust in vaccination in the context of online misinformation.

Box 1: Political analysis of vaccine confidence and hesitancy

Although locally situated, a political analysis of vaccine hesitancy might consider how the following factors may influence vaccine confidence and uptake.

Indirect political factors

- Experiences of historical exclusion—on the basis of ethnic identity, religion, geographical location, gender, and so on (or some combination of these factors)
- Contemporary experiences of exclusion or marginality
- Trust in government institutions
- Attitudes towards and definitions of different kinds of authority (eg, authoritative information, authoritative public health/medical experts, public authorities, religious authorities, external global health actors)
- Political decisions about funding of the health sector that influences everyday experiences of healthcare

Direct political factors

- Political mobilisation specifically around the topic of vaccines by interest groups
- Political mobilisation specifically around the topic of vaccines by politicians
- Partisan political affiliation

KEY MESSAGES

- Understanding how politics shapes health outcomes can help to identify new ways to tackle global health challenges such as vaccine hesitancy
- Focusing on individual exposure to misinformation may miss how collective experiences, as well as broader societal, historical, and political contexts, shape interpretation of information and decision making about immunisation
- Political analysis can help public health workers, civil society, and researchers to devise novel solutions to confront the political drivers of vaccine hesitancy

Vaccine confidence in the digital age

The worldwide decline in vaccine confidence in recent years can be partly associated with the rapid expansion of social media.⁶ Delays in and refusals of vaccination have been shown to be “more frequent in people who reported the internet as their main source of information,” and negative information about vaccines spreads faster online than positive information.⁷ These trends are concerning, but assuming that misinformation is the sole explanation for vaccine refusal can be risky. Although evidence shows that online misinformation correlates with reduced vaccination intention,⁸ intentions do not always predict

behaviour.⁹ Most importantly, focusing on misinformation may lead to characterisations of vaccine hesitancy as primarily a problem of insufficient or incorrect information.¹⁰ Social science research has shown that hesitancy rarely reflects knowledge deficits and often even has little to do with the vaccine itself, rather reflecting problems of mistrust in experts, institutions, and authorities.^{11 12} A contextual understanding of people's offline experiences can offer insights into how people engage with online (mis)information and how this in turn shapes their views on vaccination.

Vaccine hesitancy as a commentary on mistrust

A political analysis helps to situate vaccines in this broader context, considering indirect political factors such as citizens' relationships to their governments and how vaccination becomes implicated in wider contestations of political authority. Studies have consistently shown that lower trust in government is linked to lower vaccination intentions.^{13 14} This has been the case since the introduction of the first vaccines in 19th century Britain, which sparked widespread working class protests around poor working and living conditions.¹⁵ Similarly, refusals of smallpox vaccination became part of challenges to colonial rule in India.¹⁶

Content analyses of concerns around vaccines similarly show that they often reflect anxieties about the motives of government and public health officials. During the Ebola vaccine trials in Sierra Leone, for example, fears circulated that the novel vaccine may be a ploy to decimate the population and steal blood for westerners' use, echoing violent and extractive colonial pasts.¹⁷ Similar narratives re-emerged and spread rapidly through social media that the covid-19 vaccine was intended to "kill people slowly in Africa."¹⁸ Concerns surrounding vaccination can, in other words, be read as commentaries of mistrust that go far beyond immunisation.

Such mistrust is also rarely unjustified. In 2003 boycotts of the polio vaccine in northern Nigeria were linked, among other factors, to memories of the 1996 Pfizer trial of a meningitis drug that resulted in high profile lawsuits around the company's failure to obtain informed consent.¹⁹ Mistrust in the federal government's collaboration with western pharmaceutical companies was cited in subsequent vaccination campaigns as a reason for refusal.²⁰ Similarly, in the US,

lower rates of vaccine confidence among Black, indigenous, and other communities have been connected to mistrust in the government and experiences of structural racism and state violence. Black American participants in a study about the flu vaccine cited the historical legacy of racist scientific experiments for not trusting a "government vaccine."²¹ For many Black Americans, medical encounters continue to be marked by experiences of disrespect and discrimination.²² Such experiences affect vaccine uptake. In Sierra Leone, rural mothers reflected on humiliating previous experiences at health centres, inadequate care, and excessive costs as reasons why they were discouraged from taking their children to be vaccinated.²³ This kind of structural violence poses significant barriers to accessing vaccination and makes translating health information into action difficult. Simply classifying these groups as vaccine hesitant can hide the broader processes of marginalisation that erode trust in government and health providers, giving legitimate reasons for being apprehensive.

