Comment

RODRIGO GARRIDO/REUTERS

People wait to receive a COVID-19 vaccine at a mobile clinic in Valparaiso, Chile.

COVID-19: talk of 'vaccine hesitancy' lets governments off the hook

Katie Attwell, Adam Hannah & Julie Leask

Go beyond the attitudes of individuals and focus more on what governments must do to build people's trust and ensure easy access to vaccines for all.

With every twist and turn of the COVID-19 pandemic, journalists, governments, policymakers and researchers have increasingly used the term 'vaccine hesitancy' to account for why so many people remain unvaccinated even in nations where supplies are plentiful. The share of papers with 'vaccine' or 'vaccination' in the title that also mention 'hesitancy' rose from 3.3% in 2019 to 8.3% in 2021 (see 'The power of words'), according to a Web of Science search.

The most striking lesson from the pandemic is that preoccupation with vaccine hesitancy — whatever that term might mean to different people — centres too much of the responsibility for the success (or not) of a vaccination programme on individuals.

It is mainly governments that have the power to make vaccines both accessible and acceptable. Before the COVID-19 vaccine roll-out, a survey indicated that people living in Chile were more reluctant to get vaccinated than were those in other Latin American countries[1]. Yet more than 89% of Chile's population has been fully vaccinated, as defined by that nation. And an early analysis indicates that this is largely thanks to vaccination being prioritized politically[2]. In a pre-pandemic example, Australia's federal government started to introduce various improvements to childhood immunization programmes in 1997, including financial incentives for parents and doctors. Childhood vaccination rates rose

from around 84% to 94% within three years[3].

Governments can and should be doing much more to ensure that COVID-19 vaccination becomes normal — even banal. That means fully funding the provision of vaccines and making them easily available, for instance through home visits or pop-up clinics. It also means researching and developing messaging that is appropriate for all groups. Meanwhile, more social scientists and other researchers should be trying to understand the relationship between governments (including their past and present actions) and people's acceptance of vaccines.

In short, the pandemic is producing a wealth of data on the effectiveness (or not) of vaccination programmes. Researchers, policymakers and other stakeholders must make the most of these data to scrutinize what governments (not just individuals) do — and how they can do it better.

The coinage

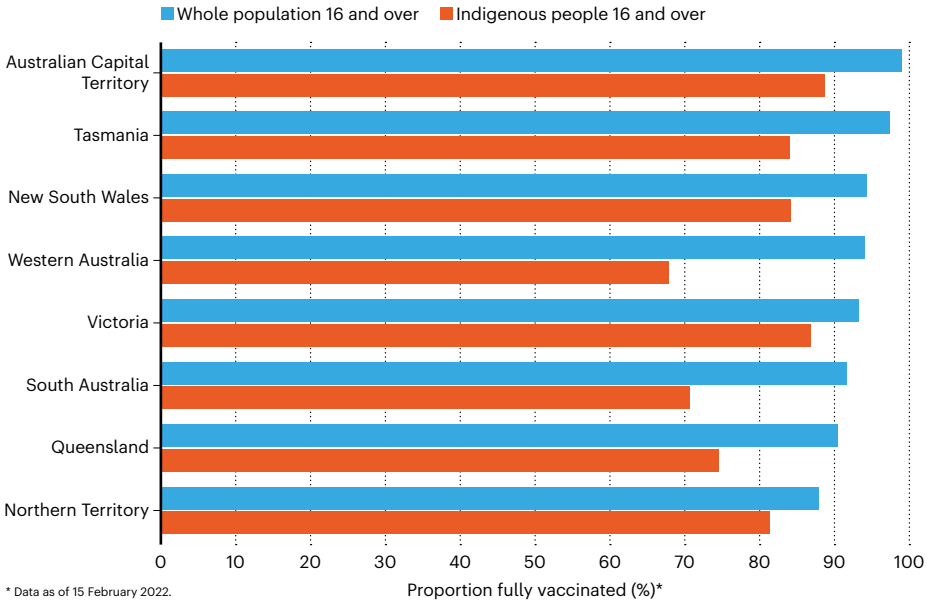
According to the World Health Organization's (WHO's) 3Cs model[4] — which, in our view, has always been problematic[5] — a person's propensity to be vaccine-hesitant is a function of three things: confidence, complacency and convenience. Confidence is defined as trust in the effectiveness and safety of vaccines, the system that delivers them and the policymakers who decide that they are warranted. Complacency is when people perceive the risks of diseases as too low for vaccination to be worth the trouble. And convenience is the ease with which people can access vaccines, depending on geographical proximity, affordability and so on.

