

Key considerations: Effective vaccine rollout and uptake in Sierra Leone

Sierra Leone received its first shipment of 550,000 malaria vaccines in December 2023, marking a milestone for public health in a country that sees over two million hospital visits for malaria annually.¹ Over the last 20 years, routine childhood vaccination in Sierra Leone has increased significantly; DTP (diphtheria, tetanus and pertussis) coverage went from 64% in 2004 to 91% in 2022, while measles went from 60% in 2015 to 73% in 2022.² Sierra Leone has also implemented emergency vaccination programmes, such as experimental Ebola vaccines and the more recent COVID-19 vaccines. However, major crises – such as the 1991-2002 civil war and the Ebola epidemic – have resulted in significant drops in vaccine coverage.

This brief draws on evidence from academic and grey literature, proposing key considerations for ongoing vaccination efforts – including the hepatitis vaccine and the new malaria vaccine (RTS,S/AS01 (RTS,S)). It offers insights on how best to address these considerations when planning equitable vaccine campaigns for new infections. This will enable UNICEF and health system stakeholders including the Expanded Program on Immunization, the Directorate of Primary Healthcare, and the District Health Management Teams to plan inclusive and equitable vaccine programming.

Key considerations

- **Holistic improvements to service delivery strengthen vaccine confidence.** Efforts to improve relations between healthcare workers and patients through training, codes of conduct and fair wages for health staff in remote settings, are important examples of this.
- **Investing resources in adapting to communities' access needs pays off.** Consulting communities on their preferences and reflections on the most effective delivery strategies for their context (such as last-mile efforts, pop-up and door-to-door vaccinations) helps to sustainably address access issues.
- **Emergency vaccination campaign planning must take into account potential negative effects on routine vaccination.** This includes effectively allocating time and resources to health staff or providing additional human resources to mitigate overburdening health facility staff.
- **Emergency response modalities can negatively influence confidence in the health system.** Militarised approaches (e.g., during the Ebola response) can erode trust in the health system during and after health emergencies and should be carefully considered.
- **Community stakeholders must be at the centre of planning vaccine delivery, messaging and outcome evaluation.** This supports inclusive vaccine planning and delivery, strengthens community ownership and helps address contextual challenges.
- **Acknowledging and attending to the fears and concerns of the community builds trust.** Fears and concerns surrounding vaccination are too often dismissed as 'misconceptions'. Recognising the legitimacy of communities' concerns and addressing them directly helps overcome mistrust of public health establishments.
- **Developing localised approaches to community engagement builds vaccine acceptance.** Social ties and identities influence how people engage with vaccines. Research to understand community dynamics helps inform tailored engagement approaches to address the realities and experiences of different social groups.
- **Leveraging 'enablers' of vaccination drives uptake.** Rather than focusing solely on barriers to vaccination, research shows that narratives focused on protecting oneself and the community can be powerful drivers of vaccination.

- **Employing a variety of communication channels is crucial to address mis- and dis-information.** Traditional media and face-to-face methods of engagement help mediate how people engage with online information, supporting them to differentiate between the facts and false information.
- **Gender-responsive and transformative vaccine programming helps address the challenges posed by gendered beliefs and practices.** Adapting vaccine deployment strategies to address the impact of gender on behaviours and attitudes towards vaccines includes identifying opportunities to align immunisation goals with empowerment efforts.
- **Addressing structural barriers to equitable healthcare delivery improves trust in vaccination programmes.** Levels of trust must be understood in the context of structural drivers of inequities in accessing healthcare, such as health worker absenteeism and drug and medical supply stock outs.