Labelling minoritised groups as "vaccine hesitant" has been shown to reinforce exclusion. Research on ultra-orthodox Jewish communities shows that decisions about vaccination are complex and rarely lead to blanket refusal but that official discourses focused on hesitancy served to bolster "antisemitic representations of Jews as public (health) risks," paying little attention to the ongoing "crisis of confidence" in these long neglected communities.²⁴

Experiences of exclusion, memories of historical oppression, and contemporary experiences of structural violence, underfunding of healthcare, and rising inequality therefore shape attitudes to vaccines and filter how people engage with information they receive about them. Whereas misinformation is increasingly global, how people make sense of the information they receive remains local.

Direct mobilisation around vaccines

In recent years we have also seen more direct efforts to bring vaccination into political discourse, as politicians and interest groups increasingly explicitly mobilise their electorates and membership around the topic of vaccines. Doubts around vaccination have been central to the political campaigns of "populist" parties and politicians. Gaining momentum with the rise in social media, populist politics, broadly defined, relies on a con-

trast between "the people" and "the political establishment," as these movements capitalise on feelings of mistrust and disenfranchisement.²⁵ Parties such as Italy's Five Star Movement explicitly expressed concerns about the posited connection between measles, mumps, and rubella vaccines and autism,²⁶ before changing their position during the covid-19 pandemic. Similarly, former President Magufuli of Tanzania stated that he would not acquire covid-19 vaccines as these may have been "manipulated by imperialists to harm Tanzanians" as a key component of his political platform.²⁷

The rising appeal of populist politics has been accompanied by increased polarisation. Affiliation to political parties has been shown to be a predictor of vaccination intention, as has exposure to different kinds of media.^{28 29} A study in 2019 showed that the percentage of people who voted for a populist party in the 2014 European elections was positively associated with the number of people who believed that "vaccines are not safe or important."²⁶ Vaccines can therefore be a polarising topic, but how they become polarising depends on context. In western Europe, for example, leaning to the political left or right did not matter as much in determining attitudes to vaccines as did holding an "anti-elitist worldview."³⁰

Another example of direct political mobilisation around vaccination is the anti-vaccination (anti-vax) movement. This movement represents a minority opinion, yet it has been shown to fuel misinformation online, with the potential to influence a broader constituency of people who may have legitimate concerns or be undecided. Prominent anti-vaxxers have also openly supported political campaigns and received support from politicians, gaining power and visibility.³¹

Rebuilding trust in the digital age

The challenge of vaccine hesitancy has given rise to a range of efforts to tackle it. Efforts that focus solely on debunking misinformation or on providing more information to individuals have been shown to be ineffective in tackling the underlying causes of mistrust. During the west African Ebola epidemic, researchers highlighted that interventions aimed at correcting "misconceptions" around the disease failed to engage with the plethora of reasons why many people feared reporting loved ones to the hospital.³² Conversely, community engagement approaches that focus on two way dialogue and directly engage with the

diversity of people's experiences and opinions have been shown to increase trust and participation, including in the context of vaccination.^{33 34} A political analysis can contribute to the efforts of people involved in combating mistrust in vaccines in several ways.

Researchers: political analysis to understand power in (online) context

Studies on the dynamics of (mis)trust in vaccines and public health emergency management have shown that understanding who is trusted and who has the legitimacy to speak on matters of public concern can improve the success of community engagement efforts.^{35 36} Political analysis can help in observing patterns of (mis)trust and identifying trusted sources of information. In Sierra Leone, this helped vaccinators to diversify their community engagement strategies to reflect varied levels of trust across different groups in heterogeneous communities. Although this work has been done primarily offline, efforts to engage people online could benefit from deeper social network and stakeholder analyses in digital spaces. Dynamic and long term social science analysis of online content is needed to identify the political context and drivers of mistrust. This must be complemented with offline studies of perceptions to avoid the risk of ignoring populations who are not connected and to understand how online information affects offline behaviour.