But in the more than 2,600 articles on hesitancy published since 2014, scholars have tended to focus too narrowly on the attitudes and behaviours of individuals. Most of the work on vaccine hesitancy has involved: population surveys and polls that track people's attitudes; correlation studies to assess how levels of education, income, socioeconomic background, political ideology, use of social media and so on relate to people's vaccination status; or experiments that investigate how a particular intervention (promotional messages, say) affects uptake. Such work tends to emphasize the importance of behavioural interventions for individual choices.

To be fair, there is widespread recognition among social scientists that the issues affecting vaccine uptake are many and complex[6]. And various behavioural interventions have improved coverage in some contexts[7]. But more investigations are needed into how party politics and political ideology shape the policies that governments end up pursuing, and what factors make a specific policy, such as a vaccine mandate for travel, succeed or fail in a given setting.

COVID-19 VACCINATIONS BY AUSTRALIAN STATE

Aboriginal and Torres Strait Islander communities in Australia are less likely than the overall population to get vaccinated against COVID-19, in part because it is harder for them to access vaccines.



* Data as of 15 February 2022.

SOURCE: AUSTRALIAN GOVERNMENT DEPARTMENT OF HEALTH

Access depends on governments

Often, what has actually been slowing the uptake of vaccines in countries where supplies are plentiful is problems with access — problems that governments could take steps to address.

In Australia, coverage rates for COVID-19 vaccines are 7–26% lower in Aboriginal and Torres Strait Islander communities than in the overall population (see 'COVID-19 vaccinations by Australian state'). When discussing drivers of low vaccine uptake in Aboriginal communities last August, the minister for Indigenous Australians, Ken Wyatt, argued that "some people have made choices because they've become fearful of adverse effects". This framing as a 'choice' overlooked the supply problems and slow roll-out plaguing the country, as well as the lack of schemes (such as allowing people to get vaccinated without booking an appointment) for ensuring that vaccine services were reaching disadvantaged populations, including those living in remote regions.

> **"Age-based roll-out does not take into account the disparate effects of race and social determinants of health."**

Similarly, in the United States, uptake of COVID-19 vaccines in Black communities was 14 percentage points lower than in white communities in the first five months of the country's vaccine roll-out. (This gap has now reduced to 6 percentage points for those receiving at least one dose.)

Various media reports homed in on vaccine hesitancy as the explanation. But Black scholars, community leaders and investigative journalists have pointed to important systemic issues. Among them is that an age-based roll-out does not take into account the disparate effects of race and social determinants of health. This means that some at-risk Black and Hispanic citizens — who have higher death rates from COVID-19 across all age groups — had to wait longer than did their white counterparts. Black Americans are less likely to own computers, which are easier to book vaccine appointments on than smartphones. Furthermore, many people in these communities don't have easy access to the pharmacies that distribute the vaccines.

Attitudes, too, can depend on governments

For the past decade — but especially during the COVID-19 pandemic — politicians and medical professionals, the media, even some scientists,

TAMATI SMITH/GETTY

Actor Ernie Dingo (left) discusses COVID-19 vaccine certificates with fellow Aboriginal Australians.

have often attributed people's resistance to vaccination to a vulnerability to misinformation, a lack of education or simply selfishness. The implied solution is more education and persuasion, for instance through messaging campaigns, and if these strategies fail — mandates.

But a closer look at why some people are not getting vaccinated indicates that the problems are more complicated and, invariably, they start further up the chain. Also, issues around access feed into issues around acceptance. If governments fail to reach people promptly with easy-to-get vaccines and clear encouragement, other messages fill the void and people are likely to grow more worried about getting vaccinated.

Take some of the women we spoke to last August as part of a large interdisciplinary research project called Coronavax, which was designed to establish what people in Western Australia think and feel about COVID-19 vaccines, and why[8]. Larmina, a refugee from Afghanistan, now lives in Perth, which until recently had no community transmission of COVID-19. Even if she'd wanted to, Larmina would have struggled to book a vaccine appointment, because all the information about how to do so was in English, not Persian. If the government had provided trustworthy vaccine information in Persian, Larmina hadn't seen it. Instead, she'd been reading alarming stories about COVID-19 vaccines on social media and in WhatsApp group chats with her family.