Contextualising the health system in Sierra Leone

Sierra Leone's health system has experienced protracted and cyclical shocks including a decade long civil war (1991-2002); the Ebola epidemic (2014-2016), which led to the death of nearly 4,000 people; the Freetown mudslide (2017); and the COVID-19 pandemic. Health system funding began to decline after structural adjustment programmes in 1990 and insufficient financing continues to undermine the public health system.³ During times of crisis, the health system has failed to respond or cope due to a limited health workforce, a scarce supply of drugs and equipment and chronic underfunding. For example, during the COVID-19 pandemic, routine services were disrupted; health workers faced additional responsibilities and training needs; and communication between health facilities and national level organisation was uncoordinated.⁴ These structural weaknesses affect healthcare delivery, which in turn undermines trust in both vaccination programmes and the health system.

Recent health emergencies highlight the challenges and gaps in vaccination rollout in Sierra Leone and issues related to the broader health system. During and after the 2014-16 West Africa Ebola epidemic, Sierra Leone was the site of several Ebola vaccine trials that have since been deployed to respond to new outbreaks in neighbouring Guinea. Since April 2022, COVID-19 vaccines have been delivered across the country. Despite many successes, challenges remain. These include inequitable COVID-19 coverage in some parts of the country, accessibility concerns, problems with trust in the vaccination process, and difficulties in data quality and management.⁵ In addition, existing knowledge and practitioners' experience has not been systematically collated. Broader health system challenges, discussed in more depth below, also include a limited supply of pharmaceutical drugs, insufficient health worker staffing and restricted access to diagnosis and care.

Social science perspectives on vaccine confidence

Vaccine confidence requires trust in the vaccine (the product), the vaccinator, (the service provider) and those who make decisions about vaccine provisions (the policymaker).⁶ In contrast, vaccine hesitancy refers to the 'refusal, delay or acceptance with doubt' of vaccines.⁷ These decisions are shaped by one's social groups.⁸ Vaccine acceptance is a complex social process rooted in specific socio-political contexts, as well as vaccine policy and messaging. See additional [SSHAP resources](#) on vaccines for more context.

Research on vaccination in Sierra Leone has grown in recent years. However, it is often uncoordinated and translation into practice is limited. Research shows that in Sierra Leone, people's self-reported willingness to vaccinate is influenced by a range of factors including reliability of information on the side effects and potential benefits of vaccines; preference for

natural immunity; uncertainties about long-term effects; and a lack of trust in healthcare practitioners.¹⁰⁻¹²

This research has overly focused on questions around vaccine demand rather than access and supply. There are lessons to be learnt from recent studies on experimental Ebola vaccines, COVID-19 deployment and routine vaccination. Many of these studies situate public perceptions of vaccines in their broader socio-political context to highlight how systemic issues, social norms and socio-demographic characteristics can influence uptake and trust in vaccination.^{12,13} However, despite this contextualised evidence, funding has gone primarily into supply chains and less into community engagement to improve vaccine confidence and trust.

New malaria vaccine rollout

On World Malaria Day, Sierra Leone officially launched the rollout of 550,000 doses of the RTS,S WHO vaccine.¹⁴ Currently, efforts are targeting all six-month-old babies at risk of malaria-related death. The new vaccine prevents children from getting severe malaria.¹⁵ The introduction of the malaria vaccine into routine immunisation services is important, and there are lessons to be learnt from a) the introduction of new vaccines in the country (e.g., Ebola or HPV); b) changes to existing vaccines (e.g., moPV to bOpV and IPV in 2021); and c) the dynamics that shape uptake of routine vaccination. Early evidence from malaria vaccine rollout in other countries yields important insights for Sierra Leone.¹⁷⁻²⁰

In Cameroon and Burkina Faso, evidence points to the importance of amplified risk communication and community engagement efforts beyond routine immunisation practices to improve vaccine uptake.¹⁹ In Ghana, the spread of rumours via social media platforms like WhatsApp led to malaria vaccine refusals. These rumours included statements that the vaccine had not been approved by the WHO or the Food and Drug Administration; that Europeans were using Ghanaian children as guinea pigs to test the vaccine; that the vaccine would sterilise or kill children; and that politicians and healthcare workers were taking bribes for this rollout.¹⁸ These rumours were more sporadic than sustained, with community engagement efforts and the use of locally appropriate communication channels helping to overcome misinformation. In Cameroon, high-risk perception of malaria contributed to the successful vaccine launch, indicating that risk communication efforts may help.¹⁷

The following sections highlight specific contextual factors and considerations to support its rollout in Sierra Leone, based on previous experience and evidence.

