Data portraits: Covid-19 vaccine rollout in informal settlements in Harare, Kampala, Lilongwe and Mumbai

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Abstract
The joint issues of access to, and uptake of, Covid-19 vaccines are still very much alive in the global South. While the pandemic’s health effects for low-income urban communities have not been insignificant, the results of state responses, carried out without full consideration of poverty consequences, have been very serious. Vaccination in this context is one – among many – ways in which people can reduce risk of further exclusion. This paper reports on a study from Harare, Kampala, Lilongwe and Mumbai by national affiliates of Slum Dwellers International (SDI). Drawing on a series of surveys, our findings provide a snapshot of how global vaccine inequalities played out locally in 21 informal settlements across these cities. Aiming to understand the challenges communities have faced in accessing vaccines, we look at the health context in these settlements, the economic consequences of control measures, the vaccine programmes, residents’ attitudes and hesitancy, and access to information.

Keywords: Covid-19 vaccines, informal settlements, inequality, health, community data, Uganda, Zimbabwe, Malawi, India
Cite this paper as:


1. Introduction

This comparative data report illustrates, visually and in narrative form, findings from a study contributing grassroots perspectives on the Covid-19 vaccine rollout. The research was carried out in Harare, Kampala, Lilongwe and Mumbai by the national Slum Dwellers International (SDI) affiliates in each city, with survey design, coordination and administrative support from the Global Development Institute at The University of Manchester.

The study’s purpose is to contribute to understanding the challenges faced by low-income residents in informal settlements in accessing Covid-19 vaccines and official vaccination programmes, and their perceptions of those challenges. By exploring how global vaccine inequalities – a significant topic of debate – play out at the local level, with specific focus on the experiences of residents in 21 informal settlements across the four cities, the data findings aim to help uncover real-time trends around vaccination rollout within informal settlements of particularly vulnerable cities.

This report focuses on the survey data (see Methodology section below), presenting mainly descriptive statistics as well as some qualitative evidence. In this way, we capture a visual snapshot of the situation in the study locations during the survey window, that is, between August and November 2021. In the following sections, we organise our findings under five broad questions:

1. What is the Covid-19 health context in the 21 study locations?
2. What pandemic control measures are currently in place and, in general, what have been the economic consequences for communities of pandemic control measures?
3. What does each city’s Covid-19 vaccination programme look like, from the viewpoint of informal settlement communities?
4. What can we say about people’s attitudes to vaccines and the level/nature of vaccine hesitancy?
5. What does the information landscape look like on the ground and are people getting the information they need?

The report also provides a brief outline of the Covid-19 vaccine context in each location, summarises the study methodology and concludes with reflections on what we have learnt. A more extensive discussion of our understanding of the dimensions of global and local vaccine inequality can be found in the resources linked below.
2. The Covid-19 vaccine context in each country/city

For broader discussion of how we understand global and local Covid-19 vaccine inequalities, please refer to Lines et al. (2022).

Figure 1: National Covid-19 vaccine context

Sources:
Vaccination rates (daily & cumulative): official data collated by Our World in Data, as at 20 June 2022 (alternative definitions of a full vaccination, eg having been infected with SARS-CoV-2 or having one dose of a two-dose protocol, are ignored to maximise comparability between countries).
Vaccine shipments: Africa Data Hub/Media Hack Collective, June 2022.
Infection waves: media reports (various); Our World in Data.
Stringency Index, based on nine metrics: school closures; workplace closures; cancellation of public events; restrictions on public gatherings; closures of public transport; stay-at-home requirements; public information campaigns; restrictions on internal movements; and international travel controls.
2.1. Harare, Zimbabwe

Zimbabwe is among only 15 African countries to meet the WHO target to fully vaccinate 10% of its population by October 2021 (see Figure 1). As our survey in Harare began in late August 2021, 10% of Zimbabwe’s 15.1 million population had completed a first, full vaccination protocol, rising to 18% by the time of our final survey in late November 2021. At the time of writing, in late June 2022, the figure is 29%.\(^1\) There is little publicly available Covid-19 vaccination data for Harare city.

Zimbabwe has stronger international relations with China than with Western governments, and geopolitics has clearly contributed to Zimbabwe’s choice of Covid-19 vaccines. The country has purchased (and later received through COVAX) almost exclusively Chinese-made vaccines (our survey respondents likewise reported Sinovac and Sinopharm as the main types available in their communities). Consequently, barring a few distribution hitches and surges in demand, vaccines have continued to be available in Harare. During the survey period, ongoing government campaigns encouraged uptake.

Lockdowns and other control measures have been among the more heavy-handed of the African study cities. Vaccinations are officially voluntary, but the many vaccine mandates in place during the study period meant that this is not necessarily how it has been experienced on the ground. Survey respondents from Harare reported vaccine certificates were necessary for state employees (including health workers), visiting government offices, travelling on public buses, market trading, attending church and many other areas of life.

2.2. Kampala, Uganda

Uganda’s vaccination drive began in earnest towards the end of our survey window. In late August 2021, only 1% of the country’s 47.1 million population had been fully vaccinated, rising to 3% in late November 2021 (see Figure 1). The figure as at end June 2022 is 24%.

All the cities in our study exemplify, in different ways, that vaccine availability (or its lack) and how doses are supplied influence and constrain the room countries have to make good policy decisions about low-income communities within a Covid-19 vaccination programme. Uganda’s late start was largely due to a lack of supply, constraining the establishment of distribution centres or infrastructure, even in Kampala, the capital city, and undermining political will to back the vaccine drive. Uganda has been very reliant on COVAX, receiving at least six different types of vaccine, with many different shipments apparently arriving at around the same time. Indeed, our Kampala survey responses contain clear expressions of confusion about, and preference for, different types of Covid-19 vaccines. Vaccines were publicly administered in Uganda during our survey period, although, as supply improved, the

\(^1\) Our World in Data (nd), ourworldindata.org (accessed 23 August 2022).
country was reportedly considering options for involving the private sector in distribution.

Global geopolitical connections are also evident in Uganda’s Covid-19 vaccine response. Media reports also mention shipments of several million doses of Sinovac² (unverified, so not shown in Figure 1), as well as plans to establish a vaccine manufacturing plant by Sinovac Biotech, a Chinese company authorised by the World Health Organization to manufacture and distribute Covid-19 vaccines.³

Uganda is the only study country that had yet to announce universal eligibility for adults at the time the survey began. This was probably related to supply issues. Particular groups considered vulnerable or high-risk were still prioritised, including the military, healthcare workers, over-50s and those with underlying health conditions. In our survey, community leaders reported that in Kampala it was necessary to have vaccine certificates to work as civil servants, public school teachers and some market vendors.

2.3. Lilongwe, Malawi

Like Uganda, Malawi’s heavy reliance on COVAX for supply of Covid-19 vaccines has hugely constrained its rollout, among other factors. Types received have been more consistent than Uganda (largely three types: AstraZeneca, Johnson & Johnson and Pfizer). However, shipments have been small and appear sporadic (see Figure 1). In late August 2021, as our survey began, the country had fully vaccinated 2% of its 18.6 million population, rising to 3% by late November 2021. Uptake continues to be low, at only 8% by late June 2022.

Barring the early weeks of the pandemic, lockdown measures in Malawi have been relatively few. During the survey window, community leaders in Lilongwe reported that any restrictions were only loosely enforced or observed and that vaccine mandates were not widespread. Cases and deaths from Covid-19 also appear to have been relatively low in the country, although a lack of testing and other data limit an accurate picture. A consequence of this for many people in the informal settlements in Lilongwe that we spoke to has been that getting vaccinated is not seen as high priority, either to protect health or to get around vaccine mandates. People are more concerned with weathering the economic crisis associated with the pandemic, which has been severe; and unless the object is international travel, the contribution Covid-19 vaccination makes to communities’ economic recovery is less clear.

Vaccine hesitancy due to misinformation and myths appears to be a particularly prominent issue in Malawi and was much discussed by the Lilongwe communities we spoke to. Indeed, Malawi gained some media attention early in the global vaccine rollout for incinerating 20,000 AstraZeneca doses that had expired before they could be


administered, due to low demand, in a move aimed at reassuring the public that the vaccines they do get are safe.

Factors are perhaps linked to the country’s low vaccine supply, compounded by perceived lower risks to health. A growing body of literature is calling for closer attention to the particular reasons behind Covid vaccine hesitancy in African contexts, including particular belief systems but also the historical colonial-era medical abuses and loss of trust rooted in vaccine nationalism and the international community’s poor response to global vaccine inequalities (Leach et al. 2022, Mutombo et al. 2022).

2.4. Mumbai, India

Mumbai is the only study city for which reliable city-level vaccination data could be found, through verified media reports and a municipal vaccination data dashboard (now defunct). However, the city’s vaccination picture is very different to India’s national rates (see Figure 1): by late August 2021, Mumbai had fully immunised 67% of its adult population, rising to 70% by late November (that is, around 300,000 people during the survey window). In April 2022, it claimed to have fully vaccinated all of its adult (over 18 years of age) population and rollout to school-age children and booster programmes are underway. At the height of its rollout, the city had over 400 vaccination centres, including the private sector; many were located in informal settlements.

Mumbai’s inclusion in the study makes possible comparison with a relatively more advanced and successful vaccine rollout, while still in a city context where half the population lives in informal settlements. However, it is in many ways a very different case – including in terms of the scale of vaccine challenge, with a metropolitan region population of over 20 million people. Also distinct is that efforts to make Mumbai’s vaccine rollout fairer have been driven at least in part by political motivations, since political representation and the voice of low-income communities in the city is strong. This has been underpinned by reliable availability of vaccines, albeit at times with demand exceeding supply, since India is the only country in our study to manufacture vaccines. Most doses from Indian manufacturers are claimed by the federal government and centrally allocated to states. A smaller proportion is permitted to be sold on the (Indian) private market and, when demand has exceeded supply, wealthy state governments, including Mumbai’s state of Maharashtra, have been known to top up stocks by purchasing doses in competition with other agencies, including private health providers, philanthropists and Indian companies fulfilling mandated corporate social responsibility obligations. At the time our survey took place, privately administered vaccines were available to Mumbai residents for a capped fee, and this was even a route to vaccination for some informal settlement residents in the areas we surveyed – often paid for by their employers, as a way to avoid queues and get staff quickly protected.

Note: different unit of measurement used to the country statistics above.
3. **Methodology**

3.1. **Study locations**

The survey cities – Harare, Kampala, Lilongwe and Mumbai – were selected in consultation with SDI secretariat. The three main criteria for selection were:

- All were major global South cities with large informal settlement populations, in countries which had begun Covid-19 vaccine rollout.
- They collectively represent a diversity of geographical regions, city types and country income classification.
- City-based research partner organisations (all SDI country affiliates) were keen to take part and considered the study useful to their ongoing work, such as tackling the pandemic’s impacts on low-income urban communities. Through each, we had the opportunity of going directly to trusted community leaders who were familiar with the research process.

The study was designed as a pilot, which, if valuable, could be replicated in other cities or extended over a longer time frame. The picture is, of course, likely to differ in low-income communities in other areas (even within the study cities), depending on many considerations, such as national vaccination rates, local distributional capacities or specific pre-existing healthcare inequalities over which Covid vaccine inequalities are mapped.

Each of the four research partners selected five to six informal settlements in their city as study areas (see Figure 2). This was done in consultation with grassroot leaders and members of national federations of informal settlement and low-income urban residents in each city (“federations”), who were also instrumental in linking the research teams to the survey respondents. In each area, there is a strong SDI federation presence or relationship with the neighbourhood.

The 21 settlements selected represent a geographic spread within each city and a context-specific range of settlement types. The Mumbai research team’s selection identifies different settlement types, including some “formal” neighbourhoods where they worked and to which informal settlement communities had earlier been relocated (known as “colonies”). In Kampala, respondents were drawn from one or more informal settlements in each of the city’s five divisions. In Harare, the research team identified three inner-city settlements and two on the urban periphery, enabling some comparison of experiences along these lines.
3.2. Survey participants

With the support of federation leaders, research teams then recruited around 15 residents from each settlement (totalling 75 per city or 300 over the entire study), who were willing to be survey respondents across all six fortnightly iterations of data collection. All respondents were identified by federations to be “community leaders”, which in this study we define broadly to cover, among other groups, traditional leaders, youth leaders, community healthcare workers, religious leaders and SDI federation leaders – both male and female and across a range of ages (see Appendix 1). Respondents were not selected at random and we did not seek statistical validity with this sample size or sampling methodology. Rather, the purpose was to support SDI affiliates in tracking the situation in several settlements, for which they identified a range of trusted local leaders who could be expected to have a good sense of what is going on in their communities. Sample size also relates to partners’ earlier experiences of dropout due to the scale of pandemic-related disruption, and we planned for some turnover (see Appendix 2).
3.3. Data collection

The data presented in this paper was collected concurrently in the four global South cities over three months, between 26 August and 29 November 2021, using a rolling fortnightly semi-structured questionnaire (in six survey iterations – see Table 1). In the fast-changing context of the pandemic, we considered that there was potential for tracking change every two weeks – to capture, for example, changes in vaccination policy or availability – but that more frequently would not be cost-effective.

<table>
<thead>
<tr>
<th>Survey</th>
<th>Start of data collection window</th>
<th>End of data collection window</th>
</tr>
</thead>
<tbody>
<tr>
<td>Survey 1</td>
<td>26 August 2021</td>
<td>3 September 2021*</td>
</tr>
<tr>
<td>Survey 2</td>
<td>12 September 2021</td>
<td>26 September 2021</td>
</tr>
<tr>
<td>Survey 3</td>
<td>27 September 2021</td>
<td>10 October 2021</td>
</tr>
<tr>
<td>Survey 4</td>
<td>10 October 2021</td>
<td>24 October 2021</td>
</tr>
<tr>
<td>Survey 5</td>
<td>25 October 2021</td>
<td>7 November 2021</td>
</tr>
<tr>
<td>Survey 6</td>
<td>9 November 2021</td>
<td>29 November 2021**</td>
</tr>
</tbody>
</table>

* Followed by a gap during which the city teams met to identify a few process issues, such as how the online survey was set up, and to correct these.
** Survey 6 contained several new questions. The longer survey window therefore cushioned knock-on implications to the data collection process.

Survey respondents were interviewed individually by local professionals or community-based federation data collection experts, using either hard-copy questionnaires or handheld devices. Final data entry was done online using the Qualtrics platform.

During the period of data collection, we also held occasional group calls to capture and compile the local research teams’ observations about changes and developments in their local vaccine rollout efforts. This helped situate the survey data in context. This was not an exhaustive effort: with limited project resources, however, we largely relied for context and analytical framing on other (emerging) studies as well as documentation such as news articles.

3.4. Survey design

A draft questionnaire was circulated for comment within partner organisations and to federation leaders, the feedback process ensuring that phrasing and terminology were locally appropriate and that data collection objectives aligned with affiliates’ own. The Mumbai team translated the questionnaire into Marathi; all others were in English. We used open and closed questions to capture both qualitative and quantitative
information. Respondents were asked some questions about themselves and some about their community.

Before launch, the survey questionnaire and participant consent processes were tested by a handful of community leaders in each city. They provided valuable feedback, leading to some adjustments.

3.5. Covid-19 special circumstances and ethical considerations

Building on experiences in pandemic data collection by the SDI affiliate in Kenya, the study was designed such that interviews could be carried out by phone if necessitated by Covid-19 restrictions. Our data collection happened to take place in a relative lull between recorded waves of infection in all four the study countries (see Figure 6 below), so in the end it was possible for all four research partners to conduct interviews face-to-face, while observing local protocols, such as social distancing and mask wearing. This was preferred: the research teams considered that face-to-face interviews resulted in greater trust between data collection teams and communities, resulting in higher quality data. Since most researchers chose to travel to where the community leaders lived and then use printed questionnaires followed by online data entry back in the office, following the pilot survey and first survey, it quickly became clear that the process of data entry was going to be more time-consuming than anticipated. Therefore, after team reflections, the window for each iteration of data collection was expanded from ten days to two weeks.

Given the fast-changing context, both in terms of vaccine rollout and the wider pandemic, we were also prepared to have to add or adjust the survey questions as the data collection progressed, which would have limited the potential for time-series analysis. In the end, it was only necessary to add a small number of follow-up or “wrap up” questions to the last survey iteration (see Appendix 3). Relatedly, a number of questions were only asked twice, in surveys 1 and 6; particularly as related to the longer-term socioeconomic impacts of the pandemic on communities and other areas where it did not make sense to try to track changes fortnightly.