Public health practitioners and healthcare workers: tackling political roots of mistrust

For public health practitioners, a political analysis of vaccine hesitancy can help to situate and tackle the challenge. For example, whereas the problem for a health worker may be when a mother refuses to vaccinate her child, the solution may not lie in the mother's improved information or the health worker's persuasion skills. It may lie instead in the need to transform the institutions that generated her mistrust in vaccines. Political analysis directs us to who needs to change and how. This analysis can furthermore support health workers tasked with community engagement to broaden their dialogue beyond immunisation to directly discuss the underlying concerns facing their patients and communities. Similarly, being cognisant of political context can help in reconsidering how public health campaigns are run. Evidence has shown the negative consequences on trust of militarised outbreak control and vaccination efforts.³⁶

This reframing may also require reflexive practice within the health system on how to become more trustworthy. A study on disparities in patient safety in the US by racial and ethnic groups concluded that "health care organizations and systems will need to reflect on their role in creating the conditions in which patients' beliefs about their trustworthiness are formed."³⁷ Limited evidence exists on best practice for such reflexive approaches, but a community engagement intervention in Sierra Leone that included a frank dialogue around shortcomings of health systems yielded positive outcomes.²³

Civil society: building multisectoral coalitions for long term trustworthiness

Framing low confidence in vaccines within wider political dynamics will build the case for a shared responsibility that goes beyond the health system. Public health efforts to strengthen confidence in vaccines would benefit from taking a multisectoral approach, joining current efforts to strengthen democracy and trust in institutions. In a climate of polarisation and political tensions around vaccines, two way dialogue about controversial political topics has been shown to change minds by reducing the threat perception of the opposing side's arguments and providing "affirmation and mutual accountability" through conversation in high and low income contexts.³⁸

Some initiatives from civil society can offer inspiration for public health practice and potential partners for building longer term trustworthiness among the institutions that need it in vaccine deployment. Many initiatives have focused on digital literacy, which arguably does not get to the root of the problem of mistrust, but others have tried to tackle it directly. Citizen journalist initiatives such as Chicas Poderosas in Argentina or Animal Político in Mexico, for example, have found effective new ways for citizens to hold political leaders accountable and for reconnecting citizens to their institutions.³⁹

A strong independent media, including active protection of journalists, is also key to challenging polarised political narratives and dissecting political decisions that affect community life. The new International Fund for Public Interest Media, for example, focuses on unlocking resources to empower independent media in low and middle income countries.⁴⁰ Providing practical, financial, and political support to media such as community radio and local online journalism in South Africa

and Colombia helped to strengthen trust in information and devise creative solutions to collective problems. Political analysis of vaccines points us to the importance of these broader areas of work, the success of which is wrapped up in (re)building trust.

Conclusion

Vaccines are unavoidably political. From becoming symbols in broader struggles for inclusion to being co-opted in populist campaigns, an understanding of the political dimensions of vaccine confidence can help us to respond more effectively to the levers of mistrust. Rather than calling for depoliticisation, integrating political analysis into our programming can shed light on how broader contextual factors shape how people engage with (mis)information that they encounter online. This can support the development of deeper community engagement efforts that directly tackle these concerns and the identification of novel solutions to build trust in institutions and health systems.

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Contributors and sources: LE has worked on the Ebola vaccine trials in Sierra Leone, as well as subsequent projects on vaccine confidence and delivery in the country. HD is working on infodemics and vaccine confidence. NB is a social scientist with the Health Security Agency-LSHTM Rapid Support Team and recently worked in cholera epidemics in Zambia and Malawi. MSS has experience in researching outbreaks and vaccinations in Uganda and the UK. MM is a political theorist researching community engagement in the context of epidemics. AM has worked on the Ebola vaccine trials in Sierra Leone as well as several studies on vaccine delivery in the country. AC is a research officer focused on health, who recently led a study on gendered dimensions of vaccination in Freetown. AN is a public health expert and leads the research working group at the National Public Health Agency in Sierra Leone. LE led on the conception, literature review, and writing of the article; HD and MM supported LE in drafting recommendations. All other authors were involved in editing and reviewing the article, as well as providing additional sources and insights. LE is the guarantor.

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Luisa Enria, associate professor in anthropology¹
 Harriet Dwyer, doctoral student¹

Mark Marchant, doctoral student¹

Nadine Beckmann, associate professor in social science¹

Megan Schmidt-Sane, research fellow in anthropology²

Abu Conteh, senior research officer in urban health³

Anthony Mansaray, doctoral student¹

Alhaji N’Jai, associate professor of medicine and infectious disease⁴

¹London School of Hygiene and Tropical Medicine, London UK

²Institute of Development Studies, University of Sussex, Brighton, UK

³Sierra Leone Urban Research Centre, Freetown, Sierra Leone

⁴College of Medicine and Allied Health Sciences, University of Sierra Leone, Freetown, Sierra Leone

Correspondence to: L Enria
 luisa.enria2@lshtm.ac.uk



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1 Lee K. WHO under fire: The need to elevate the quality of politics in global health. *Glob Soc Policy* 2020;20:374-7. doi:10.1177/1468018120966661

2 Larson HJ, Jarrett C, Schulz WS, et al. SAGE Working Group on Vaccine Hesitancy. Measuring vaccine hesitancy: The development of a survey tool. *Vaccine* 2015;33:4165-75. doi:10.1016/j.vaccine.2015.04.037

3 Verger P, Dubé E. Restoring confidence in vaccines in the COVID-19 era. *Expert Rev Vaccines* 2020;19:991-3. doi:10.1080/14760584.2020.1825945

4 Zielinski C. Infodemics and infodemiology: a short history, a long future. *Rev Panam Salud Publica* 2021;45:e40. doi:10.26633/RPSP.2021.40

5 Leach M, MacGregor H, Akello G, et al. Vaccine anxieties, vaccine preparedness: Perspectives from Africa in a Covid-19 era. *Soc Sci Med* 2022;298:114826. doi:10.1016/j.socscimed.2022.114826

6 Wilson SL, Wiysonge C. Social media and vaccine hesitancy. *BMJ Glob Health* 2020;5:e004206. doi:10.1136/bmjgh-2020-004206

7 Dubé É, Ward JK, Verger P, MacDonald NE. Vaccine Hesitancy, Acceptance, and Anti-Vaccination: Trends and Future Prospects for Public Health. *Annu Rev Public Health* 2021;42:175-91. doi:10.1146/annurev-publhealth-090419-102240

8 Loomba S, de Figueiredo A, Piatek SJ, de Graaf K, Larson HJ. Measuring the impact of COVID-19 vaccine misinformation on vaccination intent in the UK and USA. *Nat Hum Behav* 2021;5:337-48. doi:10.1038/s41562-021-01056-1

9 Adams Z, Osman M, Bechliyanidis C, Meder B. (Why) Is Misinformation a Problem? *Perspect Psychol Sci* 2023;18:1436-63. doi:10.1177/17456916221141344

10 Pertwee E, Simas C, Larson HJ. An epidemic of uncertainty: rumors, conspiracy theories and vaccine hesitancy. *Nat Med* 2022;28:456-9. doi:10.1038/s41591-022-01728-z

11 Cooper S, Gadanya MA, Kaawa-Mafigiri D, et al. Using social media to build confidence in vaccines: lessons from community engagement and social science research in Africa. *BMJ* 2024;384:e075564. doi:10.1136/bmj-2023-075564

12 Goldenberg M. Public Misunderstanding of Science?: Reframing the Problem of Vaccine Hesitancy. *Perspect Sci* 2016;24:552-81. doi:10.1162/POSC_a_00223

13 Jennings W, Valgarðsson V, McKay L, Stoker G, Mello E, Baniamin HM. Trust and vaccine hesitancy during the COVID-19 pandemic: A cross-national analysis. *Vaccine X* 2023;14:100299. doi:10.1016/j.jvaxc.2023.100299

14 Schernhammer E, Weitzer J, Laubichler MD, et al. Correlates of COVID-19 vaccine hesitancy in Austria: trust and the government. *J Public Health (Oxf)* 2022;44:e106-16. doi:10.1093/pubmed/fdab122

15 Sanders C, Burnett K. The neoliberal roots of modern vaccine hesitancy. *J Health Soc Sci* 2019;4:149-56.

16 Brimnes N. Variolation, vaccination and popular resistance in early colonial south India. *Med Hist* 2004;48:199-228. doi:10.1017/S0025727300000107

17 Enria L, Lees S, Smout E, et al. Power, fairness and trust: understanding and engaging with vaccine trial participants and communities in the setting up the EBOVAC-Salome vaccine trial in Sierra Leone. *BMC Public Health* 2016;16:1140. doi:10.1186/s12889-016-3799-x

18 Conteh A, Sesay JJ, Macarthy JM, Koroma B, Priddy C, Enria L. Gendered Experiences of COVID-19 Vaccination in Freetown: A Qualitative Study in Portee-Rokupa Community. 2023. https://www.slurc.org/uploads/1/0/9/7/109761391/0130_-_lshtm slurc_final.pdf.

