Experiences of COVID-19 and Perspectives on Vaccination: Key Findings from a Survey in Two Informal Settlements in Freetown

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Overview

This brief outlines key findings from a survey carried out in two informal settlements in Freetown in April 2021, focusing on their perspectives of the COVID-19 pandemic, the national response to the virus and willingness to take a COVID-19 vaccine. The study was carried out by the Sierra Leone Urban Research Centre (SLURC) and the London School of Hygiene & Tropical medicine (LSHTM). Our findings point to high concern with COVID-19 in these communities, primarily related to the livelihood impact of the pandemic. Most respondents signaled that they would be unable to isolate a sick household member in their household, but also showed high awareness of and self-reported adherence to public health measures. The majority of respondents thought the government was making good decisions to respond to the pandemic at the time of the survey. For those whose trust in government had decreased since the onset of the pandemic, concerns about survival and food and job security were important reasons. Respondents who showed willingness to take a COVID-19 vaccine if offered one emphasized their wish to protect themselves and their communities, whilst hesitancy was associated primarily with concerns about vaccine safety. Hesitancy was more likely amongst those who are hesitant of vaccines in general, who had not heard of new variants (and may therefore have been less concerned about the virus) and those whose trust in government was partial to begin with or had decreased due to the pandemic. We conclude by putting forward key recommendations for addressing these issues with a focus on targeted community engagement, dynamic and adaptive pandemic response measures and specific efforts to build trust in the health system and the pandemic response. These findings are a snapshot from April 2021, but they highlight trends and characteristics of vaccine confidence to be monitored as the pandemic situation progresses

Background

Sierra Leone registered its first case of COVID-19 on the 30th of March 2020. As of the 5th of July 2021, the country had registered 5,811 cases and 107 deaths.[1] The President of Sierra Leone announced a national state of emergency on the 25th of March 2020 and over the following year introduced a number of measures to reduce transmission, including two three-day lockdowns, an inter-district travel ban, the closure of borders, the suspension of religious worship and ceremonies, school closures, temporary closures of entertainment venues. Although the state of emergency was lifted in March 2021, a spike in cases in June 2021 led to the gradual reintroduction of public health measures including restrictions on religious worship and a nightly curfew.

As the human cost of the COVID-19 pandemic continues to rise globally, Sierra Leone has so far fared comparatively well, maintaining COVID-19 prevalence and fatality fairly low[2]. However, there are now concerns of a potentially more dangerous "third wave" sweeping across the continent as well as questions as to whether limited testing capacity may be leading to underestimation of community transmission across Sierra Leone. In addition, some have argued that COVID-19 may not be perceived as a serious risk by Sierra Leoneans, not least given high rates of asymptomatic presentation and the fact that it coexists with other endemic and epidemic health threats such as malaria, typhoid, cholera and some of the world's highest maternal and child mortality rates[3].

A national vaccination campaign is underway in Sierra Leone and this forms a key component in the government's fight against the epidemic. Dr Steven Velabo Shongwe, WHO Country Representative, said in a statement on the arrival of the first consignment of

the COVID-19 Vaccines Global Access (COVAX Facility): "Deployment of the COVID vaccine should be one of the critical measures that have to be taken in addition to the strict adherence to other public health measures such as the correct use of facemask in public, hand washing, social distancing among others" [4]. At present two clinically effective vaccines are being deployed in Sierra Leone: the Oxford University/AstraZeneca and the Sinopharm vaccines[5]. Sierra Leone received its first batch of the Oxford University/AstraZeneca vaccines through the COVAX facility in March 2021, which included 96,000 of the 550,000 doses pledged. An additional 42,000 doses of the Oxford University/AstraZeneca vaccine were made subsequently made available by the African Union through the African Centres for Disease Control and Prevention. The Chinese government meanwhile donated 200,000 of the Sinopharm vaccine.