3.6. Reflections on the methodology

In future research, we hope to add value by combining this survey data with other research approaches, including in-depth stakeholder interviews and focus group discussions, continuing to work in partnership with grassroots federations in each city.

This was a small study, with a research budget of under £30,000. Inasmuch as the data collected can be seen as a snapshot of the situation in a given time period within a volatile context, we are pursuing further funding opportunities to allow us to improve our findings, by presenting our data (a) to community groups for validation and analysis, as well as (b) to local authority stakeholders (in healthcare and urban management). The joint issues of unequal access and low uptake of Covid-19 vaccines are still very live in low- and lower-income countries.
3.7. How to read the data visualisations

Each full-page data visualisation contains the following information to help the reader.

- **Top left:** the survey questions to which the data relates (see Appendix 3 for full questionnaire).
- **Top middle:** the data analysed and how it is disaggregated. All visualisations disaggregate by city and some by settlement and survey.
- **Top right:** legend.

In some visualisations, survey dates are shown (rather than survey number 1, 2, 3, and so on). For visual simplicity, where survey dates are shown, these are labelled with the midpoint of each of the six survey windows, as shown in Table 2 below:

**Table 2: Presentation of survey dates by midpoint**

<table>
<thead>
<tr>
<th>Survey</th>
<th>Real data collection window</th>
<th>Indicative midpoint (2021)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>26.08.21–08.09.21</td>
<td>02.09.21</td>
</tr>
<tr>
<td>2</td>
<td>12.09.21–26.09.21</td>
<td>19.09.21</td>
</tr>
<tr>
<td>3</td>
<td>27.09.21–10.10.21</td>
<td>04.10.21</td>
</tr>
<tr>
<td>4</td>
<td>10.10.21–24.10.21</td>
<td>17.10.21</td>
</tr>
<tr>
<td>5</td>
<td>25.10.21–07.11.21</td>
<td>31.10.21</td>
</tr>
<tr>
<td>6</td>
<td>09.11.21–29.11.21</td>
<td>19.11.21</td>
</tr>
</tbody>
</table>
4. What is the Covid-19 health context in the 21 study locations?

We asked community leaders what they knew about characteristics of the recent Covid-19 disease burden in their areas (confirmed cases and deaths), and from where they got their information. We also asked if it was possible to get tested locally, where and by whom.

4.1. Recent cases and deaths

People reported few Covid-19 cases and deaths in their areas during the survey period (see Figure 3). By city, Harare had the most respondents reporting recent cases (average 13% of respondents), deaths (11%) and testing (see Figure 4). In Kampala and Mumbai, fewer than 5% of respondents said there had been any recent cases or deaths in their area, and in Lilongwe these figures were only slightly higher. In all cities, reports varied considerably across settlements and survey iterations. Where the disease was known to be present, numbers were low and varied by survey – between 1–21 cases and 1–5 deaths in a two-week period (all cities).

There will of course be different reasons for the generally low figures in different contexts, including, for example, one or a combination of: limited testing, lack of reliable information, or an actually low disease rate. In terms of confidence in their own knowledge of the situation, people in Harare and Lilongwe were more likely to say they did not know about the recent health burden in their settlement or local testing situation; those in Kampala and Mumbai were more confident.

4.2. Recent testing

Limited testing and an associated lack of data have played a key part in the lower recorded Covid case and death rates in many low- and middle-income countries, obscuring our understanding of how the disease burden differs in, for example, locations with a younger demographic. Excess death studies estimate Covid deaths to be between nine and 16 times higher than official figures in the four study countries. Reliable information about cases and deaths helps local authorities to prioritise resources and communities to understand the risks they face, motivating people to take protective measures and get vaccinated. For example, Lilongwe respondents linked declining vaccine uptake among their communities during the survey window to decreases in reported cases in their areas.

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5 During the two weeks before they took the survey.
In informal settlements, communities live and work in high-risk conditions: at high densities in underserviced areas lacking or sharing basic services such as water and sanitation. Lack of provisions for Covid-19 testing, screening and treatment means that outbreaks are less likely to be picked up at an early stage and can spread rapidly. In general, we found little testing taking place in communities (see Figure 4).\(^7\) The highest rates were in Harare, where 30% of respondents said testing was taking place in their area; the lowest in Lilongwe (5%). However, all cities showed fluctuations across survey iterations and between settlements, with many areas reporting no testing provision, despite having a local health centre. Where testing was locally available, some further detail was provided by respondents (see Figure 5). Harare communities could access PCR tests carried out at government clinics, and Mumbai communities could access screening for symptoms at hospital or special camps run by NGOs. Lilongwe and Kampala respondents mentioned a range of testing venues, from hospitals and local health centres to markets and mosques, usually run by government health bodies; they gave little information about the type of testing available.

Notwithstanding low rates of testing, all four countries appear to have been in a relative lull between waves of infection during the survey window (see Figure 6) and this is likely to also make up part of the picture reflected in our data – providing context to respondents’ experiences of the scale of community uptake and government efforts around vaccine distribution and information campaigns.

Apart from results of testing, other sources of information for cases and deaths varied between communities (see Figure 7), with some common threads, including community rumours and direct information from the family of the infected person (all cities), local leaders and community health workers (Harare, Kampala and Lilongwe), and observing that burial procedures that differed from the norm (Harare, Lilongwe).

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\(^7\) We only asked respondents about the availability of nearby testing.
Figure 3: Recent Covid cases and deaths in the settlements

Survey question(s)
Q4.3/6 In the past 2 weeks, have there been any (reliable) reports of new (1) infections or (2) deaths of Covid-19 in your settlement?
Q4.4/7 Approximately how many new (1) cases or (2) deaths have there been in your settlement in the past 2 weeks?

Data analysed
All surveys (1–6) data. Survey-by-survey. All-settlement average and disaggregated by settlement.

Legend
Cases/Infections
- Average % respondents who reported cases in their settlement in the past 2 weeks
- Average % respondents who reported deaths in their settlement in the past 2 weeks

Deaths
- One reported case
- One reported death
Figure 4: Recent Covid testing in the settlements

<table>
<thead>
<tr>
<th>Survey question(s)</th>
<th>Data analysed</th>
<th>Legend</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q4.1 In the past 2 weeks, has there been testing of any kind for coronavirus in your settlement (by any organisation)?</td>
<td>All surveys (1–6) data. Survey-by-survey. All-settlement average and disaggregated by settlement.</td>
<td>All participants</td>
</tr>
<tr>
<td>% respondents who said ‘yes’</td>
<td></td>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Settlement</th>
<th>% respondents yes (1–6)</th>
<th>Survey</th>
</tr>
</thead>
<tbody>
<tr>
<td>All settlements</td>
<td>[Graph showing recent Covid testing across settlements]</td>
<td></td>
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<tr>
<td>Harare</td>
<td></td>
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<tr>
<td>Epworth</td>
<td>100%</td>
<td>[Graph showing recent Covid testing in Harare]</td>
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<tr>
<td>Hatcliffe Extension</td>
<td>75%</td>
<td>[Graph showing recent Covid testing in Harare]</td>
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<tr>
<td>Hopley</td>
<td>100%</td>
<td>[Graph showing recent Covid testing in Harare]</td>
</tr>
<tr>
<td>Mbare</td>
<td>25%</td>
<td>[Graph showing recent Covid testing in Harare]</td>
</tr>
<tr>
<td>Stoneridge</td>
<td>25%</td>
<td>[Graph showing recent Covid testing in Harare]</td>
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<tr>
<td>Kampala</td>
<td></td>
<td></td>
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<tr>
<td>Kampala Central Division</td>
<td>100%</td>
<td>[Graph showing recent Covid testing in Kampala]</td>
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<tr>
<td>Kawempe Division</td>
<td>75%</td>
<td>[Graph showing recent Covid testing in Kampala]</td>
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<tr>
<td>Makindye Division</td>
<td>75%</td>
<td>[Graph showing recent Covid testing in Kampala]</td>
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<td>Nakawa Division</td>
<td>75%</td>
<td>[Graph showing recent Covid testing in Kampala]</td>
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<tr>
<td>Rubaga Division</td>
<td>75%</td>
<td>[Graph showing recent Covid testing in Kampala]</td>
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<tr>
<td>Lilongwe</td>
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<tr>
<td>Area 49 Federation</td>
<td>100%</td>
<td>[Graph showing recent Covid testing in Lilongwe]</td>
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<tr>
<td>Chinsapo</td>
<td>25%</td>
<td>[Graph showing recent Covid testing in Lilongwe]</td>
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<td>Mgonza</td>
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<td>Senti</td>
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<tr>
<td>Mumbai</td>
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<td>Airport</td>
<td>100%</td>
<td>[Graph showing recent Covid testing in Mumbai]</td>
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<tr>
<td>Cheetah Camp</td>
<td>75%</td>
<td>[Graph showing recent Covid testing in Mumbai]</td>
</tr>
<tr>
<td>Dharavi</td>
<td>25%</td>
<td>[Graph showing recent Covid testing in Mumbai]</td>
</tr>
<tr>
<td>Goregaon</td>
<td>25%</td>
<td>[Graph showing recent Covid testing in Mumbai]</td>
</tr>
<tr>
<td>M East Ward</td>
<td>25%</td>
<td>[Graph showing recent Covid testing in Mumbai]</td>
</tr>
<tr>
<td>Relocation Colonies</td>
<td>50%</td>
<td>[Graph showing recent Covid testing in Mumbai]</td>
</tr>
</tbody>
</table>
Figure 5: Covid testing: Types, agencies and venues

Survey question(s)
Q4.1 In the past 2 weeks, has there been testing of any kind for Covid-19 in your settlement (by any organisation)?
Q4.2 What kind of testing and by who? Where and at what type of venue?

Data analysed
All surveys (1–6) data.
All-settlement average, by city.

Legend
Yes, recent testing in my settlement
No
Don’t know
Test type
Test venue
Test agencies

Number of mentions (size relative across all cities/responses)

Harare
Has there recently been testing in your settlement?
Yes 30%
No 61%
Don’t know 9%

What kind, where and who by?
PCR
Rapid test
Mobile clinic
Primary school
Private clinics
Government clinic
Clinic
Mission hospital
MSF clinic
Maternity hospital
NGO (MSF)
Private doctors
Government nurses
Government
Ministry of Health
Health personnel

Kampala
Has there recently been testing in your settlement?
Yes 11%
No 85%
Don’t know 4%

What kind, where and who by?
Hospital
Health centre
Public clinic
Clinic (general)
Government health workers
Department of Health
Public taxi park
Government works (division)
Village offices
Municipal authority
Doctors
Government health workers
Private health workers

Lilongwe
Has there recently been testing in your settlement?
Yes 5%
No 85%
Don’t know 10%

What kind, where and who by?
Rapid test
PCR
Screening for symptoms
Hospital
Market
Health centre
Public clinic
Shop
Parish venue
Health workers
Hospital nurses
Ministry of Health
District health officials
Government
NGO

Mumbai
Has there recently been testing in your settlement?
Yes 8%
No 90%
Don’t know 2%

What kind, where and who by?
Screening [for symptoms]
Dharavi
Hospital
Municipal Corporation
NGO
Figure 6: National Covid infection rates, March 2020–June 2022

Daily new confirmed Covid-19 cases per million people (seven-day rolling average). Due to limited testing, the number of confirmed cases is lower than the true number of infections. Source: Johns Hopkins University CSSE Covid-19 Data; Our World in Data.
Figure 7: Sources of information for local cases and deaths

<table>
<thead>
<tr>
<th>Survey question(s)</th>
<th>Data analysed</th>
<th>Legend</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q4.5 if not from testing, what is the source or sources of information for the number of new cases?</td>
<td>All surveys (1–6) data. All-settlement aggregation, by city.</td>
<td>Cases/infections</td>
</tr>
<tr>
<td>Q4.8 What is the source or sources of information for the number of new deaths?</td>
<td></td>
<td>Deaths</td>
</tr>
</tbody>
</table>

### Harare
- **Cases**
  - Being put under quarantine
  - Community healthcare workers
  - Community talk
  - Family of infected person
- **Deaths**
  - Funeral/infected person died
  - Local clinic information
  - Media (radio/TV)
  - Medical sources
  - Signs and symptoms
  - Social media

### Kampala
- **Cases**
  - Community talk
  - Government
  - Local NGO
  - Media (radio or TV)
  - Ministry of Health
  - Municipal authorities
  - Village Health Team
- **Deaths**
  - Community talk
  - Local leaders
  - Ministry of Health

### Lilongwe
- **Cases**
  - Community healthcare workers
  - Community talk
  - Family of infected person
  - Hospital information
- **Deaths**
  - At funeral
  - Burial procedure
  - Community healthcare workers
  - Community talk
  - Family of deceased person
  - Hospital info
  - I knew the person who died

### Mumbai
- **Cases**
  - Community talk
  - Signs and symptoms
- **Deaths**
  - Community talk
  - Family of deceased person
5. What pandemic control measures are currently in place? What have been the economic consequences for communities of pandemic control measures?

This section looks at the wider socioeconomic consequences of the pandemic – on the community leaders, their grassroots networks and their communities. We also asked about control measures in place in the settlements during the survey window.

As many of the community leaders made clear, the pandemic’s health impacts on informal settlement communities have not been insignificant. However, the results of state responses and shutdowns – often implemented without adequate consideration of the poverty consequences – have been very serious. First lockdowns in particular brought a huge share of many cities’ economic activity to a halt almost overnight, leaving people suddenly without a way to make a living. Lost income and employment, travel restrictions limiting access to markets and earning opportunities, and the rising cost of staples have been major drivers of impoverishment for informal settlement communities during the pandemic (Lenhardt 2022). Livelihoods, education, businesses, relationships and care responsibilities have been severely affected, disproportionately so for young people, women, migrants and informal and self-employed workers (ILO 2021).

Communities living with insecure land tenure have been especially badly hit, being more likely to lack basic services such as water and electricity or to be forced to pay relatively higher prices for these to informal suppliers, further undermining capacities to manage pandemic pressures (Corburn et al. 2021). In undocumented areas, it is harder for authorities to establish impacts and plan responses, and communities with perceived illegal residence may not be factored into formal relief efforts or qualify for social safety nets, where these exist (Cities Alliance 2021). Income loss or demolition can lead to eviction, worsening Covid-19 transmission risks as households resort to sharing even more cramped spaces or migrants return to rural homes (Dupraz-Dobias 2020).

5.1. Employment: Formal and informal workers

Figure 8 shows the dramatic loss in earning opportunities in the study areas. While the situation varies between cities and settlements, this is the case for many people who normally work, both informally and formally. However, informal workers are hit harder in almost all settlements.

This is clearly not a static matter, and our data findings show some changes in the situation, even over the relatively short survey period. For formal workers in Harare, Kampala and (to a lesser extent) Lilongwe,

People are struggling to make ends meet. So while there is much talk about vaccines, there should also be much effort to help people to be financially resilient in the face of Covid-19 – Mtandire, Lilongwe (S6)

Many have [got the vaccine] because now people fear a third lockdown – Rubaga Division, Kampala (S6)

This year, my savings have gone down by over half. My business is not working. My husband was retrenched. The little we are getting every day has to serve the family – Chinsapo, Lilongwe (S6)

A lot of informally employed people have been affected through demolished workshops, food stalls and markets – Hopley, Harare (S1)

Those that are still working do not have as much work as they used to have – Mtandire, Lilongwe (S6)

Initial problems are now resolved, most [people] are back at work – Dharavi, Mumbai (S6)
things appear to worsen over time between August and November; for informal workers in these cities, there is little change in an already dire situation. The data from Mumbai is strikingly different, however, with community leaders reporting that by late November almost everyone normally economically active in their settlements was back working; this was in parallel with high rates of vaccination in the city and a relaxing of some restrictions for the fully vaccinated, notably local train travel.

5.2. Community leaders’ own experiences

We asked the community leaders about their own occupation types and changes in income over the course of the pandemic (see Figure 9). A vast majority (87%) across all occupation groups said their income had been negatively affected. A smaller number, varying by city (Mumbai 21%, Lilongwe 16%, Kampala 6%, Harare 5%), said their income had not changed or had changed positively over the pandemic. Self-employed people were the largest group and worst affected (n=158 across all cities, of which 93% said their income had been negatively affected), but even 69% of formally employed respondents had been negatively affected.