Barriers to vaccine uptake

Structural factors drive inequitable access to vaccination in Sierra Leone. Factors shaping vaccine delivery and acceptance are multi-layered, however, and vaccine inequity is largely dictated by geography, income and gender.²⁰ Limited public health financing places constraints on outreach and supply chain capacity for immunisation programmes. As a result, people from lower socio-economic backgrounds are often left behind when it comes to accessing a range of vaccines.^{21,22} This is particularly true for Sierra Leone, where geographical challenges – such as accessing remote rural and riverine areas – have resulted in significant challenges to last-mile delivery (the last part of the supply chain, where vaccines are transported to their final destination).

Women's experiences and perspectives of vaccination are shaped by gender norms, which restrict their ability to make decisions about vaccinating themselves and their children. Situating vaccination within its context, including struggles over sexual and reproductive health rights can support efforts to vaccinate women and girls.

Health system challenges

Challenges to healthcare access and delivery, beyond vaccination, have been shown to have a direct effect on decisions to vaccinate. For example, in a study conducted by community health workers through **citizen ethnography** (ethnographic research led by citizens), the authors found that prior negative experience with health services – for any health issue – resulted in unwillingness to return to the health centre for vaccination. Negative experiences included a perceived lack of respect for patients, particularly those from poor and rural backgrounds. In addition, issues like short supplies of drugs and demands for payments from volunteer health workers were interpreted as malpractice. This resulted in perceptions that the system was ineffective or corrupt. Therefore, broader challenges to deliver quality healthcare to the population negatively influenced individuals' willingness to receive the vaccination.

Improving access to quality healthcare has been a key priority of the government of Sierra Leone. More research is needed to identify how these efforts may be impacting perceptions and experiences of vaccination.

Access to vaccines

Vaccine access in Sierra Leone is challenged by user fees at health facilities; limited vaccine supply or availability; and cold chain issues (challenges to transporting vaccines at controlled and consistently low temperatures). Access challenges affect vaccine uptake directly but also indirectly by undermining confidence in the system. Supply and demand, in other words, cannot be easily disentangled.

One study comparing rural and urban residents' experiences in accessing and receiving vaccination found no significant difference in reported accessibility, however a minority (less than a quarter) felt that vaccination sites were too far away. Half of the respondents also reported having to pay at a health facility and one in 10 stated that they had to return home without their child being vaccinated. Reasons for this included practices around the need for sufficient numbers to justify opening a vial, short supply of vaccines, or turning up on a day that was not a scheduled vaccination day.²³

The authors of this SSHAP brief have conducted field research that shows how challenges with population calculations (e.g., in border communities where people access services from across the border) results in challenges to effectively estimate coverage, as well as to identify low-immunisation communities and secure adequate supply. Similarly, challenges to cold chains and health workers' need to cover long distances for outreach can result in vaccines being compromised. On the positive side, a recent randomised controlled study of 150 rural communities in Sierra Leone showed that the use of mobile vaccination teams increased vaccination rates by 20%.²⁴

As noted above, current research on vaccination in Sierra Leone remains primarily focused on demand. More research is needed on structural factors, including both local and system-level factors, influencing access and delivery.