It is worth noting that the total number of vaccines obtained by Sierra Leone would currently be sufficient to vaccinate only around 5% of Sierra Leone's 7.8 million population, and even current pledges would only reach approximately 20% of the population by the end of 2021. This raises broader questions of vaccine inequity that have been widely condemned.[6] In the absence of sufficient doses, available vaccines may nonetheless cover older, more clinically vulnerable groups (around 7.5% of Sierra Leone's population is aged 55 and over and the country has a median age of around 19 years). However, questions of access, including proximity to distribution centres and infrastructural challenges to get vaccines to hard-to-reach areas may undermine success of a strategy targeting all older adults as a priority. In addition, recently appointed Health Minister Dr Austin Demby, posited challenges in uptake potentially related to vaccine hesitancy and expressed concerns about doses going to waste.[7] This has also led to the lowering of the threshold of eligibility, as currently all adults over 30 have been invited to take a vaccine to ensure available doses are used up.

Vaccination campaigns are complex initiatives in any setting, but against the backdrop of a pandemic, global supply shortages and ensuing social, infrastructural and logistical challenges, groups which may already be disadvantaged by health inequality are likely to suffer disproportionately from inequitable access to COVID-19 vaccines. As vaccines continue to be deployed and as social mobilization ramps up to contend with a possible third wave of the pandemic, it is important to ensure that this process reflects the realities, perspectives and diverse experiences of Sierra Leonean citizens.

Previous outbreaks have shown the importance of ensuring that efforts to respond to epidemics take into account the perspectives and experiences of affected communities.[8] This should include an appreciation of how contextual factors shape experiences of the disease and associated epidemic response measures, including the impact that livelihoods or social norms may have on the applicability of different interventions in different social and cultural groups. To support effective and locally relevant communication and engagement strategies for the COVID-19 pandemic and to identify lessons for future epidemics, this project conducted rapid social science assessments of the impact of COVID-19 (and associated control measures) on attitudes and behaviours towards the public health response, and vaccine confidence. The study received funding from the World Health Organisation, UK National Institute for Health Research and UK Research and Innovation.

This brief sets out key findings from a survey study in two Freetown informal settlements to highlight how experiences of the COVID-19 pandemic are affecting perceptions of vaccines. The survey was conducted in April 2021, when COVID-19 cases averaged around 18 per week and the COVID-19 vaccination rollout had just begun. The surveys were conducted in Mabella-Magazine and Portee-Rokupa communities. Informal settlements face specific challenges in confronting epidemic diseases, including population density and lack of access to water and sanitation, but also lack of accurate data due to their informal status. Socio-economic exclusion may also contribute both to the negative impacts of epidemic response measures on residents and on the nature of engagement with government response structures.[9] In the context of COVID-19, this means that strategies for reducing transmission such as reducing physical contact and improving hygiene practices can be practically challenging or even impossible in these areas.

The brief highlights how understanding attitudes towards public health response, trust in government and vaccine uptake may support engagement strategies for the government and its health partners, offering key recommendations for current and future efforts to contain epidemics and roll out emergency vaccinations.

Methodology

The survey was piloted at a small scale (50 respondents) in Kambia town, in North-Western Sierra Leone, where the LSHTM research team is based. Observations and results from the pilot data and procedures for recruitment of participants informed the modification and finalisation of survey questions and adoption of recruitment protocols. Data from this pilot activity is not included in the results presented here as it was primarily intended to inform the survey tool. The survey was rolled out in two urban informal settlements where the SLURC research team have long-standing relationships.

About the Communities

Portee-Rokupa is a coastal settlement found in the Eastern Part of Freetown with an area of approximately 0.12Km^2. The community is bordered by Kontolor in the south, Congo Water in the east, Grass-field in the west, and the mouth of River Rokel in the north. The community emerged after a pepper seller established the first settlement in 1942 and since then, has developed to become one of the most populated community in the Western Urban area[10]. Alongside poor housing conditions, the community faces challenges such as lack of basic facilities such as safe drinking water, markets, health and sanitation facilities, and good road network, which particularly affects the the seafront settlement of the community. Over the years, the community has been prone to disasters such as seasonal flooding and mudslides. Prevalent diseases in the community include malaria, pneumonia, fever, malnourishment, and smallpox amongst others, coupled with unemployment and low literacy levels.[11][12] The Portee-Rokupa wharf has been at the centre of economic activity in the community. This wharf has over the years developed to make the community one of the largest fishing communities in the east end of the city. With fishing the main livelihood activity in the community, other economic activities such as petty trading are mainly carried out to support and sustain the fishing industry.[13]