5.3. Savings

Networked neighbourhood-level women-led savings groups are a cornerstone of SDI federations of the urban poor. The existence of savings to fall back on can boost households’ ability to meet basic needs while weathering crises. In the face of the pandemic and the multiple existing challenges it has compounded, federations across the global SDI network have demonstrated the central role that organised communities can play in responding to crises and ensuring humanitarian efforts reach those in need (Cities Alliance 2021) – usually in the absence of social protection. Strengthened safety nets through networks of women-led savings groups have been a key component of these efforts, alongside others, such as addressing basic sanitation needs, collecting data to tailor responses, and raising awareness online and in neighbourhoods. However, even though savings constituted a safety net, many groups were badly affected by the pandemic. Research is ongoing to understand both the nature of the pandemic’s impact on savings groups and to document the ways in which they have helped households weather the multiple crises aggravated by the pandemic.

We asked respondents about the pandemic’s effects on their savings activities and those of their savings groups (see Figure 10). In the three African cities, a majority were members of savings groups, and across all cities, nearly all of those who saved in groups reported that both their
and their groups’ savings had been negatively affected. Many members of respondents’ savings groups, including themselves, were no longer saving because their businesses are down and they had no earnings to save with (Kampala, Lilongwe). Some were still saving, but much less or less frequently (Kampala, Lilongwe), or drawing down on their savings for household basic needs (Harare) or to generally lessen the effects of the pandemic (Lilongwe). Some groups had collapsed, could no longer meet their monthly saving targets, or had had to recruit members from other areas, for lack of active savers nearby (Harare). Others were no longer able to loan money to their members for business investments (Lilongwe).

5.4. Measures and restrictions during the survey period

We asked about controls in place during the survey period itself, to understand ongoing challenges communities are facing (see Figure 11). Policy responses like curfews, school/workplace closures and other measures meant to limit public exposure to disease are aimed at restricting movement and force people to stay at home. Curfews in particular can pose challenges to people whose employment or income strategies require work or travel outside of “normal” hours or for long hours, such as food stall vendors, informal traders and domestic workers.

In Kampala, a curfew remained in place throughout the survey window, to be lifted two months later, in January 2022. All Harare community leaders reported lock downs and/or curfews in August but by November these had been lifted in many settlements (curfews in Zimbabwe were later re-imposed, with the latest controls relaxed in June 2022). Control measures were largely absent in Lilongwe and Mumbai during the survey window.

To further understand the official pandemic response picture at that time, we also asked respondents about any kind of emergency assistance being provided during the survey window to some or all residents in their settlements, for example by the government or NGOs. Here, the findings are both incomplete and inconclusive: in Harare, Lilongwe and Kampala, many community leaders said they did not know if or what support measures were still in place in their areas, and those who did mostly said not much was happening. Mumbai community leaders were more certain (see Figure 12), with a clear change between survey 1 in August, when three areas had a range of humanitarian assistance being provided, and November, when all areas reported no crisis assistance.
Figure 8: Impact on work and employment (informal and formal)
Data portraits: Covid-19 vaccine rollout in informal settlements in Harare, Kampala, Lilongwe and Mumbai

Figure 9: Respondents' occupations and income impact

<table>
<thead>
<tr>
<th>Survey question(s)</th>
<th>Data analysed</th>
<th>Legend</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q7.11 About you: are you formally / casually / self-employed / prefer not to say? (Select all that apply)</td>
<td>Survey 6 data. All-settlement average, by city.</td>
<td></td>
</tr>
<tr>
<td>Q7.12 Has your income been affected either positively or negatively, by and during the pandemic?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Occupation type: Settlement average</th>
<th>The pandemic's impact on my income has been:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No effect 5%</td>
</tr>
<tr>
<td>Harare</td>
<td><img src="image" alt="Graph" /></td>
</tr>
<tr>
<td>Kampala</td>
<td><img src="image" alt="Graph" /></td>
</tr>
<tr>
<td>Lilongwe</td>
<td><img src="image" alt="Graph" /></td>
</tr>
<tr>
<td>Mumbai</td>
<td><img src="image" alt="Graph" /></td>
</tr>
</tbody>
</table>

Legend:
- Casually employed
- Formally employed
- Self-employed
- Prefer not to say/Other

#% - proportion of all city respondents
#%, #% etc - proportion of each city occupation group
Figure 10: Respondents’ savings and savings groups

Survey question(s)
Q7.13 Are you a member of a savings group?
Q7.14 Do you save?
Q7.15 How have your own savings been affected by the pandemic?
Q7.16 How have your savings group’s savings been affected by the pandemic?

Data analysed
Survey 6 data.
All-settlement average, by city.
Data portraits: Covid-19 vaccine rollout in informal settlements in Harare, Kampala, Lilongwe and Mumbai

Figure 11: Current lockdown and curfew situation

<table>
<thead>
<tr>
<th>Survey question(s)</th>
<th>Data analysed</th>
<th>Legend</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q7.4 In the past week, has there been an enforced lockdown or curfew in your settlement?</td>
<td>Survey 1 and 6 All-settlement average and disaggregated by settlement.</td>
<td>Lockdown: Both lockdown and curfew Curfew: Neither lockdown nor curfew Don't know</td>
</tr>
<tr>
<td>Q7.5 What time does the curfew start and end?</td>
<td>Curfew times show median response. Curfew times only shown when a majority of respondents reported curfew</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Settlement</th>
<th>Harare</th>
<th>Kampala</th>
<th>Lilongwe</th>
<th>Mumbai</th>
</tr>
</thead>
<tbody>
<tr>
<td>Settlement average</td>
<td>Epworth</td>
<td>Hatcliffe Extension</td>
<td>Hopley</td>
<td>Mbare</td>
</tr>
<tr>
<td>Settlement average</td>
<td>Kampala Central Division</td>
<td>Kawempe Division</td>
<td>Nakawa Division</td>
<td>Makindye Division</td>
</tr>
<tr>
<td>Settlement average</td>
<td>Area 49 Federation</td>
<td>Chinsapo</td>
<td>Mgoni</td>
<td>Mtandire</td>
</tr>
<tr>
<td>Settlement average</td>
<td>Airport</td>
<td>Cheetah Camp</td>
<td>Dharavi</td>
<td>Goregaon</td>
</tr>
</tbody>
</table>

02.09.21 19.11.21

"I don't know" 0% 0% 44% 42% 0% 0%
### Figure 12: Current emergency assistance

#### Survey question(s)

Q7.6 In the past week, were any activities happening in your settlement, aimed at helping to deal with the pandemic-related economic emergency? (Select all that apply) (Petal length indicates % respondents who said a type of assistance was taking place in their settlement)

#### Data analysed

Survey 1 and 6
All-settlement average and disaggregated by settlement.

#### Legend

- **Survey 1: 02.09.21**
- **Survey 6: 19.11.21**
- Basic needs (vulnerable people)
- Basic needs (non-vulnerable people)
- Water
- Cash
- Food
- Responses only displayed when over 5% of settlement respondents reported an assistance activity

#### Harare

<table>
<thead>
<tr>
<th>Settlement average</th>
<th>Epworth</th>
<th>Hatcliffe Extension</th>
<th>Hopley</th>
<th>Mbare</th>
<th>Stoneridge</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>8%</td>
<td>7%</td>
<td>33%</td>
<td>14%</td>
<td>7%</td>
</tr>
<tr>
<td></td>
<td>5%</td>
<td>7%</td>
<td>8%</td>
<td>7%</td>
<td>8%</td>
</tr>
<tr>
<td></td>
<td>47%</td>
<td>21%</td>
<td>13%</td>
<td>7%</td>
<td>60%</td>
</tr>
<tr>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Kampala

<table>
<thead>
<tr>
<th>Settlement average</th>
<th>Kampala Central Division</th>
<th>Kawempe Division</th>
<th>Makindye Division</th>
<th>Nakawa Division</th>
<th>Rubaga Division</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>8%</td>
<td>7%</td>
<td>20%</td>
<td>20%</td>
<td>31%</td>
</tr>
<tr>
<td></td>
<td>5%</td>
<td>7%</td>
<td>20%</td>
<td>13%</td>
<td>7%</td>
</tr>
<tr>
<td></td>
<td>22%</td>
<td>72%</td>
<td>40%</td>
<td>0%</td>
<td>56%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

#### Lilongwe

<table>
<thead>
<tr>
<th>Settlement average</th>
<th>Area 49 Federation</th>
<th>Chinsapo</th>
<th>Mgonja</th>
<th>Mtandire</th>
<th>Senti</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>13%</td>
<td>13%</td>
<td>13%</td>
<td>13%</td>
<td>13%</td>
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<tr>
<td></td>
<td>7%</td>
<td>7%</td>
<td>7%</td>
<td>7%</td>
<td>7%</td>
</tr>
<tr>
<td></td>
<td>72%</td>
<td>80%</td>
<td>40%</td>
<td>33%</td>
<td>13%</td>
</tr>
</tbody>
</table>

#### Mumbai

<table>
<thead>
<tr>
<th>Settlement average</th>
<th>Airport</th>
<th>M East Ward</th>
<th>Relocation Colonies</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>12%</td>
<td>9%</td>
<td>17%</td>
</tr>
<tr>
<td></td>
<td>45%</td>
<td>5%</td>
<td>17%</td>
</tr>
<tr>
<td></td>
<td>0%</td>
<td>5%</td>
<td>60%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>93%</td>
</tr>
</tbody>
</table>

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www.african-cities.org
6. What does the Covid-19 vaccination programme look like from the viewpoint of informal settlement communities?

Here we document how the Covid-19 vaccination programme was being implemented in each city during the survey period, from the perspective of informal settlement communities. Are vaccines accessible to informal settlement communities in terms of venue type/proximity, eligibility and other factors? What are the specific details of the rollout: vaccine types; cost to the individual; and the process for getting a second dose, if this is needed to be fully immunised?

6.1. The rollout

We asked if an official Covid-19 vaccination programme was happening in each city and, as a follow-up question, whether it was “available and accessible” to communities (see Figure 13). In Harare and Mumbai, almost all community leaders said public vaccination programmes were in place and accessible to their communities. However, some settlements in both cities experienced short-term issues of no/low availability of doses at local centres across one or more survey iterations. In Kampala and Lilongwe, reports of a functioning and accessible vaccine rollout vary more, by settlement and by survey, suggesting patchier vaccine distribution and/or sparser public information. In Kampala, an average of 13% of respondents said no rollout at all was happening and a further 5% that the existing rollout was inaccessible to their communities; the latter group were largely from one area (Makindye Division). In Lilongwe, 29% of respondents to the first survey said no rollout was happening in their city at all, decreasing to an average of 6% across the remaining surveys.

As mentioned in Section 4, Zimbabwe’s and India’s vaccine supplies have been relatively consistent and abundant – albeit at times still insufficient to meet demand – when compared to Uganda and Malawi. Our findings in this study are that a low and/or unreliable supply of doses limits both a rollout and policymakers’ willingness to invest resources or political capital in public vaccination campaigns.

6.2. Where are people getting vaccinated?

Figures 14a and 14b dig further into vaccination accessibility, looking at type of venues and proximity to communities. Can people get vaccinated in/near their settlement or do they have to – or choose to – go elsewhere?

In general, types and diversity of venues point to different distribution strategies. In Kampala and Mumbai, a range of venues were adapted to

[The centre] is always crowded and many return without getting vaccinated – Mumbai M East Ward (S3)

[We] need a vaccination centre in the settlement to … avoid travelling long distances – Stoneridge, Harare (S6)

[It] is taking place inside the settlement, so many people have got vaccinated – Kampala Central Division, Kampala (S4)

Last time I went, the vaccine was finished. I will go again soon – Chinsapo, Lilongwe (S1)

Many people prefer going to other big hospitals because some days there is no vaccine at [the local clinic] – Mtandire Lilongwe (S5)

The nearest [vaccination] centres have been closed. The available centres are far away from our settlement – Area 49 Federation, Lilongwe (S5)

With a centre within our locality coordinated by the local leadership, most get it here – Relocation Colonies, Mumbai (S3)
be government vaccination centres, including schools and churches. In Harare, the vaccination programme maps more closely onto existing healthcare sites; and this is also to some extent the case in Lilongwe, with mobile vaccination vehicles later beginning to be introduced in some informal and underserved areas.

Unsurprisingly, there are big differences between settlements within a city. For example, one Harare settlement in the survey (Stoneridge) is without a health centre and residents had to travel greater distances to be vaccinated. In Lilongwe, two settlements (Chinsapo and Mtandire) are situated near to vaccinating public hospitals, while residents in other areas who wanted to be vaccinated had to walk or otherwise travel often discouragingly long distances.

Figure 15 looks into people’s reasons for getting vaccinated outside their local area. Many people have been vaccinated at their workplace or for work-related reasons (Harare, Kampala, Mumbai), or near to their workplaces for convenience (Lilongwe). Low local availability or long, off-putting queues at centres nearer to home were also frequently cited reasons why people went further afield (all cities).

To further understand how established the rollout was, we asked respondents when vaccination in/near their settlements first began (see Figures 14a and 14b). This was uneven in all cities, with centres in some settlements starting many months earlier than others, perhaps as low stocks limited early distribution efforts, even in the major cities. In Mumbai and Kampala, vaccination had not begun in/near any of survey settlements by March 2021, at the start of both countries’ second waves and with severe impacts felt in urban populations. Uganda’s rollout reached the surveyed Kampala settlements between July and September 2021, at the same time as supply began to improve and eligibility was extended to more groups in the population.

Over the course of the survey window, we found signs that some city authorities were beginning to try to address inaccessibility issues, for example introducing some mobile clinics in Lilongwe, and establishing more centres nearer to communities in Kampala (see section below on changes during survey window). Again, this was happening in parallel with improvements in national vaccine supply.

6.3. Eligibility and accessibility

By early September 2021, all adults in India, Malawi and Zimbabwe were eligible for Covid vaccines (see Figure 16). At the start of the survey window, Uganda’s policy was less clear and respondents reported that, in a context of limited and irregular supply, particular groups were still
being prioritised, including over-50s, the military, healthcare workers and teachers; but by the final survey, most said that all adults were now eligible.

We also asked respondents if there were particular groups in their community who were eligible and willing but had difficulty accessing vaccines (see Figure 17), beyond generally identified accessibility challenges (see Figures 14a and 14b). Many said that disabled people and elderly people faced mobility challenges accessing clinics (Harare, Kampala and Lilongwe), which were exacerbated if centres were not nearby. Working people also struggled to make time (all cities; in Mumbai only in the early days of the rollout when centres were not close by, and with the increase in centres this was no longer seen to be a problem). Other limiting factors for particular groups included: peer pressure on those belonging to anti-vaccine churches (Lilongwe); people lacking national ID cards (Harare and Kampala); and women whose husbands do not want them to be vaccinated (Lilongwe).

6.4. Vaccine types

The data about which vaccine types are available to communities (see Figure 18) is less of a routine line of enquiry than might be apparent, because it intersects with issues around misinformation and (lack) of understanding about how vaccines work. For example, tendencies to prefer or reject particular vaccine types were evident in the Kampala and Lilongwe communities. Uganda and Malawi are dependent on COVAX, with perhaps less influence on which vaccines they receive from the international community, at least in the early stages of the global rollout. Malawi has been recipient to two main vaccine types, AstraZeneca and Johnson & Johnson, both of which were at one stage portrayed as especially controversial by Western media, contributing to already high levels of vaccine mistrust and misinformation. As mentioned in Section 2, Uganda has received an unusually large number of different types of vaccine.

6.5. Second doses

Where these were needed to complete an initial course, we sought to understand the process around second vaccines (see Figures 19a and 19b). (Future research plans are to follow this up by exploring rollout of booster programmes.) We asked respondents what they knew about availability, the appointment process and community uptake of second vaccines.

In Mumbai, Harare and Kampala, second vaccines were largely available to communities, although some respondents mentioned instances where...
second doses became unavailable in particular centres for a few weeks (Harare). In Lilongwe, Johnson & Johnson was the most popular and common vaccine type in use during the survey window, requiring only one dose.