Impact of health emergencies

Health emergencies influence access to and confidence in vaccination through overloading health workers and shifting their priorities toward an emergency and away from routine vaccination. During the Ebola outbreak, routine childhood vaccination against illnesses such as measles was significantly affected across different settings.²⁵ Many children either missed out on routine vaccination or never received the recommended doses of vaccines such as measles.²⁶

Militarised responses

The militaristic management of public health emergencies has also been shown to have important effects on vaccine confidence, diminishing vaccine access and eroding trust in

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authorities. For example, the disproportionate use of power to enforce compliance during public health responses to health emergencies has been shown to severely impact access and demand for both routine and emergency vaccines.²⁸⁻³⁰

The command structure of the Ebola response, which was embodied in the National Ebola Response Centre, included both British and Sierra Leonean military personnel (and civilians). This oversaw the strict regulation and control of movement to prevent the spread of the virus.³⁰ Typically, public health responses to disease outbreaks in Sierra Leone, including COVID-19 and Ebola, have been militaristic. This approach has included restricting travel from remote locations to health facilities and instilling fear in citizens, with the effect of further eroding trust in public services and authorities. Taken together, this has impacted the scope and uptake of routine vaccination services.³²⁻³⁴

Historical legacies of fear

Social experiences of health emergencies shape trust in vaccines. This is both in terms of an emergency vaccine rolled out during a public health emergency and the spillover effects this can have on routine vaccination. Research during the Ebola vaccine trials demonstrated how fears surrounding the epidemic – including concerns that it was a ‘ploy to kill the population’ – influenced concerns about vaccine safety.³⁴ These studies also showed that such fears are understandable when placed in their political and historical context, particularly in relation to histories of colonial extraction and war. As such, there is a need for two-way dialogue that takes these concerns seriously rather than dismissing them as misconceptions.

Assumptions that low uptake means resistance to vaccination are unhelpful and should be avoided. Labelling specific groups as ‘hesitant’ can be counter-productive, increasing mistrust and exacerbating existing marginalisation. Rather, the focus should be on dialogue to identify drivers of mistrust and any concerns specific to vaccines or broader anxieties surrounding access to healthcare.

How socio-cultural factors and information shape vaccination trends

In this section, we firstly consider how socio-cultural factors salient to different communities across Sierra Leone – from religion to gender – shape people’s attitudes to vaccination. We then consider how information and perceptions, including risk assessments, influence vaccination decisions.

Religious beliefs

Vaccine perceptions and attitudes are strongly linked to religious beliefs in Sierra Leone. Cummings *et al.* (2023) conducted a study on vaccine uptake among people living with HIV in Freetown, which showed that belonging to the Muslim faith was associated with COVID-19 vaccine hesitancy.¹¹ Another study looking at childhood vaccination in Sierra Leone, Liberia and Guinea found that children of Muslim mothers were less likely than Christian mothers to complete Hepatitis B vaccination.⁹ This is consistent with a recent study on immunisation in Sierra Leone, which saw a higher likelihood of missed vaccination for children with Muslim caregivers compared to children with Christian caregivers.²⁶ While these findings might not be consistent with all Muslims, it is believed that vaccine hesitancy and rejection among Muslims might be connected to whether vaccines are ‘halal’ (religiously permissible) or in line with Islamic teachings, particularly during the month of Ramadan.^{12,36-38} Previous evidence from Nigeria showed that tensions between Muslims and Christians may be a contributing factor, since vaccines mostly come from Christian nations.³⁸ However, this should not be interpreted to mean that Muslims will by default reject vaccination. Some studies indicate that perceived hesitancy in Muslim communities that are also ethnic minorities (e.g., Fulani groups) are a result of social exclusion, which heightens mistrust.³⁹

Patriarchy and gender norms

In many settings in Sierra Leone, patriarchal structures shape how women make decisions about marriage, education, childbearing and health-seeking behaviours. A study of caregivers in urban informal settlements found that men usually determine decision making on vaccination in the household. This is largely because women often rely on their partners for reminders about scheduled vaccination and financial support to cover direct and indirect expenses.¹⁰ The study also revealed that children whose mothers received strong support from their partners (by accompanying them to the clinic) were more likely to complete their vaccination schedule.