Mabella-Magazine is located in the central part of Freetown along its coastline. With an area of 0.15Km^2 the community is surrounded by Susan's Bay in the west, Guard's Street in the south, Moa Wharf in the east, and the Atlantic Ocean in the north. This community was originally a piassava peeling and exporting place but evolved into a settlement over time. Mabella-Magazine lacks access to basic facilities including water, health, sanitation, and a good road network. Like Portee-Rokupa, Mabella- Magazine has also over the years been prone to disasters such as seasonal flooding, fire, rolling boulders in addition to diseases like cholera, dysentery, malaria, pneumonia, fever, malnourishment, and cough in children.[14] During the 2014-16 Ebola outbreak, this area was severely affected by the disease, as many households were quarantined and lost family members. Today, residents in this community are mostly engaged in fishing and petty trading as their main economic activity[15].

About the Data

The survey employed a simple random cluster sampling technique. The population of the two communities was divided into small groups known as clusters and participants were then randomly selected from among those clusters to form a sample. The different clusters included traders, people sampled from households, people sampled from entertainment facilitates such as and ataya bases[16] and at the wharves. A total of 528 respondents were interviewed across the two communities of Portee-Rokupa and Mabella-Magazine: Table 1 shows the total number of respondents from different clusters in the study area.

We chose this study design in order to have informative amounts of data from each group and to represent the population of these two informal settlements. However, this is not therefore representative of Sierra Leone general population. We acknowledge that in the process of surveying this population there may have been some potential sources of error and bias, including interviewer effects and social desirability biases.

Table 1: Participant Recruitment by Cluster

Cluster	Marbella-Magazine	Portee-Rokupa	Total
Traders	72	72	144
Bar/Entertainment venue	72	72	144
Household	24	24	48
Ataya Base	48	48	96
Wharf	48	48	96
Total	264	264	528

The full demographic profile of the cohort is shown in Table 2. Around 54% of participants were male and 46% were female. 82% of respondents were aged below 45 years old. The majority of respondents belonged to the Themne (62%), Limba (12%), Mende (6%), Susu (5%) and Fulani (4%) ethnic groups. 23% of participants had no formal education, 18% had completed primary school, 26% had passed their Basic Education Certificate Examination and 24% had received the more advanced West African Senior School Certificate. Just 4% had tertiary education.

Most participants (56%) were self-employed in a range of activities including petty trading, business ownership, okada riding or ownership or working on commission, whilst 11.2% were employees. Others were students (11%), unemployed (13%) or were people who stayed at home (7%) or were retired (1%). Around 13% of respondents had experienced a change in their employment status during the COVID-19 pandemic. Most participants (67%) lived in homes where there was over-

crowding (more than 3 people per room) and 68% said that they could not effectively isolate an individual who became sick in their home. Despite the emerging threat of variant and new strains of SARS-CoV-2, just 22% of our respondents had heard of any new 'changes' or variants at the time of the survey.