Common practices for arranging second vaccines included: second dates set at first vaccination and written on a card (Harare, Kampala, Lilongwe); flexibility around (public) venue and/or both doses available at the same centres (all cities); SMS reminders (Lilongwe); mobile clinic returns to the same settlement timed with second-dose window (Lilongwe); and scheduled clinic days just for second doses (Kampala). The time required between doses varied with vaccine type, from two to three weeks in Harare for Sinovac and Sinopharm, to 12 weeks in Mumbai for Covidshield. In Harare and Kampala, respondents flagged the need to bring ID, a potential barrier to those without it.

In general, community leaders reported that people in their areas were willing to get second vaccinations. In Mumbai, vaccine restrictions on local train travel were only lifted with two-dose protection – a strong motivation to get fully covered as quickly as possible. In Lilongwe, however, many respondents said people were getting “relaxed” and going back many weeks later than the advised time. Where respondents said second dose uptake was low/declining, contributing factors were thought to include publicly available statistics about low infection levels (Harare, Lilongwe) and misinformation about second dose side-effects (Lilongwe).

6.6. Alternatives and cost to the individual

In all cities, Covid-19 vaccines available to residents in the study areas through government-run facilities were free to the individual at point of service. A very small percentage of respondents in Harare, Kampala and Lilongwe also said that vaccines were available in alternative ways to the official rollout – for a fee, either privately or illegally (Harare 5%, Kampala 4%, Lilongwe 2%) (see Figure 20). In Harare during the survey window, vaccines were available in private hospitals for a capped fee of up to US$5, a newly introduced option intended to alleviate crowding at public centres. Only a few respondents were aware of this option – unsurprising, since all study settlements are predominantly served by government healthcare facilities. One or two Harare respondents also mentioned churches vaccinating their members for a small fee. In Lilongwe, vaccine certificates appeared to be quite widely available to the unvaccinated, on the black market.

In Mumbai the situation was different (see Figures 20a, 20b, 21a and 21b). During the study, vaccines were widely available privately and for a

Some are willing, while others have relaxed. I know people who have spent over three months after getting their first dose but have [still] not gone for the second dose – Chinsapo, Lilongwe (S6)

Some bribe so that they are catered for immediately – Kawempe Division, Kampala (S1)

My daughter went to pay a private hospital to get vaccinated, trying to avoid long queues – Hopley, Harare (S1)

People travelling outside the country who do not want to get vaccinated are bribing hospital personnel to give them vaccination certificates – Chinsapo, Lilongwe (S3)

People who do care work, their employers want them back to work and fully vaccinated, so they are paying for them to get vaccinated [privately] – Goregaon, Mumbai (S3)

Private hospital, clinics, [vaccine drives] by trusts … there are many [ways] other than those set up by the municipal ward office – Relocation Colonies, Mumbai (S3)

It is really hard to get the data, even from medical personnel who are also friends or neighbours. The Covid-19 vaccination
capped cost. Indian manufacturers could sell up to 10% of their product on the domestic private market and the remainder to the federal government at a reduced price, which then made allocations to states in a process widely seen to be politically motivated. Demand still often outstripped supply, and the survey data contains many complaints of long queues at public centres. Many respondents knew people in their community who had been vaccinated privately, usually paid for by employers. An emerging trend in Mumbai during the survey window was for charitable donors, philanthropists or companies fulfilling their state-mandated CSR responsibilities to purchase private market vaccines and donate them to local government or NGOs, for free or discounted distribution in low-income areas.

6.7. Uptake numbers are inconclusive

When asked, many respondents, including community health workers, were unable to estimate rates of vaccinate uptake in their communities (see Figure 22). The percentage of respondents who said “I don’t know” were: Lilongwe, 76%; Kampala, 70%; Mumbai 55%; Harare 30%. This reveals a clear lack of publicly available locally specific statistics (although Mumbai community leaders mentioned local vaccination numbers posted on health centres.) If we just look at those settlements where over half of respondents were willing to estimate recent rates of uptake, numbers given ranged widely between and within settlements: from 300 to 500 people vaccinated in Harare, and 350–3,000 in Mumbai (number of residents vaccinated in the past two weeks, median response per settlement across all survey iterations). Due to the high levels of uncertainty among respondents, the data was not adequate for tracking change over the course of the study (but see below for a discussion of the qualitative data on uptake changes during the survey window).

6.8. Observed changes during the three-month survey window

In the final survey iteration, we asked respondents about any trends they had observed over the survey period (see Figures 23a and 23b). Their reflections largely revolve around changes in uptake, accessibility and availability. Overall, uptake appeared to have improved in all cities. Queues were reducing in the places where this was the biggest issue (Harare, Mumbai), with more and nearer centres (Lilongwe, Kampala) improving accessibility for marginalised communities. However, many respondents also observed instances where fewer people were getting vaccinated, because with falling cases and deaths, the threat from Covid-19 became less of a priority.
In Harare, availability appeared to have improved together with accessibility. Respondents reported that queues had become shorter and crowds reduced at centres, and more centres were established. Uptake had correspondingly improved in four of the five settlements; however, in Hopley, respondents said that fewer people were getting vaccinated and it was not being taken as seriously.

In Kampala, the opening of more centres, nearer to communities had improved accessibility during the survey window. Uptake also improved in many areas and community leaders observed that people were less reluctant as they began to see evidence that the vaccine was safe. However, Kawempe respondents said uptake had declined. Availability improvements were noted in some areas, alongside availability issues, due to rising demand in other areas. There had also been changes in the type of vaccines available to communities.

In Lilongwe, three major changes dominated the survey window: improvements in accessibility through more centres, including mobile clinics; improved uptake in many areas by bringing vaccines closer to communities; and the uptake uptick may also relate to the rollout of a new vaccine type, Johnson & Johnson, easier to get because only one dose is required and preferred over AstraZeneca, the other main vaccine type available in Lilongwe and which has more misinformation and stigma attached to it. At the same time, many Lilongwe respondents noticed vaccination rates reducing in their communities (especially Area 49 and Mgona), reporting that people were no longer taking the need for Covid-19 vaccines seriously and associating this with sharp declines in officially recorded Covid-19 cases and deaths.

Changes observed in Mumbai were fairly straightforward and in line with data elsewhere in this report. Crowds had reduced at vaccination centres with improvements in vaccine availability and because so many people were now vaccinated.

Most people are getting vaccinated right in the settlement, this has helped improve uptake – Mgona, Lilongwe (S6)

Despite accessibility improving, vaccine uptake is reducing. Due to the decrease in deaths and new cases, people are no longer scared – Senti, Lilongwe (S6)

First shortage, then more vaccines were available, and now most are vaccinated – Relocation Colonies, Mumbai (S6)

I am grateful for the opportunity to take part in this survey. Our talk every two weeks helped me to be alert and observant of issues about Covid-19 disease and the vaccine. I was motivated to reach out to many people from various backgrounds, informing them about the vaccine, encouraging them to go for it and to not just believe any negative information – Mtandire, Lilongwe (S6)
Figure 13: Is a rollout happening?

Survey question(s)
Q5.1 In the last 2 weeks, has any kind of official Covid-19 vaccine rollout been taking place in your town/city?
Q5.2 Is the rollout available and accessible to people living in your settlement (regardless of where vaccination is taking place)?

Data analysed
All surveys (1–6). Disaggregated by settlement.

Legend
- No rollout is happening
- Rollout in city, unaccessible to my community
- Rollout but don’t know if accessible or not
- Rollout that is accessible to my community
- Don’t know if there is a rollout

Harare
- Settlement average
- All surveys
- % respondents
- Survey
- Legend:
  - Epworth
  - Hatcliffe Extension
  - Hopley
  - Mbare
  - Stoneridge

Kampala
- Settlement average
- All surveys
- % respondents
- Survey
- Legend:
  - Kampala Central Division
  - Kawempe Division
  - Nakawa Division
  - Makindye Division
  - Rubaga Division

Lilongwe
- Settlement average
- All surveys
- % respondents
- Survey
- Legend:
  - Area 49 Federation
  - Chinsapo
  - Mgonja
  - Mtandire
  - Senti

Mumbai
- Settlement average
- All surveys
- % respondents
- Survey
- Legend:
  - Airport
  - Cheetah Camp
  - Dharavi
  - Goregaon
  - M East Ward
  - Relocation Colonies
Figure 14a: Location and venues (Harare and Kampala)

Survey question(s)
Q5.5 In the past 2 weeks, where is the official Covid-19 vaccination taking place?
Q5.6 Since when?
Q5.7 In the past 2 weeks, where and at what type of venue are people in your settlement getting vaccinated?

Data analysed
All surveys (1–6) data.
All-settlement average, by city.

Legend
- In or near my settlement
- Only outside this local area

A49 Settlement names (shortened)
Mg
Se
(etc)
Figure 14b: Location and venues (Lilongwe and Mumbai)

Survey question(s)
Q5.5 In the past 2 weeks, where is the official Covid-19 vaccination taking place?
Q5.6 Since when?
Q5.7 In the past 2 weeks, where and at what type of venue are people in your settlement getting vaccinated?

Data analysed
All surveys (1–6) data. All-settlement average, by city.

Legend
- In or near my settlement
- Only outside this local area

A49 Settlement names (shortened)
Mg Se (etc)
Survey question(s)
Q5.9 In the past 2 weeks, do you know of anyone living in your settlement who has received a vaccine outside of the local area, for example at their place of work?
Q5.10 Can you tell us about them and their vaccination(s)?

Data analysed
All surveys (1–6) data.
All-settlement average/aggregate, by city.

Figure 15: Vaccination outside settlement
Figure 16: Eligibility

Survey question(s)
Q5.4 In the last 2 weeks, which groups of people in your settlement have been eligible to access vaccines? (Select all that apply)

Petal length indicates % of respondents who selected this option.

Data analysed
Surveys 1 & 6.
All-settlement average.

Legend
Survey 1 data
Survey 6 data

Other responses discounted if respondents selected “All adults” or “Everyone”.
*All adults” discounted if respondents selected “Everyone”.

Harare
Kampala
Lilongwe
Mumbai
Figure 17: Excluded groups

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<tr>
<th>Survey question(s)</th>
<th>Data analysed</th>
<th>Legend</th>
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<tr>
<td>Q5.4 pt 2 Are there any groups or types of people who want to get a vaccine but can’t, or who find it difficult to access vaccines? Who and why?</td>
<td>All surveys (1–6) data. All-settlement average/aggregation, by city.</td>
<td>Yes, there are excluded groups in my community</td>
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</table>

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<tr>
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<th>Data</th>
<th>Legend</th>
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</tr>
<tr>
<td>Epworth</td>
<td>0%</td>
<td>Street children &amp; homeless people (centres don't cater for them; mobility challenges travelling to centres)</td>
</tr>
<tr>
<td>Hopley</td>
<td>0%</td>
<td>People without national ID cards (centres don't vaccinate without ID cards)</td>
</tr>
<tr>
<td>Hattifife Extension</td>
<td>8%</td>
<td>Pregnant/breastfeeding people (sent home for health reasons)</td>
</tr>
<tr>
<td>M bored</td>
<td>8%</td>
<td>People with chronic diseases (fear of adverse side effects)</td>
</tr>
<tr>
<td>Stoneridge</td>
<td>93%</td>
<td></td>
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<tr>
<td><strong>Kampala</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Makindye Division</td>
<td>10%</td>
<td>Disabled people (cost of travelling to centre)</td>
</tr>
<tr>
<td>Kampala Central</td>
<td>13%</td>
<td>People under 18 years old (ineligible)</td>
</tr>
<tr>
<td>Rubaga Division</td>
<td>13%</td>
<td>Street vendors &amp; shopkeepers (too busy to find time for vaccination)</td>
</tr>
<tr>
<td>Nakawa Division</td>
<td>71%</td>
<td>Pregnant people</td>
</tr>
<tr>
<td>Kawempe Division</td>
<td>100%</td>
<td>Youth (centres are too far)</td>
</tr>
<tr>
<td><strong>Lilongwe</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chichewa</td>
<td>21%</td>
<td>Elderly people (mobility challenges travelling to centres)</td>
</tr>
<tr>
<td>Area 45 Federation</td>
<td>46%</td>
<td>Disabled people (mobility challenges travelling to centres)</td>
</tr>
<tr>
<td>Mandine</td>
<td>54%</td>
<td>Women &amp; particularly Muslim women (whose husbands don't want them to be vaccinated)</td>
</tr>
<tr>
<td>Majore</td>
<td>70%</td>
<td>Members of particular churches (want to get vaccinated but afraid of being judged/rejected by people in their church; want to be protected but vaccination against their beliefs)</td>
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<tr>
<td>Sentit</td>
<td>73%</td>
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<td><strong>Mumbai</strong></td>
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<tr>
<td>M East Ward</td>
<td>1%</td>
<td>Working people (when centres were not close by, difficult for them to find the time; but now this is no longer a problem)</td>
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<tr>
<td>Dharavi</td>
<td>6%</td>
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<tr>
<td>Airport</td>
<td>0%</td>
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<tr>
<td>Chedant Camp</td>
<td>0%</td>
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<tr>
<td>Goregon</td>
<td>0%</td>
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</tr>
<tr>
<td>Relocation Colony</td>
<td>0%</td>
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</tbody>
</table>

Number of mentions (size relative across all cities/responses)
Data portraits: Covid-19 vaccine rollout in informal settlements in Harare, Kampala, Lilongwe and Mumbai

Figure 18: Vaccine types available

### Survey question(s)

Q5.11. *In the last 2 weeks, which vaccines are people who live in your settlement being offered? (Select all that apply)*

% respondents mentioning a particular vaccine type.

### Data analysed

All surveys (1–6) data. Survey-by-survey & average. All-settlement average.

% respondents mentioning a vaccine type

Weighted average by mentions of type per respondent (excluding "don’t knows").

Average no. vaccine types mentioned:

- Kampala = 1.6
- Lilongwe = 1.4
- Mumbai = 1.1

<table>
<thead>
<tr>
<th>Settlement</th>
<th>Vaccine Type</th>
<th>Survey Average</th>
<th>S1</th>
<th>S2</th>
<th>S3</th>
<th>S4</th>
<th>S5</th>
<th>S6</th>
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<tr>
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<td>50%</td>
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<td></td>
<td>CoronaVac / Sinovac</td>
<td>50%</td>
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<td></td>
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<td></td>
<td>Sinopharm (WIBP)</td>
<td>6%</td>
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<tr>
<td></td>
<td>Chinese (type unknown)</td>
<td>&lt;1%</td>
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<td></td>
<td>Russian vaccine (all)</td>
<td>9%</td>
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<td></td>
<td>Covivac</td>
<td>&lt;1%</td>
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<tr>
<td></td>
<td>Sputnik Light</td>
<td>1%</td>
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<td></td>
<td>Oxford-AZ / Covishield</td>
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<td></td>
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<td>Johnson &amp; Johnson</td>
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<tr>
<td></td>
<td>Novavax / Covax</td>
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<tr>
<td></td>
<td>&quot;I don’t know&quot;</td>
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<th>Survey Average</th>
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<th>S2</th>
<th>S3</th>
<th>S4</th>
<th>S5</th>
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<td></td>
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<td>Novavax / Covax</td>
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<td></td>
<td>&quot;I don’t know&quot;</td>
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<td>Chinese vaccine (all)</td>
<td>13%</td>
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<tr>
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<td>Sputnik Light</td>
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<td></td>
<td>Oxford-AZ / Covishield</td>
<td>0%</td>
<td></td>
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<tr>
<td></td>
<td>Covaxin India</td>
<td>0%</td>
<td></td>
<td></td>
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<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Pfizer-BionTech/Cominaty</td>
<td>0%</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Johnson &amp; Johnson</td>
<td>0%</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Novavax / Covax</td>
<td>0%</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td></td>
<td>&quot;I don’t know&quot;</td>
<td>0%</td>
<td></td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Settlement</th>
<th>Vaccine Type</th>
<th>Survey Average</th>
<th>S1</th>
<th>S2</th>
<th>S3</th>
<th>S4</th>
<th>S5</th>
<th>S6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mumbai</td>
<td>Chinese vaccine (all)</td>
<td>1%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>CoronaVac / Sinovac</td>
<td>1%</td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Sinopharm (BBIBP)</td>
<td>1%</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td></td>
<td>Sinopharm (WIBP)</td>
<td>1%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Chinese (type unknown)</td>
<td>0%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Russian vaccine (all)</td>
<td>0%</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td></td>
<td>Covivac</td>
<td>0%</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sputnik Light</td>
<td>0%</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td></td>
<td>Sputnik V</td>
<td>0%</td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td></td>
<td>Russian (type unknown)</td>
<td>0%</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Oxford-AZ / Covishield</td>
<td>0%</td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Covaxin India</td>
<td>0%</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Pfizer-BionTech/Cominaty</td>
<td>0%</td>
<td></td>
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<tr>
<td></td>
<td>Johnson &amp; Johnson</td>
<td>0%</td>
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<tr>
<td></td>
<td>Novavax / Covax</td>
<td>0%</td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>&quot;I don’t know&quot;</td>
<td>0%</td>
<td></td>
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</tbody>
</table>
### Data portraits: Covid-19 vaccine rollout in informal settlements in Harare, Kampala, Lilongwe and Mumbai