The influence of patriarchal norms on healthcare-seeking behaviours for women was observed in Sierra Leone, where men were more likely than women to have vaccinations administered to them for COVID-19.⁴⁰ Gender analysis from CARE reflects on women's limited access to information, coupled with financial limitations and the need to seek permission from their male partners to access vaccines. In a similar study that was conducted in an informal settlement in Freetown, it was observed that uptake of COVID-19 vaccines was influenced by gender norms, as some women needed to seek permission from their partners to receive the vaccine.⁴¹ Gender norms are also relevant to childhood vaccination. Wassenaar and colleagues (2024) note that children with male caregivers are likely to have lower immunisation rates, due to men's limited involvement and knowledge about childhood vaccination.²⁶ Understanding the dynamics of patriarchal and gender norms is essential in developing targeted interventions for men and women to enhance gender-sensitive decision making on vaccination at household and community levels. This should be coupled with programmes that seek to empower women to be able to make decisions for themselves.

Perceived risks of side effects

Perceived risk of severe illness as a side effect of vaccination is a common concern that impedes vaccine acceptance. Several studies in Sub-Saharan Africa have shown that caregivers' lack of trust in the safety of vaccines for their children is a major barrier to vaccine uptake. Evidence shows that perceptions about the harmful nature of childhood vaccines affects vaccine acceptance. Popular beliefs include that some vaccines expire before arrival in the community, with the potential for severe consequences such as physical disability and death.⁴¹⁻⁴⁴

Fear of infertility could be a major obstacle for parents who are considering whether or not to vaccinate their children in some Sub-Saharan African countries. A study on the COVID-19 vaccine in Sierra Leone demonstrated fears among women of reproductive age that the vaccine might affect their fertility. These fears were deeply connected to women's identity and the social significance of childbearing; in Sierra Leone, women without children are more likely to experience loneliness and neglect at old age – particularly in urban settings.¹³ In other settings, such as India and Nigeria, these rumours stem from forced sterilisation and population control programmes that had taken place in the past.^{38,46}

Rumours, concerns and misinformation

It is increasingly difficult to differentiate between the facts and misinformation (unintentionally false information) or disinformation (deliberately false information). The use and influence of social media has increased in recent years, and along with it exposure to misinformation on vaccination, thereby exacerbating public concerns about safety.^{47,48} While misinformation about vaccination tends to be targeted at health workers or reflect concerns about safety, research has shown that these narratives reflect broader mistrust in public and political actors. During the Ebola vaccine trials, for example, concerns about the vaccine included conspiracies around 'government plans to reduce the population' or 'extractive Western interests'.⁴⁹

We can also see this in narratives that framed COVID-19 as an extension of the neo-colonial exploitation of African populations. For some people, these sentiments were embodied in government enforcement of COVID-19 restrictions, which caused more suffering to already

vulnerable populations.⁵⁰ A survey conducted with informal settlement residents in Freetown showed that hesitancy was higher amongst those who had already partial mistrust in the government, or whose trust had declined since the onset of the pandemic.⁵⁰

Other research in Kambia District showed that social relations are very significant in determining trust in different types of information, including in how individuals consider the accuracy of information. This study also showed there was difficulty in knowing whether information on social media is accurate, compared to traditional media and contacts within one's social networks. Another study on community knowledge of COVID-19 also shows that radio was listed significantly higher than social media as a reliable source of information.⁵¹ This highlights the need to address concerns about online infodemics (proliferation of unsubstantiated information related to a crisis) through traditional modes of engagement, such as radio, traditional media, or via popular opinion leaders.

Factors that enable vaccine uptake

This section outlines learnings from recent research on the enablers of vaccine uptake from our recent vaccine studies and engagement with vaccine stakeholders in Freetown, Kambia District and other contexts in Sierra Leone.