Table 2: Table 2: Demographics of 528 study participants surveyed in April 2021

Factor	**Total** (N=396)	**Refuse Vaccine** (N=158)	**Accept Vaccine** (N=238)
Gender			
Female	186 (47.0%)	79 (42.5%)	107 (57.5%)
Male	210 (53.0%)	79 (37.6%)	131 (62.4%)
Age			
18 - 24	61 (15.4%)	27 (44.3%)	34 (55.7%)
25 - 34	148 (37.4%)	61 (41.2%)	87 (58.8%)
35 - 44	112 (28.3%)	44 (39.3%)	68 (60.7%)
45 - 54	49 (12.4%)	18 (36.7%)	31 (63.3%)
55 - 64	18 (4.5%)	4 (22.2%)	14 (77.8%)
65+	8 (2.0%)	4 (50.0%)	4 (50.0%)
Ethnicity			
Themne	251 (63.4%)	98 (39.0%)	153 (61.0%)
Limba	49 (12.4%)	25 (51.0%)	24 (49.0%)
Fulani	19 (4.8%)	7 (36.8%)	12 (63.2%)
Mende	23 (5.8%)	9 (39.1%)	14 (60.9%)
Susu	17 (4.3%)	7 (41.2%)	10 (58.8%)
Other	37 (9.3%)	12 (32.4%)	25 (67.6%)
Highest Educational Achievement			
No formal education	102 (25.8%)	46 (45.1%)	56 (54.9%)
Primary education	71 (17.9%)	40 (56.3%)	31 (43.7%)
BECCE	97 (24.5%)	31 (32.0%)	66 (68.0%)
WASCE	91 (23.0%)	33 (36.3%)	58 (63.7%)
Tertiary education	20 (5.1%)	4 (20.0%)	16 (80.0%)
Other	15 (3.8%)	4 (26.7%)	11 (73.3%)
Employment			
Self-employed	219 (55.3%)	93 (42.5%)	126 (57.5%)
Employed	48 (12.1%)	19 (39.6%)	29 (60.4%)
Unemployed	57 (14.4%)	20 (35.1%)	37 (64.9%)
Stays at home	33 (8.3%)	11 (33.3%)	22 (66.7%)
Student	36 (9.1%)	14 (38.9%)	22 (61.1%)
Retired	3 (0.8%)	1 (33.3%)	2 (66.7%)
Employment changes during COVID-19			
No change	350 (88.4%)	139 (39.7%)	211 (60.3%)
Lost job	24 (6.1%)	10 (41.7%)	14 (58.3%)
New job	18 (4.5%)	8 (44.4%)	10 (55.6%)
Retired	4 (1.0%)	1 (25.0%)	3 (75.0%)
Believes COVID-19 is .a problem in Sierra Leone			
No	19 (4.8%)	12 (63.2%)	7 (36.8%)
Yes	377 (95.2%)	146 (38.7%)	231 (61.3%)
Has heard about mutations & variants			
No	254 (64.1%)	107 (42.1%)	147 (57.9%)
Yes	79 (19.9%)	17 (21.5%)	62 (78.5%)
Does not know	63 (15.9%)	34 (54.0%)	29 (46.0%)
Possible to isolate an individual in home			
No	265 (66.9%)	106 (40.0%)	159 (60.0%)
Yes	131 (33.1%)	52 (39.7%)	79 (60.3%)
Vaccination feelings			
Vaccines are effective	296 (74.7%)	83 (28.0%)	213 (72.0%)
Hesistant (Has not refused other vaccines)	25 (6.3%)	11 (44.0%)	14 (56.0%)
Hesistant (Has not efused other vaccines)	25 (6.3%)	16 (64.0%)	9 (36.0%)
Scared	50 (12.6%)	48 (96.0%)	2 (4.0%)
Believes government are making good decisions			
Yes	362 (91.4%)	138 (38.1%)	224 (61.9%)
No	34 (8.6%)	20 (58.8%)	14 (41.2%)
Trust in government prior to COVID-19			
Strong trust	238 (60.1%)	75 (31.5%)	163 (68.5%)
Partial trust	119 (30.1%)	64 (53.8%)	55 (46.2%)
No trust	39 (9.8%)	19 (48.7%)	20 (51.3%)
Changes in trust of government during COVID-19 pandemic			
Same	260 (65.7%)	90 (34.6%)	170 (65.4%)
Decreased	68 (17.2%)	45 (66.2%)	23 (33.8%)
Increased	68 (17.2%)	23 (33.8%)	45 (66.2%)
Overcrowding (people/room in household)			
1-2	118 (29.8%)	43 (36.4%)	75 (63.6%)
3-4	216 (54.5%)	91 (42.1%)	125 (57.9%)
5-6	43 (10.9%)	17 (39.5%)	26 (60.5%)
7-10	19 (4.8%)	7 (36.8%)	12 (63.2%)

Key Findings

Perspectives on COVID-19 and Pandemic Response

The majority of the study's respondents (96%) believed that COVID-19 was a problem that Sierra Leoneans should care about. When asked to qualify why they felt this way, participants mentioned (among other factors):

- The negative impacts of the pandemic on the economy and educational activities
- Their perception that COVID-19 was leading to substantial morbidity and loss of many lives
- The impact of government restrictions and the effects these had on livelihoods and social activities

Infection prevention and control

We asked if respondents were taking any active measures to protect themselves from COVID-19 (Figure 1) and found that 98% of respondents were undertaking at least one form of infection prevention and control (IPC). Among a number of IPC measures, participants most frequently reported wearing face coverings (95%), regular handwashing (93%), social distancing (82%) and prayer (57%). Participants reported that their communities had diverse IPC measures in place and the majority of participants reported that they were living in areas where face-covering (84%) & social distancing (91%) orders, as well as public health campaigns (67%) were active.