#### Figure 19a: Second doses (Harare and Kampala)

<table>
<thead>
<tr>
<th>Survey question(s)</th>
<th>Data analysed</th>
<th>Legend</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q5.12 Do the available vaccines need a second vaccination?</td>
<td>All surveys (1–6) data (Q5.12–14). Survey 6 data (Q5.14pt2). All-settlement average/ aggregation, by city.</td>
<td>Yes</td>
</tr>
<tr>
<td>Q5.13 Is the process arranged as part of the official rollout?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q5.14 How is/will it be arranged?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q5.14 pt 2. Are people willing and able to get second vaccines?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Harare

<table>
<thead>
<tr>
<th>Settlement</th>
<th>Epworth Extension</th>
<th>Hopley</th>
<th>Mbare</th>
<th>Stoneridge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q5.12</td>
<td>Yes 99%</td>
<td>Yes 93%</td>
<td>1%</td>
<td></td>
</tr>
<tr>
<td>Q5.13</td>
<td>If yes, is second vaccine arranged through official rollout?</td>
<td>Yes</td>
<td>Yes</td>
<td>1%</td>
</tr>
<tr>
<td>Q5.14</td>
<td>Are people in your community willing and able to get second vaccines?</td>
<td>Yes 84%</td>
<td>2%</td>
<td>1%</td>
</tr>
<tr>
<td>Q5.14 pt 2</td>
<td>How are second vaccines arranged?</td>
<td>Nearly always available at local government centres (in contrast, first doses sometimes unavailable).</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Weeks after first dose: 2 (Sinovac), 3 (Sinopharm and Sputnik V), 4–6 (unspecified)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>At first vaccination, people given a vaccination card with date for second dose. People don’t need to go back to same place as first dose.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Must bring vaccination card &amp; ID.</td>
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<tr>
<td></td>
<td></td>
<td>“Queues at clinics mean it can still take time to get a second dose” (Hopley respondent, Survey 1).</td>
<td></td>
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<td></td>
<td></td>
<td>“Second dose has been unavailable for the past 2 weeks” (Mbare respondent, Survey 6).</td>
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</tbody>
</table>

#### Kampala

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Q5.12</td>
<td>Yes 84%</td>
<td>Yes 84%</td>
<td>Yes 84%</td>
<td>Yes 64%</td>
<td>No 99%</td>
</tr>
<tr>
<td>Q5.13</td>
<td>If yes, is second vaccine arranged through official rollout?</td>
<td>Yes 97%</td>
<td>Yes 57%</td>
<td>Yes 9%</td>
<td>No 9%</td>
</tr>
<tr>
<td>Q5.14</td>
<td>Are people in your community willing and able to get second vaccines?</td>
<td>Yes 84%</td>
<td>Yes 84%</td>
<td>Yes 84%</td>
<td>Yes 84%</td>
</tr>
<tr>
<td>Q5.14 pt 2</td>
<td>How are second vaccines arranged?</td>
<td>At first vaccination, people given a vaccination card with a date to go back.</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Weeks after first dose: 2, 3, 4, 8 &amp; 12 all mentioned, depending on (unspecified) vaccine type.</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Arrangements made by government, municipal authorities and through Village Health Teams.</td>
<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td>Many in the community who have had a first vaccine are waiting for their second in December.</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>“Some centres’ schedule days when people are supposed to report back for second doses.” Makindye Division, Survey 3.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>“You can get it anywhere provided you have a vaccination card with an appointment on it” Nakawa Division respondent, Survey 6.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Generally, people are willing. They know the second dose is important in order to be fully protected.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td>Those who have had the first dose are willing to get the second.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Second dose is available and free to all.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td>Several respondents said the second dose is “compulsory”</td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td>People are motivated because they are afraid there will be a third lockdown</td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td>People are seeing death rate reducing [perhaps increasing confidence in the vaccine].</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**Note:** The data presented is for illustrative purposes and may not reflect the exact scenarios in the settlements. The data is based on surveys conducted in different settings and may vary in accuracy and comprehensiveness.
Data portraits: Covid-19 vaccine rollout in informal settlements in Harare, Kampala, Lilongwe and Mumbai

Figure 19b: Second doses (Lilongwe and Mumbai)

Survey question(s)
Q5.12 Do the available vaccines need a second vaccination?
Q5.13 Is the process arranged as part of the official rollout?
Q5.14 How is/ will it be arranged?
Q5.14 pt 2: Are people willing and able to get second vaccines?

Data analysed
All surveys (1–6) data (Q5.12–14). Survey 6 data (Q5.14 p2).
All-settlement average/ aggregation, by city.

Legend:
- Yes
- No
- Don’t know
- No data

How are second vaccines arranged?
- At first vaccination, people given a vaccination card with date & venue for second dose.
- Weeks after 1st dose: 2, 3, 4, 6, 8 & 12 mentioned (6 AstraZenica, others unspecified).
- SMS reminders. Can get second dose at any centre.
- *Supposed to be 6 weeks after the first dose. But most people leave it over 2 months and there is little hospitals can do.* Chinsapo respondent, S4.
- *We are told that after 3 months they come into the settlement again for the second vaccination.* Area 49 Federation respondent, S6.
- *SMS alert is sent as a reminder of date & venue. But you can get the 2nd vaccine at any venue.* Mgonza respondent, S4.

What people said about second vaccine uptake
- Uptake has reduced and many are not going for second doses. People see cases have decreased and think vaccination is no longer necessary.
- Others’ reluctance is due to rumours the second dose makes people vary it.
- Generally, people who have had the first dose are willing to get the second.
- Much earlier misinformation is no longer influencing. Some people are willing & want to be fully protected, but others are “relaxed”—going later than the date set for the second doses or not going at all.
- Lack of understanding about second dose’s importance.
Figure 20a: Cost to the individual (Harare and Kampala)

Survey question(s)
Q5.15 Is there cost to individuals?
Q5.16 What payments do people have to make?
Q5.17 To whom are payments made?
Q5.18 Is a receipt provided?

Data analysed
All surveys (1–6) data.
All-settlement average/aggregation, by city.

Legend
Yes
No
Don't know

Harare

Epworth

Hatcliffe Extension

Hopley

Mbare

Stoneridge

Is there a cost to the individual to get official vaccines?
Yes 2%
No 97%
Don't know 1%

What payments do people have to make?
- USD 3
- USD 5
- USD 2
- USD 3 & USD 15
- Don't know

To whom are payments made?
- Nurses/medical staff for a bribe
- Churches/church leaders/church elders
- Private hospital
- Don't know

Is a receipt provided?
- No
- Don't know

A few people who responded “no” went on to say that vaccines are free at government centres but available for a fee at some private facilities.

Kampala

Kampala Central Division

Kawempe Division

Makindye Division

Nakawa Division

Rubaga Division

Is there a cost to the individual to get official vaccines?
Yes 1%
No 98%
Don't know 2%

What payments do people have to make?
- Don't know

To whom are payments made?
- Medical personnel for a bribe
- Don't know

Is a receipt provided?
- No
- Don't know
**Figure 20b: Cost to the individual (Lilongwe and Mumbai)**

Survey question(s)
- Q5.15 Is there cost to individuals?
- Q5.16 What payments do people have to make?
- Q5.17 To whom are payments made?
- Q5.18 Is a receipt provided?

Data analysed
- All surveys (1–6) data.
- All-settlement average/ aggregation, by city.

Legend
- Yes
- No
- Don’t know

**Lilongwe**

<table>
<thead>
<tr>
<th>Area 49 Federation</th>
<th>Chinsapo</th>
<th>Mgonza</th>
<th>Mtandire</th>
<th>Senti</th>
</tr>
</thead>
<tbody>
<tr>
<td>2%</td>
<td>98%</td>
<td></td>
<td></td>
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</tbody>
</table>

**Mumbai**

<table>
<thead>
<tr>
<th>Airport</th>
<th>Cheetah Camp</th>
<th>Dharavi</th>
<th>Goregaon</th>
<th>M East Ward</th>
<th>Relocation Colonies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes 5%</td>
<td></td>
<td></td>
<td>No 90%</td>
<td></td>
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</tr>
</tbody>
</table>

What payments do people have to make?
- INR 780
- INR 750
- INR 600
- INR 500
- INR 250
- Don’t know

To whom are payments made?
- Private hospital
- Online
- Private providers
- Private clinic
- Don’t know

Is a receipt provided?
- Yes
- No
- Don’t know

Several people who responded “no” went on to say that state vaccines are free but private vaccines for a fee are also available.
Figure 21a: Alternatives (Harare and Kampala)

Survey question(s)
Q5 19 In the past 2 weeks, are vaccines available to people who live in your settlement in alternative ways than through the official government rollout (whether these ways are legitimate or not)? (Others: see visualisation)

Data analysed
All surveys (1–6) data.
All-settlement average/ aggregation, by city.

Legend
Yes
No
Don’t know

Harare
Are vaccines available in your settlement in alternative ways than the official rollout (legitimate or otherwise)?

Epworth
Yes
5%

Hartcliffe Extension
No
76%

Hopley
Don’t know
19%

Mbare
Stone-ridge

Kampala
Are vaccines available in your settlement in alternative ways than the official rollout (legitimate or otherwise)?

Kampala Central Division
Yes
4%

Kawempe Division
Don’t know
18%

Makindye Division
No
89%

Nakawa Division
Rubaga Division
Don’t know
7%

Legend
Who is providing these vaccines?
Churches
Nurses
Hospital
Private clinics
Private organisations for a fee
Private hospital for a fee
Private centres
Government nurses at a particular clinic
Medical laboratory

Which vaccines are being offered?
Sinovac
Sputnik V
Sinopharm (BBIBP)
Sinopharm (WIBP)
Russian vaccine (unknown)
Don’t know
Sputnik Light
Pfizer-BioNTech
Oxford-AstraZeneca
Johnson & Johnson

Do you know anyone that has recently accessed such vaccines?
Yes 2%
No 2%

What did they pay?
USD 2
USD 3
USD 5
Free

Who did they pay?
Clinic
Particular clinic
Medical lab
Clinic nurses
Don’t know

Is a receipt provided?
Yes
No

Who did they pay?
Clinic attendant
Owner of the clinic
Doctor
Don’t know

Is a receipt provided?
Yes
No
Figure 21b: Alternatives (Lilongwe and Mumbai)

Survey question(s)
Q5.19 In the past 2 weeks, are vaccines available to people who live in your settlement in alternative ways than through the official government rollout (whether these ways are legitimate or not)? (Others: see visualisation)

Data analysed
All surveys (1–6) data.
All-settlement average/aggregation, by city.

Legend

- Yes
- No
- Don't know

Who is providing these vaccines?
- Health workers
- Government employees
- Ministry of Health employees
- Hospital personnel save them for people they know

Which vaccines are being offered?
- Oxford-AstraZeneca / Covishield / Vazevaria
- Johnson & Johnson / Janssen

Do you know anyone that has recently accessed such vaccines?
- Yes 1%
- No 1%

What did they pay?
- Don't know
- Who did they pay?
- Health Workers
- Ministry of Health employees
- Don't know

Is a receipt provided?
- Yes
- No
- Don't know

Lilongwe

Area 49 Federation
Chinsapo
Mgonza
Mtandire
Senti

Are vaccines available in your settlement in alternative ways than the official rollout (legitimate or otherwise)?
- Yes 2%
- No 74%
- Don't know 24%

Mumbai

Airport
Cheetah Camp
Dharavi
Goregaon
M East Ward
Relocation Colonies

Are vaccines available in your settlement in alternative ways than the official rollout (legitimate or otherwise)?
- Yes 31%
- No 9%
- Don’t know 11%

Who is providing these vaccines?
- Private hospitals
- Local political leaders
- Corporator
- MLA
- Private clinics
- Trusts
- At work
- Don't know

Which vaccines are being offered?
- Covaxin

Do you know anyone that has recently accessed such vaccines?
- Yes 10%
- No 71%
- Don’t know

What did they pay?
- INR 750
- Free
- Don’t know
Figure 22: Numbers getting vaccinated

Survey question(s)
Q5.8 Over the last 2 weeks, roughly how many people who live in your settlement have got a Covid-19 vaccine?

Data analysed
All surveys (1–6) data.
All-settlement median and interquartile range, by city.

Insufficient data to track change over time.

Note: many people said "I don't know".
India visualised at 50% scale relative to other cities.
Ordered by median response, largest to smallest.
Figure 23a: Changes over survey period (Harare and Kampala)

<table>
<thead>
<tr>
<th>Survey question(s)</th>
<th>Data analysed</th>
<th>Legend</th>
</tr>
</thead>
</table>
| Q5.27 Since September 2021 when this survey began, have you observed any changes in the vaccine rollout in your city and settlement? What and why? | Survey 6 data. All-settlement aggregation, by city. Order: frequency of mention, A–Z Excludes single-mention issues (for visual clarity). | Positive change: Uptake-related  
Positive change: Access-related  
Positive change: Availability-related  
Negative changes (all)  
Changes not clearly positive or negative  
No change observed  
General changes in Covid situation (all) |

**Harare**

- **All settlements**
  - a. Uptake has improved
  - b. Vaccine availability has improved
  - c. Vaccine accessibility has improved
  - d. Fewer people are getting vaccinated
  - e. Queues shorter/crowds reduced at centres
  - f. More vaccination centres
  - g. No change: people are getting vaccinated as before
  - h. Many/most people now vaccinated
  - i. People are not taking vaccination as seriously
  - j. More vaccination centres are now nearer our area

**Kampala**

- **All settlements**
  - a. Uptake has improved
  - b. Centres are now nearer our area
  - c. Fewer people are getting vaccinated
  - d. Previously reluctant people are now getting vaccinated
  - e. More people are now willing to be vaccinated
  - f. Vaccine accessibility has improved
  - g. Many/most people now vaccinated
  - h. People are now seeing that vaccines are safe for health
  - i. Vaccine availability has improved
  - j. Vaccine availability has got worse because many want vaccines
  - k. Some types of vaccine are less available

**Epworth**

- b. c. a.

**Hopley**

- c. d. e.

**Hatcliffe Extension**

- b. c. a.

**Mbare**

- c. b.

**Kampala Central Division**

- d. e. f.

**Kawempe Division**

- c. h. i.

**Makindye Division**

- b. c. i. j.

**Nakawa Division**

- c. d. e.

**Rubaga Division**

- a. b. c.

www.african-cities.org
Figure 23b: Changes over survey period (Lilongwe and Mumbai)
7. What can we say about people’s attitudes to vaccines and the level/nature of vaccine hesitancy?

This section presents the data findings relating to attitudes to Covid-19 vaccines, both among the local leaders surveyed and the communities they represent, including through a gendered lens.

In many low- and lower-middle-income countries, initial issues with supply of vaccines have gradually improved, notably after late 2021, when India began to relax its export ban and amid efforts to tackle underlying issues such as patent restrictions and the need to diversify vaccine manufacture (Schiffling 2021). However, in many contexts this has happened without proportionate rises in vaccination rates (see Figure 1). Even other countries less exposed to global vaccine nationalism (for example, because they were less reliant on COVAX), such as Zimbabwe, have likewise seen a levelling off in uptake. While concerns around equitable access to the vaccines and country preparedness persist, vaccine confidence is another key issue (African CDC 2021, Samarasekera 2021). Nuanced, culturally informed understanding of what is behind vaccine hesitancy and misinformation – in context – is needed (Mutombo et al. 2022). Some factors connecting to vaccine hesitancy are well documented, while still varying by context – for example, under-resourced government information campaigns communicating risk, and the influence of social media. Others might also tap into underlying historical currents (such as colonial-era medical abuses), local-level responses to injustices at the global level (such as public perceptions of the duplicity of international community statements about universal vaccine coverage in the face of continued vaccine nationalism and inadequate commitments) or political dynamics at the national level (such as lack of trust in government, politically motivated disinformation, or politicised choice of vaccine supply).