Strategies for vaccine engagement and improved uptake

In response to the proliferation of misinformation about vaccines, the government of Sierra Leone publicly vaccinated political leaders, including the president, cabinet ministers and parliamentarians, with the COVID-19 vaccine. This aimed to raise public confidence in vaccination; to dispel rumours that the vaccine was harmful; and to encourage vaccine uptake. One study identified other interventions that improved both COVID-19 and routine vaccine uptake, such as the development of a near-real-time vaccination dashboard that enabled stakeholders to quickly access vaccine implementation information and make informed decisions.⁵² Several partners, including UNICEF and the Ministry of Health and Sanitation, have also focused on strengthening community engagement and developing novel approaches to 'social listening' and infodemic management. For example, one approach involved efforts to strengthen vaccine literacy as Sierra Leone prepared for the introduction of new malaria vaccines.

An ongoing study is assessing the relative efficacy of trainings on vaccine literacy and on detecting inaccurate health information, against a control condition among unvaccinated social media users in Freetown.⁵³ Key study outcomes will include increased vaccination uptake, ability to discern inaccurate health information, demand for formal health information and improved vaccine knowledge. The study team will further elicit online (WhatsApp) and offline (in-person) social network information in order to assess how the interventions impact information sharing within networks, though results are not yet published.⁵³

Perceptions of safety and altruism

When people feel that a vaccine is safe they are likely to accept it.⁵⁴ However, for others the primary motivation to receive a vaccine is to protect people in their family or community. A 2019 population survey in Sierra Leone showed that caregivers who thought that vaccines were 'very much safe' were more likely to have fully vaccinated children than those who thought vaccines were only 'somewhat safe'. Studies also indicate that the willingness for participants to take part in the Ebola vaccine trial in Sierra Leone was, in part, due to a strong belief that the vaccines were effective. Others described their participation as a 'duty of citizens to sacrifice themselves for the greater good of all'.^{34,55,56}

Previous experiences with vaccines

Vaccine uptake is often based on personal experience with vaccination and vaccine safety,⁵⁷ as well as on the experiences of individuals' social network.⁵⁸ Just as prior negative experiences of vaccination and healthcare shape hesitancy, so positive experiences enable future uptake. In a malaria perception study in Bo District, southern Sierra Leone, most participants stated that they would be likely to vaccinate their children against malaria.⁵⁹ This was because of positive experiences with vaccination for diseases such as measles, polio, hepatitis B, tuberculosis, diphtheria, and yellow fever, all of which had no severe side effects. These findings underscore the importance of sharing positive experiences of vaccination through community engagement, and of ensuring that first contact for vaccination is a respectful interaction. This fosters a conducive environment for future vaccine acceptance and uptake, for example of the new malaria vaccine.

Inclusive communication and engagement

The extent to which communities are engaged in discussions about the purpose, efficacy and safety of vaccines is important for the success of vaccine rollout; when citizens are involved in the planning of communications, they can help to dispel rumours and concerns. This has been a challenge because health communication in Sierra Leone remains largely top-down and excludes the voices of community members. In a study about risk perception in Sierra Leone, Winters *et al.* (2020) emphasised the need for increased engagement with communities in a manner that creates opportunity for shared understandings that align public perceptions with epidemiological risks (see also Bedson *et al.*, 2020).^{60,61} There have, however, been significant developments – particularly since the Ebola outbreak – that ushered in new initiatives, such as community-led action approaches. These approaches continue to be used to encourage community ownership in advocacy around a range of health and development issues, including vaccination.⁶¹ In a [2019 population survey](#), perceptions of high levels of community engagement were associated with higher vaccine confidence.¹⁰

In a vaccine study undertaken by the authors of this brief in Freetown,⁴¹ some health workers were adapting new ways of engaging with communities, such as door-to-door engagement. Door-to-door engagement with residents is beginning to change perceptions about both routine and emergency vaccines in marginalised urban settings, as it allows residents who are sceptical about COVID-19 and routine vaccines to ask questions about them and enrol in vaccination programmes. This is linked to evidence from a community setting in Sierra Leone. In a nationwide study on risk perception in Sierra Leone, Winters and colleagues (2021) found that recorded audio dramas disseminated via WhatsApp helped to align participants' perceived risk with epidemiological concerns around risk.⁶²

Engaging faith-based communities

Experience from other West African settings, such as the polio campaign in Nigeria, demonstrates the power of community engagement among Muslim populations for improved uptake.^{38,63–65} Successful strategies included taking a 'whole-of-community approach'; building long-term community ownership;⁶⁵ listening to concerns and addressing them;⁶⁴ and conducting engagement in a way that is sensitive to political and power dynamics.⁶³ Anecdotal evidence from the Ebola vaccine trials also showed that engaging imams facilitated vaccination during the month of Ramadan, though this was an emergency context. It is therefore helpful to understand the specific barriers associated with the intersections between religious practices and social exclusion. This can provide insights on how to build vaccine confidence among some sections of the Muslim population. Such an understanding helps support community engagement efforts. For example, through collaborating with religious and community leaders – an approach that has influenced positive vaccination uptake in Sierra Leone.^{66,67}

Building trust with local stakeholders

Studies on Ebola vaccine acceptance and community engagement in rural Sierra Leone demonstrate the importance of engaging local leaders to build trust and vaccine confidence at the community level.^{34,56,68} Evidence from Togo similarly suggests that local chiefs could be instrumental in providing solutions for practical and structural barriers that undermine routine childhood vaccination efforts.⁶⁹ This is consistent with a more recent study in West African countries, which emphasises the engagement of community leadership to promote immunisation uptake.^{10,37,70,71}

In Freetown's informal settlements, health workers devised the strategy of working with community stakeholders, such as chiefs, on vaccine messaging at a time when COVID-19 vaccine scepticism was high. To demonstrate support for the process, chiefs in Portee-Rokupa community in Freetown deployed town criers across the community to disseminate positive messages about COVID-19 vaccines. Beyond this, health workers collaborated with community members to translate COVID-19 vaccine messages into the *lingua franca*; Krio, and Temne – a local language that is dominantly spoken along the informal coastal settlements in Freetown.

Door-to-door vaccination

Evidence shows that bringing vaccines to people's doorsteps via mobile vaccination teams significantly increases uptake and is usually more cost effective.²⁴ Door-to-door vaccination campaigns have the potential to reach people who are excluded from the health system in informal settlements in Freetown. Findings from the Freetown study also show that this strategy works well for highly mobile populations within the Portee-Rokupa settlements, who are always moving in search of livelihood prospects. However, this is not true for all mobile populations; for example, women who were often away from their homes to buy and sell fish from the local markets. This calls for vaccine rollouts to pay attention to other categories of mobile populations and consider alternatives, such as pop-up vaccination clinics.

Public deliberation on design of deployment strategies

A recent pilot study in Kambia District presented respondents living in rural communities with different scenarios for vaccination for two different types of infectious diseases. Respondents were asked to debate the social, ethical and livelihood factors that may influence the success of different deployment modalities.¹² The study showed that it is feasible to discuss deployment with communities, and that these discussions can reveal important barriers and enablers for the effective delivery of vaccines at the planning stage.

Living by example to build trust

Trust is considered important in shaping vaccine acceptance. Across different vaccine studies we have conducted, we observed that health workers and community leaders taking the vaccine in front of community members was helpful in building trust in the vaccine and in vaccine acceptance more broadly. In co-produced interventions with communities in three informal settlements in Freetown (Cockle Bay, Moyiba and Dwarzark), the **ARISE** (Accountability and Responsiveness in Informal Urban Settlements for Equity in Health and Well-being) consortium worked with community leaders to adapt COVID-19 vaccine messages to local contexts. Community leaders, health workers and co-researchers (community members working on the research project) took the vaccine in front of community members to build confidence in its safety. This action encouraged the uptake of the vaccine in these communities and helped to dispel rumours and fears about the safety concerns.

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