Investigations in other countries into communities that were apparently resisting childhood vaccines have indicated the importance of governments taking swift action to address specific local concerns. In 2013, Sweden's Public Health Agency collaborated with WHO experts, a social scientist with specific cultural expertise, and local community leaders to address the low uptake of measles vaccines in Somali migrant communities. Through in-depth interviews and multiple consultations, the team established that parents were worried about perceived dangers of the measles–mumps–rubella (MMR) vaccine, and that health workers were not equipped to deal with their concerns. Those findings led to a suite of interventions, thought to be at least partly responsible for increasing MMR coverage — such as training members of the community to become advocates of vaccination for their friends and family, educational videos for local community members, educational opportunities for health workers, and so on[9].

"Resources must be developed and disseminated in ways that are culturally sensitive and appropriate."

In short, easily available services and targeted messaging at the outset help to establish people's confidence in the nation's ability to deliver a safe and effective vaccination programme. Equally, diffidence and inconsistent messaging can have enduring disastrous effects. Before Italy and France rebooted their mandates in 2017–18, uptake of some childhood vaccines had dropped below 85%. (The target is 95%.) In both countries, political leaders had resisted stepping into the fray or funding communication campaigns to address local scandals about vaccines that had arisen in previous decades[10,11].

How to do it better

Nobody is born wanting to get vaccinated. Every generation and social group across the world must be socialized into the practice. To achieve this, governments must make more investments on at least three fronts.

Know the weaknesses. As well as funding free and convenient vaccine services, governments should be funding, designing and constructing more analytical approaches to identify and understand the weaknesses of their systems. These should be quantitative as well as qualitative.

Countries with well-built childhood vaccination registers are ahead of the game when it comes to assessing COVID-19 vaccine coverage. Between 2012 and 2014, Denmark revamped its childhood vaccination tracking system so that it now captures a larger number of variables, such as type of vaccine and dose. It also mandated the reporting of such data by vaccine providers[12].

But information for both routine and COVID-19 vaccinations is often patchy. In Italy, for example, electronic registers documenting children's vaccination status are better in some regions than in others. In some countries, such registers don't exist, and governments instead use either less reliable or less informative data to estimate coverage rates. France, for example, uses the number of vaccine doses purchased; the United States relies on the vaccination data collected by schools when children enrol.

Countries should augment their national registers with comprehensive analyses of the behavioural and social drivers of vaccination, using validated tools. European countries, for example, conduct surveys to assess people's attitudes to vaccination. But because of sensitivities around ethnicity (among other issues), some surveys do not collect demographic data that could reliably identify minority groups who need further support, such as Roma people[13]. Also, attitudinal surveys with closed answers that don't allow responders to elaborate won't reveal the complex perspectives people have and the barriers they face.

This year, the WHO is expected to release a set of survey questions and guidance for in-depth interviews that are designed to help reveal a broad range of factors affecting the uptake of childhood as well as COVID-19 vaccines. One of us (J.L.) has been involved in this effort. Questions cover how people think and feel about vaccines, but also practical issues, such as how easy it is for them to cover the cost of getting to the clinic. In our view, all countries should be using these.

Know the needs of marginalized groups. Governments should be investing more resources in qualitative research to better understand the unique needs of culturally and linguistically diverse groups. Some groups are likely to require extra support or interventions owing to language barriers or mistrust that

stems from decades of poor treatment, racism and other forms of discrimination.

Investigators must go out to the communities and engage with people in person. Since 2014, UK public-health authorities have been working with a Charedi Jewish community in London, in which MMR (first dose) vaccination coverage was just 78% in 2015. Interviews of mothers and health professionals revealed that long waits in uncomfortable waiting rooms were more of an issue than were concerns about the safety of the vaccine, and led to a much more locally tailored approach to improving coverage[14].