In the discussion below, we draw on a vaccine anxieties framework (Leach et al. 2022). This defines “vaccine anxieties” as a spectrum from positive perspectives (confidence, focused desire to get vaccinated) to negative (hesitancy, concern). It encompasses three interconnected and overlapping dimensions of vaccine anxieties: bodily dimensions of vaccine anxieties; social dimensions, including communities and health systems; and wider political experiences, for example relating to inter/national institutions or the broader, historical context.

7.1. Positive vaccine perspectives

Among the community leader survey respondents, attitudes to vaccines were overwhelmingly positive – alongside a vocal, hesitant minority (see Figure 24). Citywide, an average of between 85% (Kampala, Lilongwe, Lilongwe)
Mumbai) and 91% (Harare) either definitely wanted a vaccine or were already fully vaccinated; a further 5–10% were somewhat positive but still had concerns about the vaccine.

Bodily dimensions of positive vaccine anxieties were articulated in terms of personal safety (all cities) and confidence in how vaccine technology works to strengthen the immune system. Social dimensions included: respondents knew people who had died of Covid (Harare); a desire to protect the health of families and communities (all cities); the importance of community leaders setting example (Harare, Kampala, Lilongwe); and understanding the Covid vaccination programme as a means to speed up reopening of society and avoid further lockdowns (Kampala, Mumbai) – allowing people to return to or access job opportunities (Kampala, Lilongwe) or access areas of life controlled by vaccine mandates (public transport in Mumbai; church in Harare). In terms of wider political perspectives, a small number reflected on the influence of political leaders (Kampala) and the general importance of following government advice (Harare, Kampala, Lilongwe).

7.2. Negative vaccine perspectives

Here we draw on respondents’ reports of hesitancy among their wider communities (see Figure 25) as well as the few community leaders who said they were somewhat or strongly against personally getting vaccinated (see Figure 24).

Bodily dimensions of negative vaccine anxieties were dominated by concerns about vaccine safety – adverse side effects in general (Harare, Kampala) and for those with comorbidities (Harare, Kampala) and breastfeeding or pregnant (Kampala, Lilongwe). Social dimensions of hesitancy are driven by apathy or belief in "misinformation" – often heard from religious leaders or via social media – and there was a religious basis to many vaccine hesitancies (Lilongwe and Harare), ranging from belief that the vaccine is "satanic" to membership of churches that take an anti-vax position (whether general or Covid-19-specific). Wider political dimensions of hesitancy connected to international conspiracy theories (Lilongwe, Kampala), general vaccine scepticism (Lilongwe) and fundamental expressions of mistrust in government (Kampala).

Attitudes can change. In all cities, respondents’ attitudes towards vaccines became notably more positive between the first and final surveys (see Figure 24), and we can speculate this may reflect both the wider context

---

8 These concerns are not necessarily related to consumption of misinformation. Initially, many countries only recommended Covid vaccination for pregnant women who were "clinically vulnerable". At the time our study took place, scientific evidence and official advice on safety for pregnant and breastfeeding women was still evolving.
of maturing vaccination drives in their cities as well as perhaps the effects of having their attention drawn, fortnightly, to the issue. Reflecting on the relatively more advanced vaccine programme in their city, Mumbai respondents mentioned that many initial misconceptions and hesitancies in the community began to dissolve once incentives in the form of vaccine mandates and improvements availability/eligibility meant that a critical mass of people had been vaccinated, providing communities with enough first-hand evidence with their own eyes of the magnitude of side effects, and the (un)reality of many misconceptions.

7.3. Gender lens on vaccine uptake and anxieties

Responses to the survey question, “have you noticed any significant difference in uptake between men and women in your settlement, and what do you think might be the reasons?” varied by city and settlement (see Figure 26). Most Mumbai respondents (88%) said there was no difference in uptake by gender, despite a gender gap in India’s gender-disaggregated data on vaccine rates (at the time the study took place). Such data was not available for the three African countries in the study, although elsewhere on the continent official South African data has found fewer men than women getting vaccinated.9 Fewer respondents in the African cities thought there was no difference (38–47%) and a greater percentage said that more women than men were getting vaccinated (27–38%) than those who said more men than women were going (15–21%).

We can also apply the vaccine anxieties framework to gendered perspectives on vaccine uptake. The data findings on positive vaccine anxieties focus on how gender differences in livelihood strategies connect with differences in men’s and women’s motivations to seek vaccination. In all contexts, men are more likely to be formally employed and required by employers to be vaccinated. Men may travel further for work (on trains, in Mumbai) or to public places (Kampala motorcycle taxi drivers), both requiring vaccine certificates. In Harare, women are more likely to work as informal traders and vendors, facing high risks of infection through contact with the public and the need to travel – and in this way motivated both in order to protect their health and by reason of being subject to vaccine mandates. Women’s social roles were also seen to put them at greater risk of infection (and consequently motivate them to protect themselves) as they move around the community and participate in larger social gatherings (Harare, Kampala). Some respondents thought that gendered family and domestic responsibilities tend to make women more aware of the need to protect their and their family’s health (all cities), to need to

I used to believe that vaccines are an evil agenda ... But I have realised that Covid-19 vaccine is only meant to protect people from a dangerous disease – Chinsapo, Lilongwe (S6)

I think the biggest problem in Malawi is failure by many people to change their mindset. People are stuck [in] their religious or traditional beliefs, to the extent that when some new information comes which may help them transform, they do not receive it. People need to start using reasoning and not just believe anything they hear – Chinsapo, Lilongwe (S6)

Uptake is now almost equal, since most people need to travel, go to work and tertiary institutions. Without vaccination cards they cannot do so – Hatcliffe Extension, Harare (S1)

Many men have lost their jobs and are searching for one. To strategically position themselves, they must get vaccinated, since potential employers [want] to see their vaccination certificate – Chinsapo, Lilongwe (S4)

Women in my community are into vegetable marketing, so they got vaccinated as they move a lot buying and selling vegetables ... women

access government or public facilities that require a vaccine certificate (Harare) and to be more familiar/comfortable in healthcare settings (Lilongwe\textsuperscript{10}).

Respondents also discussed how gender differences translate to different opportunities to access vaccines – in particular, as related to characteristics of vaccine distribution and the proximity of vaccine centres to where people live. Where vaccination is available in or near settlements, respondents said that women’s more “flexible” time mean they have more opportunity to go to centres, even if there are queues (Lilongwe, Kampala) – but that men, who are likely to work formally, have less flexible time to stand in long queues or access centres which may only operate during working hours. In contrast, men may find it easier to travel to be vaccinated further from home, for example, when vaccines are only available in major hospitals (Lilongwe).

In terms of negative vaccine anxieties, both men and women were seen to be more easily put off by misinformation, for different reasons. Hesitancy was linked to men’s greater tendency to political engagement, where politicians were an influential source of vaccine misinformation (Kampala). Women were thought to be concerned about side effects on breastfeeding and pregnancy (Lilongwe), and respondents knew both men and women worried by misinformation relating to the vaccines’ effect on fertility.

\textsuperscript{10} This has also been observed in research in South Africa.
### Figure 24: Respondents’ attitudes

**Survey question(s)**
Q6.1 To what extent do you agree with this statement and why: “If a Covid-19 vaccine were made available to me this week, I would definitely get it”

**Data analysed**
All surveys (1–6) data. All-settlement average/ aggregation, by city.

**Legend**
- Strongly disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Strongly agree
- Prefer not to say

<table>
<thead>
<tr>
<th>Settlement average</th>
<th>Epworth</th>
<th>Hatchfield Extension</th>
<th>Hopley</th>
<th>Mbare</th>
<th>Stoneridge</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Harare</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Women</td>
<td>1%</td>
<td>1%</td>
<td>3%</td>
<td>5%</td>
<td>91%</td>
</tr>
<tr>
<td>Men</td>
<td></td>
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<tr>
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<tr>
<td>Survey 6: 19.11.21</td>
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</tbody>
</table>

I know someone who died of Covid • As a community leader I lead by example • I no longer believe the misinformation about negative side effects • To feel safe and protect myself/others from getting Covid • Reduce health impact and improve my survival chances if I catch Covid • Reduce the spread of Covid-19 • We have no choice to follow government advice • We all need to come together and fight the pandemic • So that I can go to church, for which you must be vaccinated • I am scared of negative side effects • I have underlying conditions • I hear a lot of negative talk about the vaccine • I know someone who got sick after being vaccinated • Believe there are negative side effects • I haven’t decided

<table>
<thead>
<tr>
<th>Settlement average</th>
<th>Kampala Central</th>
<th>Kawempe Division</th>
<th>Makindye Division</th>
<th>Nakawa Division</th>
<th>Rubaga Division</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Kampala</strong></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Women</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
<td>10%</td>
<td>85%</td>
</tr>
<tr>
<td>Men</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Survey 1: 02.09.21</td>
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<tr>
<td>Survey 6: 19.11.21</td>
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</tr>
</tbody>
</table>

Protect my life, health & those around me • As a community leader I lead by example • Covid is a threat now, it was not before • Follow gov advice • So we can go back to work safely • I’ve seen side effects are not serious • It’s free & available • I want things to open up again • I no longer believe misinformation • Reduce health impact & improve survival chances if I catch Covid • Reduce spread of infection • To travel again • Afraid of the vaccine • Concern about side effects • Don’t trust vaccine & government • Fear future vaccine mandates • 1st dose was painful • I’m influenced by political leaders refusing vaccine • Lack information • Still not sure about the vaccine • Waiting for a particular vaccine to be available • I know vaccinated people who had negative side effects • Rumours vaccine causes death • Rumours of side effects • Believe social media • Concern about underlying health conditions • Pregnant • I know vaccinated people who died

<table>
<thead>
<tr>
<th>Settlement average</th>
<th>Area 49 Federation</th>
<th>Chinsapo</th>
<th>Mgonde</th>
<th>M烫dare</th>
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<tbody>
<tr>
<td><strong>Lilongwe</strong></td>
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</tr>
<tr>
<td>Women</td>
<td>1%</td>
<td>2%</td>
<td>4%</td>
<td>3%</td>
<td>5%</td>
</tr>
<tr>
<td>Men</td>
<td></td>
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<td>Survey 1: 02.09.21</td>
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<td>Survey 6: 19.11.21</td>
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</tbody>
</table>

Protect my health & others • Avoid infection • Health worker, know importance • No longer believe misinformation • I understand vaccines’ importance & how they work • It’s accessible in my community • As a community leader I lead by example • On advice of government & health workers • To be eligible for jobs • To reduce health impact and improve my chances of surviving if I catch Covid • Some problems issuing vaccine certificates at my local hospital • Breastfeeding: waiting for info it is safe • Concern about negative rumours • Covid vaccine is a plot to reduce world population • I do not believe in vaccination in general • Vaccinated people are also dying • Still sceptical about the vaccine • Discouraged by negative rumours • I believe God will protect me from Covid • I still don’t understand how vaccines work • Covid-19 pandemic is a scam from the devil • Not a priority • Not a priority, my business is my priority

<table>
<thead>
<tr>
<th>Settlement average</th>
<th>Airport</th>
<th>Cheetah Camp</th>
<th>Dharavi</th>
<th>Goregaon</th>
<th>M East Ward</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mumbai</strong></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Women</td>
<td>1%</td>
<td>1%</td>
<td>3%</td>
<td>10%</td>
<td>85%</td>
</tr>
<tr>
<td>Men</td>
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<td>Survey 1: 02.09.21</td>
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<td>Survey 6: 19.11.21</td>
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</table>

Everyone should get Covid-19 vaccine • So I can travel on public transport again • So that things can reopen • To be safe • To control the pandemic prevent another wave of infection • To protect health • To reduce spread of disease • Availability is now good, wasn’t previously • Still concerned about side effects • I am discouraged by the long queues • I am discouraged by low availability • Long queues are discouraging • Discouraged by low availability
Data portraits: Covid-19 vaccine rollout in informal settlements in Harare, Kampala, Lilongwe and Mumbai

Figure 25: Hesitancy

Survey question(s)
Q6.4 Do you personally know anyone who, in the last 2 weeks, has been offered and refused a Covid-19 vaccine?
Q6.5 What is their story?

Data analysed
All surveys (1–6) data. All-settlement average/ aggregation, by city.

Legend
Main reason categories
- Misconceptions/belief in misinformation (general)
- Religious basis
- Fear (general)
- Lack of information
- Not a priority

Additional reasons
- Pregnancy/breastfeeding concerns
- Underlying health problems
- Infertility concerns
- Specific health concern

Table showing hesitancy rates in Harare, Kampala, Lilongwe, and Mumbai.
Data portraits: Covid-19 vaccine rollout in informal settlements in Harare, Kampala, Lilongwe and Mumbai

Figure 26. Gender differences in uptake

Survey question(s)
Q5.26 Have you noticed any significant difference in vaccine uptake between men and women who live in your settlement?

Data analysed
All surveys (1-6) data. All-settlement average, by city.

Legend
- More women than men are getting vaccinated
- More men than women are getting vaccinated
- No difference observed

Analysis by respondents’ gender revealed a very small amount of bias towards their own gender.

Harare
- Informal traders (usually women) are getting vaccinated because they face high risk of infection & need to be able to cross borders once these reopen.
- Men are more resistant & don't want to spend time queuing.
- Women are less receptive to misinformation.
- Women have responsibilities to families & want to attend social gatherings. So they are more likely to follow health advice & behave in ways that protect their health.
- Women more likely to need access to gov't/public facilities that require a vaccine certificate.

Kampala
- I have seen more women at the clinic.
- More men work (formally or otherwise) in jobs where they are required by employers to be vaccinated.
- More men need vaccine certificates for their jobs (eg truck driver, gov't employee, market vendor) or general formally-employed workers.
- Men tend to work in or move around public places, for which they must show vaccination cards.
- Domestic responsibilities prevent women being able to go and get vaccinated.

Lilongwe
- Women participate in social gatherings/groups where they encourage & help each other to understand vaccine issues.
- Women are less easily scared by misinformation.
- Domestic role makes women more responsible: they know caring for the sick is difficult & that protecting themselves means protecting the entire household & community.
- Women are generally comfortable in health care settings & are used to vaccines. So it's not a problem.
- Women better understand health risks & are more receptive to health information.
- Women have more flexible time to go to get vaccinated around household duties or businesses closer to home: men are often away or busy at work.
- I see more women at clinics.

Mumbai
- There has recently been a special women’s vaccine drive (in order to correct a gender gap in vaccination rates), so more women have been vaccinated this week.
- Women better understand the need to protect their health so they can continue their household duties.
- Men are more likely to work in the kind of jobs where employers require vaccination.
- Men are more likely to go out of the home to work, so they need to be vaccinated to access public transport to travel to work.
8. What does the information landscape look like on the ground and are people getting the information they need?

Many community leaders in the African cities said that Covid-19 vaccine information had recently been disseminated in their settlements (58% Harare, 76% Kampala, 86% Lilongwe). However, fewer thought their communities “had the information they needed” about vaccines and the rollout in their area (41% in Harare, 66% Kampala, 38% in Lilongwe) (see Figures 27a, b, c and d).

Diverse communities living in urban informal settlements represent a range of information needs. For example, Covid-19 vaccine awareness studies have found a strong nexus between information gaps and the digital divide – with uptake lower among marginalised groups, who are less likely to have access to the digital technology needed to access reliable information about availability, venues, safety and side effects, or to book appointments.12 Good and accessible information about venues’ day-to-day vaccine availability can also create trust and save communities time, especially in contexts of low/unreliable national supply or where there are distribution challenges.

But in many survey areas, we found this kind of information lacking. Waiting in long queues or travelling long distances, only to find vaccines unavailable, were intense sources of frustration (all cities), not least because it costs time, bus fare and lost earnings – especially the self-employed and people working late/long hours. In Stoneridge, Harare, where there is no nearby health centre, many respondents flagged the need for better availability information (as well as for a nearer vaccinating centre). Respondents also mentioned the need for information to help people better understand about the types of vaccine available (Harare, Kampala). And in Lilongwe, where the gap was largest between provision of information and its perceived adequacy, many respondents highlighted a need for better provision of good information from (importantly) sources trusted by communities, to counter the prevalence of disinformation and misinformation – including concerns represented in specific myths, for example around fertility.