19 Lenzer J. Secret report surfaces showing that Pfizer was at fault in Nigerian drug tests. *BMJ* 2006;332:1233. doi:10.1136/bmj.332.7552.1233-a

20 Ghinai I, Willott C, Dadari I, Larson HJ. Listening to the rumours: what the northern Nigeria polio vaccine boycott can tell us ten years on. *Glob Public Health* 2013;8:1138-50. doi:10.1080/17441692.2013.859720

21 Jamison AM, Quinn SC, Freimuth VS. “You don’t trust a government vaccine”: Narratives of institutional trust and influenza vaccination among African American and white adults. *Soc Sci Med* 2019;221:87-94. doi:10.1016/j.socscimed.2018.12.020

22 Scharff DP, Mathews KJ, Jackson P, Hoffsuemmer J, Martin E, Edwards D. More than Tuskegee: understanding mistrust about research participation. *J Health Care Poor Underserved* 2010;21:879-97. doi:10.1353/hpu.0.0323

23 Enria L, Bangura JS, Kanu HM, et al. Bringing the social into vaccination research: Community-led ethnography and trust-building in immunization programs in Sierra Leone. *PLoS One* 2021;16:e0258252. doi:10.1371/journal.pone.0258252

24 Kasstan B. Vaccines and vitriol: an anthropological commentary on vaccine hesitancy, decision-making and interventionism among religious minorities.

Anthropol Med 2021;28:411-9. doi:10.1080/13648470.2020.1825618

25 Urbanati N. Political theory of populism. *Annu Rev Polit Sci* 2019;22:111-27. doi:10.1146/annurev-polisci-050317-070753

26 Kennedy J. Populist politics and vaccine hesitancy in Western Europe: an analysis of national-level data. *Eur J Public Health* 2019;29:512-6. doi:10.1093/eurpub/ckz004

27 Paget D. Tanzania: Narrating the Eradication of Covid-19. In: Ringe N, Rennó L, eds. *Populists and the Pandemic: How Populists Around the World Responded to COVID-19*. Routledge, 2022: 207-17. doi:10.4324/9781003197614-18

28 Mesch GS, Schwirian KP. Social and political determinants of vaccine hesitancy: Lessons learned from the H1N1 pandemic of 2009-2010. *Am J Infect Control* 2015;43:1161-5. doi:10.1016/j.ajic.2015.06.031

29 Stecula DA, Pickup M. How populism and conservative media fuel conspiracy beliefs about COVID-19 and what it means for COVID-19 behaviors. *Research and Politics* 2021;8:1-9. doi:10.1177/2053168021993979

30 Stoeckel F, Carter C, Lyons BA, Reifler J. The politics of vaccine hesitancy in Europe. *Eur J Public Health* 2022;32:636-42. doi:10.1093/eurpub/ckac041

31 Center for Countering Digital Hate. The anti-vaxx industry how big tech powers and profits from vaccine misinformation. 2020. <https://counterhate.com/research/the-anti-vaxx-industry/>.

32 Chandler C, Fairhead J, Kelly A, et al. Ebola Response Anthropology Platform. Ebola: limitations of correcting misinformation. *Lancet* 2015;385:1275-7. doi:10.1016/S0140-6736(14)62382-5

33 Jain M, Shisler S, Lane C, Bagai A, Brown E, Engelbert M. Use of community engagement interventions to improve child immunisation in low-income and middle-income countries: a systematic review and meta-analysis. *BMJ Open* 2022;12:e061568. doi:10.1136/bmjopen-2022-061568

34 Bedson J, Jalloh MF, Pedit D, et al. Community engagement in outbreak response: lessons from the 2014-2016 Ebola outbreak in Sierra Leone. *BMJ Glob Health* 2020;5:e002145. doi:10.1136/bmjgh-2019-002145

35 Enria L. Unsettled authority and humanitarian practice: reflections on local legitimacy from Sierra Leone’s borderlands. *Oxf Dev Stud* 2020;48:387-99. doi:10.1080/13600818.2020.1828325

36 Parker M, MacGregor H, Akello G. COVID-19, public authority and enforcement. *Med Anthropol* 2020;39:666-70. doi:10.1080/01459740.2020.1822833

37 Anderson A, Griffith DM. Measuring the trustworthiness of health care organizations and systems. *Milbank Q* 2022;100:345-64. doi:10.1111/1468-0009.12564

38 Anderson E. Democracy, Public Policy, and Lay Assessments of Scientific Testimony1. *Episteme (Edinb)* 2011;8:144-64. doi:10.3366/epi.2011.0013

39 Colomina C, Margalef HS, Youngs R. The impact of disinformation on democratic processes and human rights in the world. 2021. [https://www.europarl.europa.eu/RegData/etudes/STUD/2021/653635/EXPO_STU\(2021\)653635_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/STUD/2021/653635/EXPO_STU(2021)653635_EN.pdf).

40 International Fund for Public Interest Media. Home page. <https://ifpim.org/>.

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