It is not enough to just build a resource, such as vaccine information or instructions on how to get vaccinated, in the right language. Resources must also be developed and disseminated in ways that are culturally sensitive and appropriate. In Bangladesh, the WHO helped the government to administer COVID-19 vaccines to around 900,000 Rohingya refugees who fled genocide in Myanmar in 2017. Rohingya volunteers engaged as community health workers had a key role in communicating health messages, working with community leaders and accompanying older people to vaccination centres. And by September 2021 (just two months into the vaccination programme), more than 86% of the targeted population (those 55 or older) had received at least one dose.

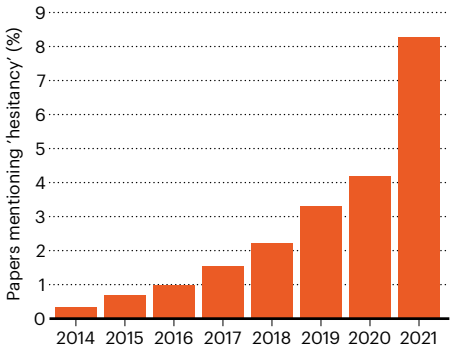
Invest in health systems. Finally, how governments design and implement health-care policies, vaccination programmes and vaccine delivery procedures over the long term will influence how populations respond to future pandemics, as well as the likely ongoing need for boosters against new COVID-19 variants. Equity in access to health care creates myriad opportunities to normalize and socialize vaccination in child health programmes, for instance, or in maternity care programmes.

Take the example from Chile. Chile forged contracts with a wide range of potential vaccine providers early in the pandemic to ensure that it would have adequate supplies of vaccines early in the global roll-out. This might have been, in part, because the government was under pressure to succeed following the political protests (beginning in 2019) against the neoliberal economic policies that have dominated the country since the 1970s — and after it experienced one of the worst COVID-19 outbreaks in the world in mid-2020.

Chile was also able to leverage existing health systems and infrastructure. Its experience with a national programme for influenza vaccines since 1982, as well as more recent reforms aimed at strengthening its primary health system[15], meant that the government was already well-equipped to work collaboratively with local communities to deliver COVID-19 vaccines. Chile used public spaces such as schools and parks as temporary vaccination hubs, partly on the basis of data drawn from existing systems for the collection and management of geospatial information. Also, an innovative country-wide vaccination calendar meant that people could turn up on their allotted day without having to book an appointment.

THE POWER OF WORDS

The share of papers about vaccines or vaccination that mention 'hesitancy' has risen exponentially in recent years.



SOURCE: WEB OF SCIENCE

Evidence base

The evidence base that governments can draw on needs building.

A survey conducted in 19 countries in 2020 before the roll-out of COVID-19 vaccines found a strong link between people's reported trust in government and their willingness to be vaccinated[16]. And this has been supported by various observations in the pandemic. In the United States, for example, some Republican legislators are striving to nullify COVID-19 vaccine mandates[17]. And unvaccinated adults are at least three times as likely to identify as Republicans than as Democrats (see go.nature.com/34y3snp). Meanwhile, in Russia, various surveys indicate low levels of trust in the government[18]. And only around 54% of the population have had at least one dose of a COVID-19 vaccine, despite the Sputnik V vaccine being free, home-grown and moderately effective, at least against the Delta variant.

But many questions remain about how populism, geopolitics and so on shape vaccination uptake. In fact, there is evidence to suggest that trust in leaders could be eroded even as trust in specific public systems, such as health care or vaccination, remains high[19,20].

More studies also need to be done on the impacts of different regulatory approaches on public confidence. For example, the United Kingdom has only just announced plans to offer COVID-19 vaccines to healthy children under 11 years of age, and the delay might have increased the reluctance of some parents to get their children vaccinated. Parents outside the United Kingdom often cite differing vaccine recommendations between countries as a basis for their hesitancy.

Research programmes (including those using tools and approaches from political science) are crucial to resolving such issues, and to revealing where governments can invest most effectively. And, of course, existing interventions must be rigorously evaluated across multiple contexts. Evidence is emerging in the Coronavax Project[8], for instance, that COVID-19 vaccine mandates are undermining acceptance of other vaccines in Western Australia.

WHO-guided reviews of a country's performance during the pandemic, including in procuring and delivering vaccines, will help governments to make sense of their successes and failures[21]. Ultimately, it is governments that must step up and continually invest in the expensive, difficult work required to increase uptake and protect populations.

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