In Mumbai the picture is quite different. Many fewer respondents said vaccine rollout information had recently been disseminated in their settlement, decreasing over the survey period from 50% to under 20%. However, almost everyone thought communities had the information they needed: most people were now vaccinated, and good uptake was evidence that they had adequate information. Communities were sharing

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11 Only asked in survey 6.
experiences and information with each other, centres displayed vaccine availability, and medical workers provided people with information about side effects and medicines that can counter them.

The data shows settlement variations in information dissemination and adequacy, including changes over the course of the survey window. In Harare, respondents in Epworth and Hopley largely thought the public health information being provided was adequate, but not in Hatcliffe Extension, Mbare and Stoneridge. In many Kampala settlements, NGOs and village health teams are leading awareness-raising campaigns, including by going door to door; in others, respondents flagged the need to better involve local leaders.

In terms of sources of information: local-level sources were seen to be key in Kampala, particularly village health teams, and in Lilongwe, where the Ministry of Health reaches communities via local leaders. In Mumbai, dominant sources during the survey window were municipal authorities and primary healthcare workers, but local leaders had played a key role in early stages of the vaccine rollout. In Harare, community health workers and local clinics were also important sources of information.

people listen and act – Mtandire, Lilongwe (S6)

Once someone takes [the vaccine] they tell others, and because [it’s] required for travelling in the trains, many people are finding it themselves – S6 Mumbai Goregaon

We [local leaders] disseminate information using megaphones moving around the village – Rubaga Division, Kampala (S1)

Whenever they are [bringing] mobile clinics, medical personnel announce it using public address systems, mostly at night when it is calm and less noisy – Chinsapo, Lilongwe (S6)
Figure 27a: Information landscape in Harare settlements

Survey question(s)
Q6.6 In the past 2 weeks, was public health info about Covid-19 vaccination disseminated in your settlement? % respondents: yes, no, don't know
Q6.7 What kinds of information? From which agents? How and in what ways is information disseminated?
Q6.9 Do people in your settlements have the information they need about vaccines and the rollout in their area? Please explain. % respondents: yes, no

Data analysed
All surveys data (Q6.6–7)
Survey 6 (Q6.9)
All-settlement average and disaggregated by settlement.

Legend

Yes
No

Harare

Has vaccine information recently been disseminated in your settlement?

Survey average

Q2.09 S2 S3 S4 S5 19.11

Do people have the information they need? (%)

Epworth

Hatcliffe Extension

Hopley

Mbare

Stoneridge

Main kinds of information, actors/organisations sharing it, and means of dissemination (all surveys)

Why do people have/not have the information they need? (%)

- People get enough information, including about when and where vaccines are available.
- Lots of awareness campaigns have and are still being conducted.
- People get enough information but some still don’t act on it.
- Evidence is that uptake is good.
- Information is limited or inadequate and government needs to do more.
- Some people don’t have the technology to access information.

Particular lack in Stoneridge, where there is no health centre;
- Need better availability information.
- Need more information on types of vaccine available: “some people don’t even know which vaccine they are getting” – Stoneridge respondent.
- Vaccine myths/false information needs to be addressed.
Figure 27b: Information landscape in Kampala settlements

Survey question(s)
Q6.6 In the past 2 weeks, was public health info about Covid-19 vaccination disseminated in your settlement? % respondents: yes, no, don’t know
Q6.7 What kinds of information? From which agents?
Q6.9 Do people in your settlements have the information they need about vaccines and the rollout in their area? Please explain. % respondents: yes, no

Data analysed
All surveys data (Q6.6–7), Survey 6 (Q6.9)
All-settlement average and disaggregated by settlement.

Legend

- Yes
- No

Main kinds of information, actors/organisations sharing it, and means of dissemination (all surveys)

Kampala

- Has vaccine information recently been disseminated in your settlement?
  - Yes 100%
  - No 66%
  - I don’t know 5%

Do people have the information they need? (S6)

- Yes
- No

Kampala Central Division: 95% Yes, 5% No
Kawempe Division: 95% Yes, 5% No
Makindye Division: 60% Yes, 40% No
Nakawa Division: 60% Yes, 40% No
Rubaga Division: 60% Yes, 40% No

Why do people have/not have the information they need? (S6)

- In all areas, especially in Kampala Central Division and Rubaga Division, local leaders are reaching out to households, including going door-to-door.
- Suggestions for improving information include: daily updates in newspapers, more details provided by trained medical personnel.
- More information needed about types available; some people don’t know which vaccines they are being given.
- Particular lack of information in Kawempe District, where distribution efforts need to better involve local NGOs and local leaders, who are ‘on the ground’.

Legend:
- Yes
- No
Survey question(s)
Q6.6 In the past 2 weeks, was public health info about Covid-19 vaccination disseminated in your settlement? % respondents: yes, no, don’t know
Q6.7 What kinds of information? From which agents? How and in what ways is information disseminated?
Q6.9 Do people in your settlements have the information they need about vaccines and the rollout in their area? Please explain. % respondents: yes, no

Data analysed
All surveys data (Q6.6–7).
Survey 6 (Q6.9)
All-settlement average and disaggregated by settlement.

Legend
Yes
No

Figure 27c: Information landscape in Lilongwe settlements

Main kinds of information, actors/organisations sharing it, and means of dissemination (all surveys)

- Information comes from the Ministry of Health to chiefs and local leaders, who communicate directly with communities.
- Evidence of adequate information is that uptake is good.
- Information is available but many people don’t seem to be acting on it.
- Better education about how vaccines work helps against misinformation.
- People need support to speak up against misinformation.
- Specific information needed to counter specific myths.
- Identified need both for mass awareness campaigns and for more targeted efforts at household/small group-level where people have space to ask questions.
- Better info needed about availability: "Sometimes people go to the hospital twice and come back because there are no vaccines."
Figure 27d: Information landscape in Mumbai settlements

Survey question(s)
Q6.6 In the past 2 weeks, was public health info about Covid-19 vaccination disseminated in your settlement? % respondents: yes, no, don’t know
Q6.7 What kinds of information? From which agents? How and in what ways is information disseminated?
Q6.9 Do people in your settlements have the information they need about vaccines and the rollout in their area? Please explain. % respondents: yes, no

Data analysed
All surveys data (Q6.6–7).
Survey 6 (Q6.9)
All-settlement average and disaggregated by settlement.

Legend
- Yes
- No

Main kinds of information, actors/organisations sharing it, and means of dissemination (all surveys)

Mumbai

Has vaccine information recently been disseminated in your settlement?

Airport

Cheetah Camp

Dharavi

Gorochaon

M East Ward

Relocation Colonies

Why do people/not have the information they need? (56)

- Good uptake is evidence of enough information.
- Local leaders are informing residents.
- Initially, people had many misconceptions. now this isn’t a problem.
- Centres are set up nearby and people know where they are.
- Information from medical centres is good.
- People are sharing information and experiences with each other.
- Vaccine availability/unavailability is displayed outside centres.
- Staff at vaccine centres provide adequate information, including about side effects and medicines to take.
References


Appendix 1: Survey respondent demographics

Survey question(s)  
Q3.2. Choose up to 2 that best describe your role in your settlement/community  
Q3.3. Are you: Female/ Male/ Non-binary or third gender/ Prefer not to say  
Q3.4. What is your age?

Data analysed  
Survey 6 data. All-settlement average, by city.

Legend  
Women  
Men  
1 respondent identifies with 2 leadership roles  
Average age (by gender)  
26% % respondents in a particular leadership role

<table>
<thead>
<tr>
<th>Harare</th>
<th>Community leadership roles</th>
<th>Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community health worker</td>
<td>26%</td>
<td></td>
</tr>
<tr>
<td>Other leader type</td>
<td>26%</td>
<td></td>
</tr>
<tr>
<td>Federation leader</td>
<td>22%</td>
<td></td>
</tr>
<tr>
<td>Youth leader</td>
<td>22%</td>
<td></td>
</tr>
<tr>
<td>Traditional leader</td>
<td>4%</td>
<td></td>
</tr>
<tr>
<td>Religious leader</td>
<td>3%</td>
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<table>
<thead>
<tr>
<th>Kampala</th>
<th>Traditional leader</th>
<th>34%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other leader type</td>
<td>27%</td>
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</tr>
<tr>
<td>Community health worker</td>
<td>26%</td>
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<tr>
<td>Youth leader</td>
<td>23%</td>
<td></td>
</tr>
<tr>
<td>Federation leader</td>
<td>7%</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Lilongwe</th>
<th>Traditional leader</th>
<th>43%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Federation leader</td>
<td>26%</td>
<td></td>
</tr>
<tr>
<td>Youth leader</td>
<td>20%</td>
<td></td>
</tr>
<tr>
<td>Other leader type</td>
<td>18%</td>
<td></td>
</tr>
<tr>
<td>Religious leader</td>
<td>16%</td>
<td></td>
</tr>
<tr>
<td>Community health worker</td>
<td>14%</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mumbai</th>
<th>Other leader type</th>
<th>34%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traditional leader</td>
<td>25%</td>
<td></td>
</tr>
<tr>
<td>Youth leader</td>
<td>21%</td>
<td></td>
</tr>
<tr>
<td>Federation leader</td>
<td>14%</td>
<td></td>
</tr>
<tr>
<td>Community health worker</td>
<td>8%</td>
<td></td>
</tr>
</tbody>
</table>
Appendix 2: Respondent numbers and turnover, by survey

Survey question(s)
Q1.1 Is this the first time you have taken this survey?
Q3.3 Are you: Female/ Male...
Q3.5 Name of city where you live
Q3.7 Name of settlement where you live

Data analysed
All surveys (1–6) data.
Survey-by-survey.
All-settlement average & disaggregated by settlement.

Legend
Women
Men
All participants

Harare

Kampala

Lilongwe

Mumbai

Respondent turnover

S1 100%
S2 22%
S3 13%
S4 2%
S5 0%
S6 3%

S1 100%
S2 17%
S3 20%
S4 20%
S5 0%
S6 4%

S1 100%
S2 14%
S3 0%
S4 0%
S5 0%
S6 0%

S1 100%
S2 2%
S3 5%
S4 0%
S5 0%
S6 0%
### Appendix 3: Respondents’ reflections on the role of community leaders

<table>
<thead>
<tr>
<th>Survey question(s)</th>
<th>Data analysed</th>
<th>Legend</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q5.28 As a community leader, do you think you or other community leaders have a role to play in the vaccination rollout? If so please explain what that might be.</td>
<td>All surveys (1–6) data. All-settlement average/aggregation, by city.</td>
<td>Yes, there is a role for community leaders or No</td>
</tr>
</tbody>
</table>

#### Harare

<table>
<thead>
<tr>
<th>Settlement average</th>
<th>Encourage people to get vaccinated</th>
<th>Explain the importance of vaccination</th>
<th>Raise awareness about Covid-19</th>
</tr>
</thead>
<tbody>
<tr>
<td>Epworth</td>
<td>100%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hatcliffe Extension</td>
<td>100%</td>
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<td></td>
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<tr>
<td>Hopeile</td>
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<td></td>
<td></td>
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<tr>
<td>Mbare</td>
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<tr>
<td>Stoneridge</td>
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</table>

#### Kampala

<table>
<thead>
<tr>
<th>Settlement average</th>
<th>Encourage people to get vaccinated</th>
<th>Explain the importance of vaccination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kampala Central</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>Kawempe</td>
<td>100%</td>
<td></td>
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<tr>
<td>Mankonde</td>
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<tr>
<td>Nakawa</td>
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<tr>
<td>Rubaga</td>
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</tbody>
</table>

#### Lilongwe

<table>
<thead>
<tr>
<th>Settlement average</th>
<th>Explain the importance of vaccination</th>
<th>Lead by example</th>
<th>Encourage people to get vaccinated</th>
<th>Dispel misinformation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area 49 Federation</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Chironga</td>
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<td>Chitungu</td>
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<tr>
<td>Mandire</td>
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<tr>
<td>Santi</td>
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<td></td>
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<tr>
<td>Mponda</td>
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</tbody>
</table>

#### Mumbai

<table>
<thead>
<tr>
<th>Settlement average</th>
<th>Not necessary now</th>
<th>Encourage people to get vaccinated</th>
<th>Explain the importance of vaccination</th>
<th>Lead by example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relocation Colonies</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M East Ward</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Goregaon</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cheetah Camp</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Airport</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dharavi</td>
<td></td>
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</tbody>
</table>

Legend:
- Lead by example
- Give people vaccination information
- Provide reliable information
- Lobby for food security during pandemic
- Encourage people to follow Covid-19 rules
- Encourage young people in particular
- Tell people where and/or when to get vaccinated
- Prevent spreading misinformation
- Support people to get vaccines
- Advocate for equitable vaccine access
- Raise awareness (general)
- Explain how vaccines work
- Raise awareness about Covid-19
- Engage in the overall vaccination rollout
- Holiday vaccine awareness
- Check if people are vaccinated
- Support govern to craft effective messages that people in my community will listen to
Appendix 4: Survey questionnaire

SECTION 1: RESEARCH PARTICIPANT CONSENT (omitted)

SECTION 2: WHO IS ASKING THE QUESTIONS? (ABOUT THE INTERVIEWER)
Q2.1 Full name of interviewer
Q2.2 Organisation of interviewer
  • Mumbai, India: Mahila Milan & SPARC
  • Kampala, Uganda: Slum Dwellers Federation of Uganda & ACTtogether
  • Lilongwe, Malawi: Malawi Federation of the Rural and Urban Poor & Centre for Community Organisation and Development (CCODE)
  • Harare, Zimbabwe: Zimbabwe Homeless Peoples Federation & Dialogue on Shelter
Q2.3 Date of interview

SECTION 3: ABOUT THE INTERVIEWEE / RESEARCH PARTICIPANT
Q3.1 Full name of interviewee
Q3.2 Choose up to 2 that best describe your role in your settlement / community:
  • Traditional leader in my community (eg elder, village elder, block leader etc)
  • Youth leader in my community
  • Federation leader
  • Religious leader in my community
  • Community health care worker (eg government-authorised community health volunteer, health surveillance officer, etc)
  • Other kind of community leader [you must give more information below about what kind of a community leader]
Q3.3 Are you...
  • Female
  • Male
  • Non-binary or third gender
  • Prefer not to say
Q3.4 What is your age?
Q3.5 Name of the city/town where you live
  • Kampala, Uganda
  • Mumbai, India
  • Lilongwe, Malawi
  • Harare, Zimbabwe
Q3.6 Optional: Name of the ward, parish (or equivalent municipal subdivision) where you live
Q3.7 Name of the settlement where you live
If Q3.5 = Lilongwe, Malawi
  • Area 49 Federation
  • Chinsapo
  • Mthandire
  • Mgonja
  • Senti
If Q3.5 = Harare, Zimbabwe
  • Epworth
  • Hatcliffe Extension
  • Hopley
  • Mbare
  • Stoneridge
If Q3.5 = Kampala, Uganda
  • Tubuyleka & Mugowa & Lufula (Bwaise II) & Kalimuli (Bwaise III), Kawempe Division
  • Go Down I & Kasenke (Naguru), Nakawa Division
  • Kiwempe & Sankala (Lukuli), Makindye Division
  • Kiti Zone & Kiguli Zone (Kisenyi III), Kampala Central Division
  • Zone IV(4) & Zone V(5) & Zone VI(6) & Zone VII(7) (Nakulabye), Rubaga Division
If Q3.5 = Mumbai, India
  • Area: Goregaon
  • Area: Dharavi
  • Area: M East Ward
  • Area: Cheetah Camp
  • Area: Airport
  • Area: Relocation Colonies
Q3.8 Optional: Name of the smaller neighbourhood within the settlement where you live (eg village, zone, etc)

SECTION 4: COVID-19 TESTING, INFECTIONS AND DEATHS IN YOUR SETTLEMENT
Q4.1 In the past 2 weeks, has there been testing of any kind for coronavirus in your settlement (by any organisation)?
  • Yes
  • No
  • Don’t know
If YES: go on to Q 4.2; If NO or DON’T KNOW: skip to Q 4.3
Q4.2 What kind of testing and by whom?
  Where and at what type of venue?
Q4.3 In the past 2 weeks, have there been any (reliable) reports of new infections/cases of Covid-19 in your settlement?
  • Yes
  • No
  • Don’t know
If YES: go on to Q 4.4; If NO or DON’T KNOW: skip to Q 4.6
Q4.4 Approximately how many new cases have there been in your settlement in the past 2 weeks?
  • Approximate number of cases (in whole numbers)
  • Don’t know
  • Comment / other
Q.4.5 If not from testing, what is the source or sources of information for the number of new cases?