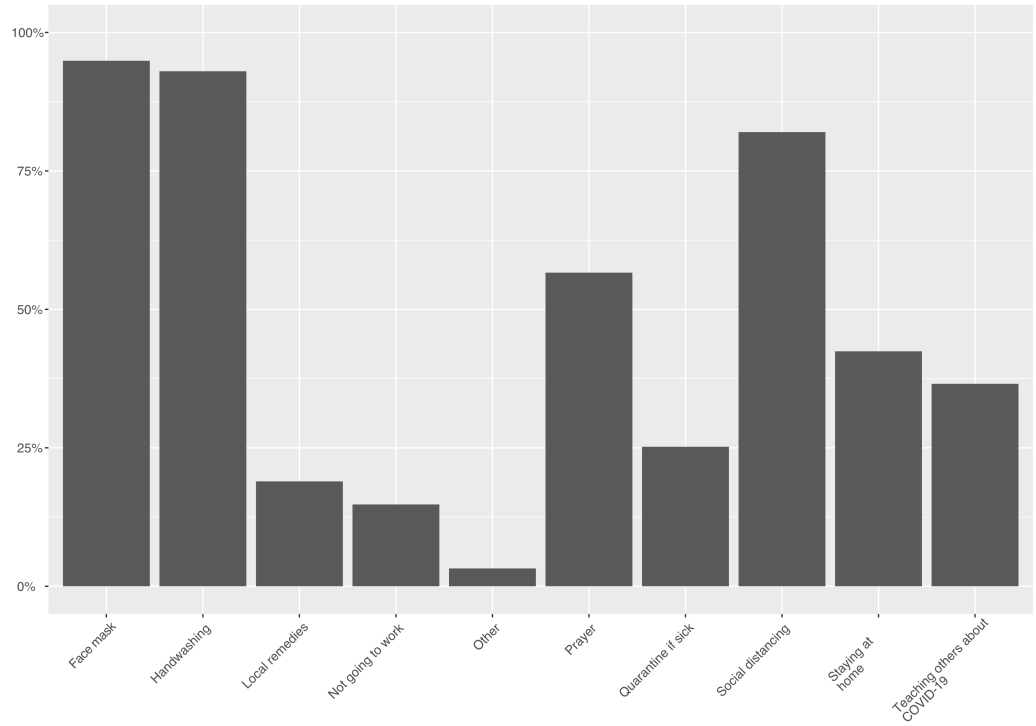

Figure 1: Infection prevention and control measures being used by study participants (based on self-report).

Trust in Government

The majority of participants (91%) reported that they believed the government was making good decisions about how to respond to the pandemic and to protect their communities. Many reported having had 'strong trust' (62%) in the government before the pandemic and around 60% indicated that this had not changed during recent months.

Among those who reported having reduced trust in the government (19%), reasons included

- Concerns about the impact of pandemic regulations on livelihoods: including specific concerns about "survival", food and job security and a perceived lack of provisions for those in quarantine.
- Generic references to how the onset of COVID-19 had led to a reduction in trust, with some more specific comments pointing to perceptions that the pandemic response was mismanaged, including disappointment with the quality of information on the pandemic and on vaccines.
- A small number of participants said that they did not believe the virus was real.

Trust in the government increased among many participants (21%) and their reasons included

- Commendations of the government for taking an "active" and timely approach to responding to the pandemic, with some pointing to low deaths as proof of the success of the campaign.
- Perceptions of transparency and trustworthiness (e.g., "I see truth in what they are doing")

Vaccine Confidence

At the time of data collection, just 19% of respondents had received one or more doses of a COVID19 vaccine. This reflects the timing of the survey (April 2021), which coincided with the early phase of vaccine deployment during which access to vaccines was limited to specific age groups and professions. In order to understand how members of different demographic groups intended to respond to the vaccination campaign, we subset the data to include only those (n = 396) participants who had not already been vaccinated and who said that if offered they would accept (n = 238) or refuse (n = 158) a COVID-19 vaccine. Those who were undecided were excluded from the analysis.

We performed statistical testing to identify groups who were more or less likely to accept offered vaccines (see Appendix) and found that several characteristics were associated with the relative odds of making these decisions. Figure 2 shows a summary of these findings and table 3 (Appendix) shows the test statistics used to derive this. Note that these tests do not provide evidence for causal relationships between the associated variables. The most significant characteristics to highlight are

- Being hesitant of vaccination in general was associated with higher likelihood of expressing an intention to reject a COVID-19 vaccine. Those who said they were scared of vaccines in general were as much as 150 times more likely to refuse a vaccine than those who thought vaccines in general are effective.
- Those with partial or decreased trust in government were more likely to express an intention to refuse a COVID-19 vaccine
- Those who had heard of mutations in the SARS-CoV2 virus were more likely to express an intention to accept a vaccine than those who had not
- Those with primary level education were more likely to express an intention to refuse a vaccine
- Believing COVID-19 is a problem in Sierra Leone increased the likelihood of an intention to accept a vaccine

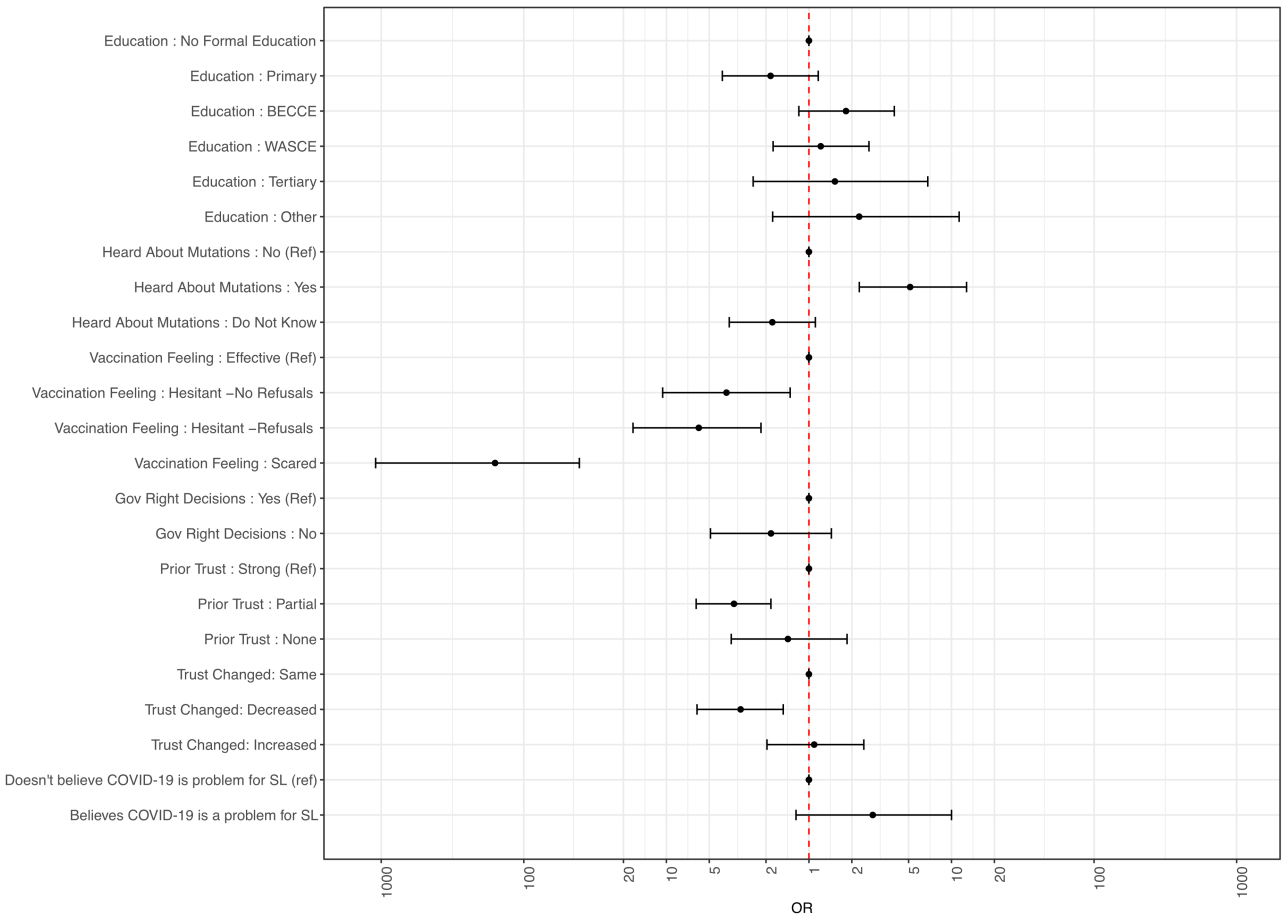

Figure 2: Participants were more or less likely to accept offers of COVID-19 vaccines if they belonged to specific groups. Odds Ratios (OR) indicate the relative ratio of odds for members of a group accepting or refusing vaccines compared to a reference group. Average ORs and confidence intervals (CI) for these estimates are shown. Any group where the CI crosses OR = 1 (red line) did not significantly differ from the reference group. CIs to the right of this line were significantly more likely to accept vaccines, whilst those to the left of the line were significantly more likely to refuse. Statistical association data should not be used to infer causal relationships.

Summary

Our face-to-face survey in two informal settlements in Freetown highlighted a number of significant findings that are relevant for understanding public perspectives and experiences of the COVID-19 pandemic in these particular environments. In interpreting findings. The findings are a snapshot from April 2021, but they highlight trends and characteristics of vaccine confidence to be monitored as the pandemic situation progresses. We acknowledge some limitations inherent in the research design. In particular, there is a likely 'social desirability bias', where participants may have felt compelled to manifest law-abidance, reporting adherence to pandemic measures and signaling high levels of trust in government.

The most important findings include:

- We confirmed that there are very significant challenges to self-isolation in these communities as the large majority of respondents would not be able to isolate a household member at home if they needed to
- Responses highlighted high levels of concern with COVID-19 in Sierra Leone. This was primarily due to anxieties around its socio-economic effects, but there was also apprehension about impacts on health and mortality.
- We found high levels of self-reported adherence to public health measures, and particularly to government mandated measures such as the use of face coverings, hand-washing and social distancing. This may be due to a social desirability bias, although this would also highlight high awareness of government regulations. In addition to government-mandated regulations, prayer was also a significant response implemented by our survey participants.
- At the time of data collection, there was limited awareness of new variants in the SARS-CoV2 virus
- Overall, trust in the government's response to COVID-19 was high.

- Decreases in trust in the government's response were affected by concerns with impact on livelihoods and perceptions of mismanagement, whilst increases in trust were due to view of government acting in an active and timely manner to curb cases and deaths
- 60% of people who had not yet been vaccinated said they would be willing to take a COVID-19 vaccine. Reasons for willingness to take a vaccine included wishes for protecting oneself and others and confidence gained by seeing others take it. Those who said they would refuse or were undecided were worried about vaccine safety and side effects or wanted to wait for others to take it.
- Statistical analysis revealed that the following factors significantly affected vaccine confidence: having heard about virus mutations and higher levels of education were associated with higher vaccine confidence whilst people partial or decreased trust in the government's response to COVID-19 and who reported hesitancy regarding vaccines in general were more likely to refuse a vaccine.

Recommendations

This study has shown high levels of willingness to take vaccines if presented with the opportunity. Based on these findings and our teams' long-term research[17 18 19 20 21 22 23 24] on vaccine confidence, epidemic preparedness and community engagement in Sierra Leone, we propose the following recommendations to be considered as additional strategies in the current COVID-19 response:

1. Intensify community engagement and open dialogue about the particular dangers of COVID-19 in Sierra Leone, including its presentation and spread and how these might change with the emergence of new variants.These discussions should be adaptive to the specific needs and experiences of different groups of the population rather than being one size fits all. For example, those who live in densely populated informal settlements face distinctive challenges and have particular concerns that should form the basis of tailored responses.
2. Campaigns to engage communities on the subject of COVID-19 vaccination would benefit from sparking discussions of contextual drivers of hesitancy towards vaccines in general as well as discussing the specific benefits of COVID-19 vaccination
3. Specific concerns about COVID-19 vaccination should be directly addressed through sustained targeted community engagement, rather than through top-down messaging. Our study shows that concerns about vaccinations amongst our respondents focus primarily on legitimate worries about potential side effects or the relative safety of new vaccines: these concerns should be taken seriously and be the subject of public discussion. Prior experience suggests that the most effective way of addressing vaccination anxieties is by identifying trusted formal and informal leadership to ensure discussions are taking place through trusted channels. These could include a range of community authorities (such as religious and civil society leaders) and community based social organisations.
4. Target activities that can build broader trust in the health system and healthcare workers. Prior experience shows that facilitating open and frank exchanges between citizens and healthcare workers to air concerns around healthcare provision and debate collective solutions can help start restoring trust in general, which in turn strengthens vaccine confidence.
5. Capitalise on drivers of vaccine confidence such as a wish to protect oneself and one's community and high levels of concern about COVID-19 and new variants as well as the potential secondary impacts of the pandemic on communities across Sierra Leone.
6. Continue monitoring vaccine confidence and its drivers. These will change over time, and across different social groups and parts of the country: it is essential to understand public perceptions in a dynamic way to ensure adaptive responses.
7. Boosting vaccine confidence is important but concerns about uptake should not obscure access challenges. This includes making sure that different communities can easily approach a vaccination facility. The government should consider intensifying the use of pop-up vaccination centres, mobile vaccination units and vaccination opportunities in community health facilities. The government should consider expanding the use of community care centres (CCCs) for those who cannot isolate at home, identifying facilities within communities. In addition, there are risks associated with this strategy and it is important to ensure that CCCs and treatment centres do not increase stigma. To avoid this, we propose community-led consultations, to discuss the significance of isolation as a form of protection and to debate different options for voluntary isolation, whether in or outside the community.
8. Trust in the COVID-19 Response as a whole matters for vaccine confidence. Maintaining support requires and ensuring that NACOVERC and the government are seen to be transparent, trustworthy and responsive to different communities' needs. This will not only help all pillars of the response, but specific attention must be paid to managing confidence in the vaccine rollout process.
9. Efforts to strengthen vaccine confidence need to consider the potential consequences of different

policies to ensure uptake. We propose a focus on building trust and consent around vaccination, rather than a law enforcement approach that aims to incentivise vaccination by barring access to public spaces or making vaccination compulsory. Bringing citizens on board for a collective response to COVID-19 and ensuring that they are willingly vaccinated can lead to more sustainable epidemic preparedness.

10. Government should continue to advocate at global level for fair access to vaccination to ensure high coverage for the Sierra Leonean population

Final thought

Ensuring that vaccine delivery can align to the needs and requirements of the population will require a multi-pronged and adaptive approach that can take into account drivers of vaccine confidence, questions of access and efforts to build trust in the COVID-19 response as a whole. These approaches must be diversified to reflect the specific challenges faced by different sections of the population and be responsive to their concerns as well as taking seriously citizens' willingness to participate in a collective effort to protect themselves and others from diseases. As cases of COVID-19 increase across the country and vaccination becomes an even more pressing priority, it is important to continue monitoring perspectives and experiences to ensure they feed into responsive programming

Notes

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Competing Interests

The authors of this work declare no competing interests

Appendix

Table 3: Acceptance of offered COVID-19 vaccines is associated with key demographic factors,

	Estimate	Std. Error	z value	P
No formal education	-	-	-	-
Primary education	-0.62	0.39	-1.57	0.12
BECCE	0.60	0.39	1.53	0.13
WASCE	0.19	0.39	0.48	0.63
Tertiary education	0.42	0.71	0.59	0.55
Other	0.81	0.75	1.08	0.28
Believes that COVID-19 is a problem for Sierra Leone	1.03	0.63	1.63	0.10
Has not heard about mutations and variants	-	-	-	-
Has heard about mutations and variants	1.63	0.44	3.72	0.00
Does not know if they have heard of mutations	-0.59	0.35	-1.67	0.09
Believes vaccines are effective	-	-	-	-
Vaccine hesitant : No prior refusals	-1.33	0.52	-2.56	0.01
Vaccine hesitant : Prior refusals	-1.78	0.52	-3.40	0.00
Scared of vaccines	-5.07	0.81	-6.29	0.00
Doesn't think government are making good decisions	-0.61	0.49	-1.24	0.22
Strong trust in government before COVID-19	-	-	-	-
Partial trust in government before COVID-19	-1.21	0.31	-3.94	0.00
No trust in government before COVID-19	-0.34	0.47	-0.72	0.47
Trust stayed the same during COVID-19 pandemic	-	-	-	-
Trust decreased during COVID-19 pandemic	-1.10	0.35	-3.12	0.00
Trust increased during COVID-19 pandemic	0.09	0.40	0.21	0.83