Q.4.6 In the past 2 weeks, have there been any (reliable) reports of new deaths due to Covid-19 in your settlement?
- Yes
- No
- Don’t know

If YES: go on to Q.4.7; If NO or DON’T KNOW: skip to SECTION 5

Q.4.7 Approximately how many new deaths due to Covid-19 have there been in your settlement in the past 2 weeks?
- Number of deaths (in whole numbers)
- Don’t know
- Comment / other

Q.4.8 What is the source or sources of information for the number of new deaths?

SECTION 5: COVID-19 VACCINE ROLLOUT IN YOUR SETTLEMENT

Q.5.1 In the last 2 weeks, has any kind of official Covid-19 vaccine rollout been taking place in your town/city (eg linked to the national health care system or some other government-authorised health care provider)?
- Yes
- No
- Don’t know
- Comment / other

If YES: go on to Q.5.2; If NO or DON’T KNOW: skip to Q.5.19

Q.5.2 In the last 2 weeks, has any kind of official Covid-19 vaccine rollout been taking place that is available or accessible to people living in your settlement (regardless of where vaccination is taking place)?
- Yes
- No
- Don’t know
- Comment / other

If YES: skip to Q.5.4; If NO or DON’T KNOW: skip to Q.5.19; If NO and answer to Q.5.1 was YES: go on to Q.5.3

Q.5.3 You said that there has been an official vaccination programme in your city. You also said that there is no official vaccination programme that is accessible to people living in your settlement. Can you say more about why the official vaccines are not accessible for people living in your settlement?

Q.5.4 In the last 2 weeks, which groups of people in your settlement have been eligible to access vaccines? (Please select all that apply and tell us about any other groups of people who are eligible).
- ‘All adults’
- Frontline health workers
- Essential workers
- Older people [please specify above what age people are eligible]
- People with pre-existing health conditions who are vulnerable (ie with comorbidities)
- All adults
- Everyone (all adults and children)
- Don’t know
- Other particular groups

Q.5.4 pt 2 Are there any groups or types of people who want to get a vaccine but can’t, or who find it difficult to access vaccines? Who and why?
- Yes (please explain which groups and the reasons)
- No (optional text entry)
- Don’t know

Q.5.5 In the past 2 weeks, where is the official Covid-19 vaccination taking place that is available / accessible to people living in your settlement?
- In or near to my settlement
- Only outside this local area (ie not near to my settlement)
- Don’t know
- Comment / other

If IN OR NEAR TO MY SETTLEMENT: go on to Q.5.5; If ONLY OUTSIDE THIS LOCAL AREA: skip to Q.5.7; If DON’T KNOW: skip to Q.5.8

Q.5.6 You said that there is an official Covid-19 vaccination programme where people can get vaccinated in or near your settlement. Since when this year (2021) has the Covid-19 vaccine rollout been taking place in/near your settlement?
- Approximate date, or month
- Don’t know
- Comment / other

Q.5.7 In the past 2 weeks, where are people who live in your settlement getting vaccinated? What type of venue is it (eg hospital, church)?

Q.5.8 You said that there is an official Covid-19 vaccination programme that is available or accessible to people living in your settlement. Over the last 2 weeks, roughly how many people who live in your settlement have got a Covid-19 vaccine?
- Number of people
- Don’t know
- Comment / other

Q.5.9 In the past 2 weeks, do you know of anyone living in your settlement who has received a vaccine outside of the local area, for example at their place of work?
- Yes
- No, I don’t know
- Comment / other

If YES: go on to Q.5.10; If NO: skip to Q.5.11

Q.5.10 Can you tell us about them and their vaccination(s)? (For example who they are (eg relationship to you, gender, age, work), why they were offered a vaccination, why they wanted a vaccination, where they got vaccinated and why outside their local area, how was their experience ...?)
Data portraits: Covid-19 vaccine rollout in informal settlements in Harare, Kampala, Lilongwe and Mumbai

Q5.11 You said that there is an official Covid-19 vaccination programme that is available or accessible to people living in your settlement. In the last 2 weeks, which vaccines are people who live in your settlement being offered? (You can select all that apply.)

- Johnson & Johnson / Janssen
- Moderna
- Pfizer-BioNTech / Comirnaty
- Oxford-AstraZeneca / Covishield / Vaxzevria
- Novavax / Covovax
- Chinese vaccine (type unknown)
- Russian vaccine (type unknown)
- Sinovac / CoronaVac (from China)
- Sinopharm (BBIBP) (from China)
- Sinopharm (WIBP) / WIBP-CovV (from China)
- Covaxin / BBV152 (from India)
- CoviVac (from Russia)
- EpiVaccCorona (from Russia)
- Sputnik V (from Russia)
- Sputnik Light (from Russia)
- ZIFIVAX / ZF2001 / RB-Dimer (from Russia)
- Don't know
- Comment / other

If DON'T KNOW: skip to Q 5.15; Otherwise go on to Q5.12

Q5.12 Do you know if this vaccine / any of these vaccines need a second vaccination?

- Yes, a second vaccination is needed for some or all of the vaccines available to people in my settlement
- No, a second vaccination isn't needed
- Don't know
- Comment / other

If YES: on to Q 5.13; IF NO or DON'T KNOW: skip to Q5.15

Q5.13 Has the process for getting a second vaccination been arranged as part of the official vaccine programme?

- Yes
- No
- Don't know
- Comment / other

Q5.14 How is a second vaccine arranged? If not arranged already, do you know how it will be arranged?

- Please tell us what you know about second vaccine arrangements
- Don't know
- Comment / other

Q5.14 pt 2 Please explain what you know about second vaccine uptake. Are people willing and able to get second vaccines? <only SURVEY 6>

- Yes (please explain why)
- No (please explain why)
- Don't know

Q5.15 Is there a cost to the individual to get official vaccines?

- Yes
- No
- Don't know
- Comment / other

If YES: go on to Q 5.16; If NO or DON'T KNOW: skip to Q5.19

Q5.16 What payments do people have to make?

- Below, please give information about what people have to pay
- Don't know
- Comment / other

Q5.17 To whom are payments made?

- Please tell us about the people, groups or organisations that receive the payments for official government vaccines
- Don't know

Q5.18 Is a receipt provided?

- Yes
- No
- Don't know
- Comment / other

If YES: on to Q 5.20; IF NO or DON'T KNOW: skip to Q5.26

Q5.19 In the past 2 weeks, are vaccines available to people who live in your settlement in alternative ways than through the official government rollout (whether these ways are legitimate or not)?

- Yes
- No
- Don't know
- Comment / other

If YES: go on to Q 5.23; IF IT WAS FREE or DON'T KNOW: skip to Q5.25

Q5.20 You said that in the past 2 weeks, vaccines are available to people in your settlement in other ways than the official government Covid-19 vaccination rollout. Who is providing these vaccines?

- Below, please tell us which people, groups or organisations are providing vaccines outside of the official government rollout
- Don't know

Q5.21 In the past 2 weeks, do you know anyone that has accessed such vaccines (is in other ways than through the official government rollout)?

- Yes
- No
- Comment / other

Q5.22 If there was a cost, do you know what they had to pay?

- Below, please tell us about what payments they had to make
- It was free
- Don't know

If PAYMENT INFO: go on to Q 5.23; IF IT WAS FREE or DON'T KNOW: skip to Q5.25

Q5.23 To whom did they make the payment?

- Below, please tell us about people, groups or organisations that receive payments for vaccines accessed in alternative ways
- Don't know

Q5.24 Is a receipt provided?

- Yes
- No
- Don't know
- Comment / other
Data portraits: Covid-19 vaccine rollout in informal settlements in Harare, Kampala, Lilongwe and Mumbai

Q5.25 In the past 2 weeks, which vaccines are people who live in your settlement being offered in ways that are outside the official government vaccination programme? (You can select all that apply.)
- Johnson & Johnson / Janssen
- Moderna
- Pfizer-BioNTech / Comirnaty
- Oxford-AstraZeneca / Covishield / Vaxzevria
- Novavax / Covovax
- Chinese vaccine (type unknown)
- Russian vaccine (type unknown)
- Sinovac / CoronaVac (from China)
- Sinopharm (BBIBP) (from China)
- Sinopharm (WIBP) / WIBP-Cov (from China)
- Covaxin / BBV152 (from India)
- CovVac (from Russia)
- EpiVacCorona (from Russia)
- Sputnik V (from Russia)
- Sputnik Light (from Russia)
- ZIFIVAX / ZF2001 / RBD-Dimer (from Russia)
- Don't know
- Comment / other

Q5.26 Have you noticed any significant difference in vaccine uptake between men and women who live in your settlement?
- Yes, more men than women are getting vaccinated [please explain]
- Yes, more women than men are getting vaccinated [please explain]
- No difference
- Nobody is getting vaccinated of either sex
- Don't know
- Comment / other

Q5.27 Since September 2021, when this survey began, have you observed any changes in the vaccine rollout in your city and settlement? What and why? (Could be eg changes in uptake or availability or accessibility or something else.) <ONLY ASKED ON SURVEY 6>

Q5.28 As a community leader, do you think you or other community leaders have a role to play in the vaccination rollout? If so, please explain what that might be. <ONLY ASKED ON SURVEY 6>
- Yes (please explain the reasons)
- No (please explain the reasons)

SECTION 6: ATTITUDES AND INFORMATION ABOUT VACCINATION

Q6.1 To what extent do you agree with this statement: "If a Covid-19 vaccine were made available to me this week, I would definitely get it?"?
- Strongly agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Strongly disagree
- Prefer not to say
- I am already fully vaccinated

Q6.2 Anything you want to add to your answer, for example your reasons?

Q6.4 Do you personally know anyone who, in the last 2 weeks, has been offered and refused a Covid-19 vaccine?
- Yes
- No, don't know
If YES: go on to Q 6.5; IF NO: skip to Q6.6

Q6.5 Can you tell us about it?
- Below, please tell us their story (ie information about them and the vaccination offer they refused). Eg you could tell us who they are (relationship to you, gender, age, nature of work), why they were eligible to be offered a vaccination, the reasons why they did not want the vaccination, what were the circumstances, etc.
- Prefer not to say

Q6.6 In the past 2 weeks, is public health information about Covid-19 vaccination or vaccines being shared or disseminated in your settlement?
- Yes
- No
- Don't know
If YES: go on to Q 6.7; IF NO or DON'T KNOW: skip to SECTION 7

Q6.7 What kinds of information? From which actors or organisations? How and in what ways is the information being disseminated?

Q6.8 How do people find out how and where they can get a vaccine? What is the source of information and is it adequate? <ONLY ASKED ON SURVEY 6>

Q6.9 Do people in your settlements have the information they need about vaccines and vaccination rollout in their area? Please explain your reasons and if you think anything else should be done (and who should be responsible)? <ONLY ASKED ON SURVEY 6>

SECTION 7: PUBLIC BEHAVIOUR, ECONOMIC IMPACT & GOVERNMENT PANDEMIC RESPONSE

This section was only asked on the 1st and 6th survey iterations.

Q7.1 Are people in your settlement still observing the recommended precautions against coronavirus infection – eg social distancing, handwashing, wearing a mask etc? 
- Not really & hardly any precautions
- Sometimes & some precautions
- Most of the time & most precautions
- Nearly always & nearly all precautions
- Optional: Below, please give any additional information about why you think this is the case

Q7.2 When you are in public spaces in your settlement, do you yourself observe the recommended precautions against coronavirus infection?
Data portraits: Covid-19 vaccine rollout in informal settlements in Harare, Kampala, Lilongwe and Mumbai

- Not really & hardly any precautions
- Sometimes & some precautions
- Most of the time & most precautions
- Nearly always & nearly all precautions
- Prefer not to say
  
Optional: below, please give any additional information about why this is the case

Q7.3 When you are in public spaces outside your settlement, do you yourself observe the recommended precautions against coronavirus infection?
- Not really & hardly any precautions
- Sometimes & some precautions
- Most of the time & most precautions
- Nearly always & nearly all precautions
- Prefer not to say
  
Optional: Below, please give any additional information about why this is the case

Q7.4 In the past week, has there been an enforced lockdown or curfew in your settlement?
- Lockdown
- Curfew
- Both lockdown and curfew
- Neither lockdown nor curfew
- Don’t know
- Comment / other

if CURFEW or LOCKDOWN AND CURFEW: go on to Q 7.5; Otherwise: skip to Q 7.6

Q7.5 What time does the curfew start and end?
- Time the curfew in my settlement STARTS
- Time the curfew in my settlement ENDS
- Don’t know

Q7.6 In the past week, were any of the following activities happening in your settlement, aimed at helping deal with the economic emergency related to the pandemic? (Please select all that apply)
- Support for basic needs to vulnerable people
- Support for basic needs to non-vulnerable people
- Food distribution
- Cash support
- Water provided free through kiosks and standpipes
- Don’t know
  
Optional: please give information about any other activities taking place in your settlement to help your community deal with the economic emergency related to the coronavirus pandemic

if FOOD DISTRIBUTION and/or CASH SUPPORT: go on to Q 7.7 and Q 7.8; Otherwise, skip to Q 7.9

Q7.7 You said that in the past week, food distribution was happening in your settlement?
- If you can, below, please tell us approximately how many people in your settlement are receiving food
- If you can, below, please tell us approximately what proportion of the settlement is receiving food (ie what percentage of the settlement population?)
- Don’t know

Q7.8 You said that in the past week, cash support was happening in your settlement?
- If you can, below, please tell us approximately how many people in your settlement are receiving cash support
- If you can, below, please tell us approximately what proportion of the settlement is receiving cash support (ie what percentage of the settlement population?)
- Don’t know

Q7.9 Of those people who are normally working informally in your settlement, how many informal workers are no longer working?
- 80-100% (Nearly all are no longer working)
- 60-80% (Most are no longer working)
- 40-60% (Around half are no longer working)
- 20-40% (Most are still working)
- 0-20% (Nearly all are still working)
- Don’t know
  
Optional: below, please give any additional information about why this is the case

Q7.10 Of those people who are normally working formally in your settlement, how many have been laid off and are no longer working?
- 80-100% (Nearly all are no longer working)
- 60-80% (Most are no longer working)
- 40-60% (Around half are no longer working)
- 20-40% (Most are still working)
- 0-20% (Nearly all are still working)
- Don’t know
  
Optional: Below, please give any additional information about why this is the case

Q7.11 About you: are you...

- Formally employed
- Casually employed
- Self-employed
- Prefer not to say
- Comment / other

Q7.12 Has your income been affected either positively or negatively, by and during the pandemic?
- Positively
- Negatively
- My income has not been affected either way
- Prefer not to say
- Comment / other

Q7.13 Are you a member of a savings group in your community?
- Yes
- No
- Prefer not to say
- Option to give additional information, eg name of group and/or the number of savers

if YES: go on to Q 7.14; If NO or DON’T KNOW: skip to Q 7.16

Q7.14 Do you save?
- Yes
- No
- Prefer not to say

if YES: go on to Q 7.15; If NO or PREFER NOT TO SAY: skip to Q 7.16
Q7.15 How have your own savings been affected by the pandemic?
• Positively
• Negatively
• My savings have not been affected either way
• Prefer not to say
• Optional: below, please give any additional information about why this is the case

Q7.16 Overall, how have your savings group's savings been affected by the pandemic?
• Positively
• Negatively
• The group's savings have not been affected either way
• Prefer not to say
• Don't know
• Optional: below, please give any additional information about why you think this is the case

Q7.17 LAST QUESTION! Is there anything else you would like to say in your response today? About any of the vaccination issues raised or about something different. <ONLY ASKED ON SURVEY B>

END OF SURVEY MESSAGE
You have reached the end of the survey. We thank you for your time. Your response has been recorded.

This is the 6th and final survey in our 3-month study. We have been really grateful for your time and knowledge.

If you have any questions about how we are going to use this data, or would like more information, please speak to your interviewer or contact the people whose names are on the participant information sheet.
Appendix 5: Further reading

Read more about this project. The following resources provide more analysis:


