



# EVALUATION OF THE DRIVERS OF URBAN IMMUNISATION IN UGANDA: A CASE STUDY OF KAMPALA CITY

AUGUST - 2021

## RATIONALE

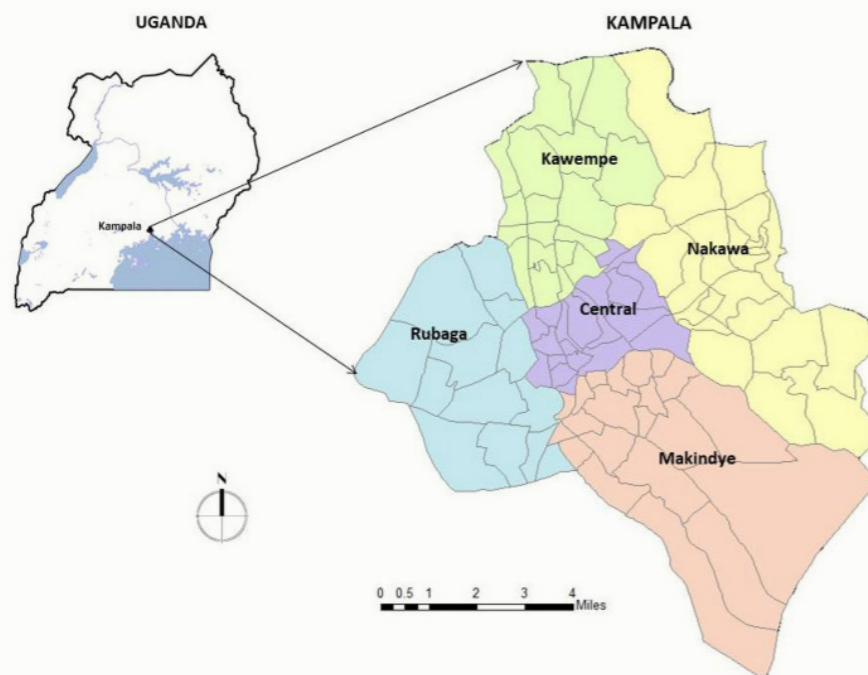
Immunisation service delivery in Uganda is based on WHO's Expanded Programme on Immunisation, which was designed over 40 years ago with a focus on overcoming geographic barriers to accessing services for rural populations. However, Uganda experienced increasing urbanisation over the last 20 years, with an estimated urban population of 25% in 2020.

Kampala is Uganda's capital city and economic hub, and is divided into five administrative divisions. It is characterised as having residents from diverse socioeconomic and ethnic backgrounds, and 57 slums where an estimated 60% of the city population lives. It has an estimated night population of 1.6 million persons,

and a day population of 4.5 million persons (due to the huge influx of workers from surrounding districts). Trade is the most important economic activity, comprising 72% of the informal sector employment.

Full immunisation coverage estimates for Kampala city declined from 77 percent in 2010 to 48% in 2017. Additionally, the equity assessment of 2016 identified Kampala as the district with the highest number of under immunised children in Uganda. Given Kampala's urban context, it was not clear what drives immunization coverage in the city.

Figure 1: Map of Uganda showing Kampala district and its divisions



## OBJECTIVE



We therefore set out to evaluate the extent to which the current EPI model of immunization service delivery addresses the immunisation needs of an urban context, using Kampala city as a case study. Specifically, we set out to evaluate: 1) the effectiveness of the current Expanded Program on Immunisation (EPI) immunisation service delivery model in Kampala city, 2) the drivers of immunisation coverage in the city, 3) the extent to which the EPI in Kampala is adapting to these drivers and 4) the effect of COVID-19 pandemic and its control measures on immunisation service delivery in Kampala city.

## EVALUATION APPROACH

The evaluation was conducted in two phases. Phase one (June 2019-May 2020) focused on understanding the demand side drivers of immunisation coverage in Kampala, and phase two (June 2020-July 2021) focused on the supply side drivers and the effect of COVID-19 pandemic and its control measures on immunisation service delivery in Kampala city. In phase one, we employed a parallel convergence study design and conducted 30 key informant interviews (KIIs), 7 focus group discussions (FGDs), and 6 In-Depth Interviews (IDIs). We also conducted a household survey (HHS) among 590 caregivers

of children aged 12 - 23 months to quantify the drivers of the coverage in Kampala city. In phase two of the evaluation, we also conducted 25 KIIs with health service providers, and a health facility assessment (HFA) in 87 health facilities that included 27 observations of immunisation sessions and 238 exit interviews. The HFA identified and measured supply side constraints to vaccination at health facility level. It also sought to understand the effects of the COVID-19 pandemic on immunisation service delivery. Secondary data analysis and document review were conducted in both phases.



## KEY FINDINGS

### 1. EFFECTIVENESS OF THE CURRENT EPI SERVICE DELIVERY MODEL IN KAMPALA CITY

The effectiveness of the EPI approach for immunisation service delivery in Kampala city is sub-optimal

- Less than half (41.5%) of the children were fully immunized
- Of those fully immunized, only 26.6% were vaccinated on time.
- Access to immunisation services was high (DPT1 coverage of 95.9%).
- Utilization of immunisation services was poor (DPT1-DPT3 dropout rate of 17.3%).
- There was no significant difference in full immunisation coverage between slum areas (41.8%) and non-slum areas (40.9%) (OR=1.05, 95% CI: 0.67-1.66).

- Findings imply that there's a pool of under immunised children who are susceptible to disease outbreaks.
- The high numbers of partially vaccinated children suggest the need to develop a mechanism to track children to ensure that they are fully vaccinated.
- There is need to target all children irrespective of where they reside (i.e. in both slum and non-slum areas).

Figure 2: Immunisation coverage in Kampala city

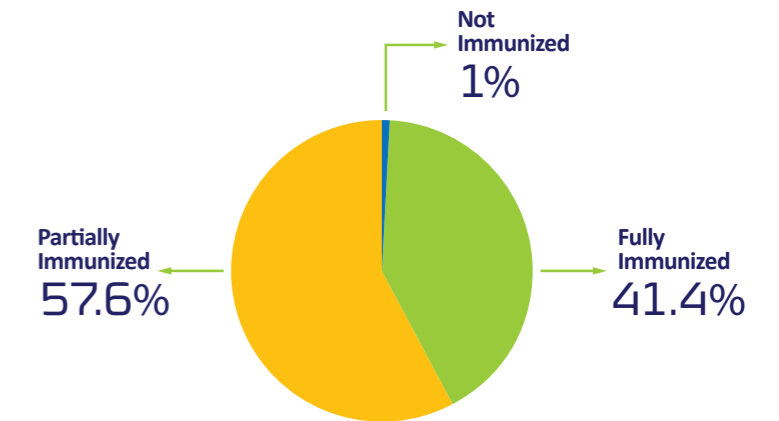
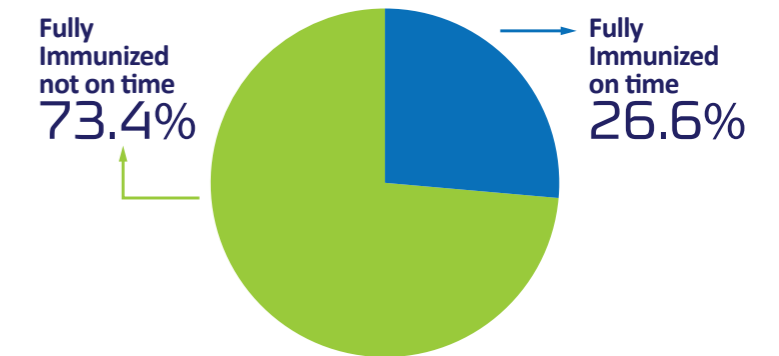


Figure 3: Timeliness of vaccination in Kampala city



## 2. BARRIERS OF IMMUNIZATION COVERAGE IN KAMPALA CITY

The main barriers to full immunization coverage in Kampala include:

- limited social mobilization and understanding of the importance of full immunisation
- vaccine stockouts at health facilities,
- costs to caregivers
- inadequate client centered immunisation services.

### 1. Limited social mobilization and understanding of the importance of full immunisation.

Inadequate information on immunisation is a barrier to full immunisation of children in Kampala, and is due to:

- Insufficient information given by health workers during immunization sessions
- Low motivation of Village Health Teams to conduct social mobilization,
- Gaps in community involvement in immunization by Private for Profit (PFPs) health facilities.

These reasons point to inadequate public engagement for immunisation.

### 2. Vaccine stockouts at health facilities.

From the household survey, the second most frequently mentioned challenge in accessing immunisation services was vaccine stock outs (mentioned by 20.5% of caregivers). Reasons for vaccine stock outs at health facilities include limited distribution mechanism for vaccines from satellite to lower level health facilities and inadequate supply of vaccines.

### 3. Costs to caregivers:

Costs to caregivers such as payment for the immunisation services, immunisation cards, transport as well as costs associated with meeting special requirements at immunisation points (such as buying pampers) deter some caregivers from accessing immunisation services.

### 4. Inadequate client centered immunisation services

**a) Unfavourable frequency of static immunisation services:** Majority of PFPs (78.4%) and PNFPs (57.1%) offer immunisation services on one day of the week. In addition, only 20% of public, 12.5% of PNFP and 26.5% of PFP health facilities provide static immunization services on Saturdays and Sundays. This is unfavourable to some caregivers who can't afford to take time off work during week days to take their children for immunization.

**b) Unfavourable duration of static immunisation services:** From the health facility assessment, we observed that immunisation sessions lasted between three and six hours. This relatively short time window may limit access to immunisation services as some caregivers who may not be able to take time off their jobs to take their children for immunization.

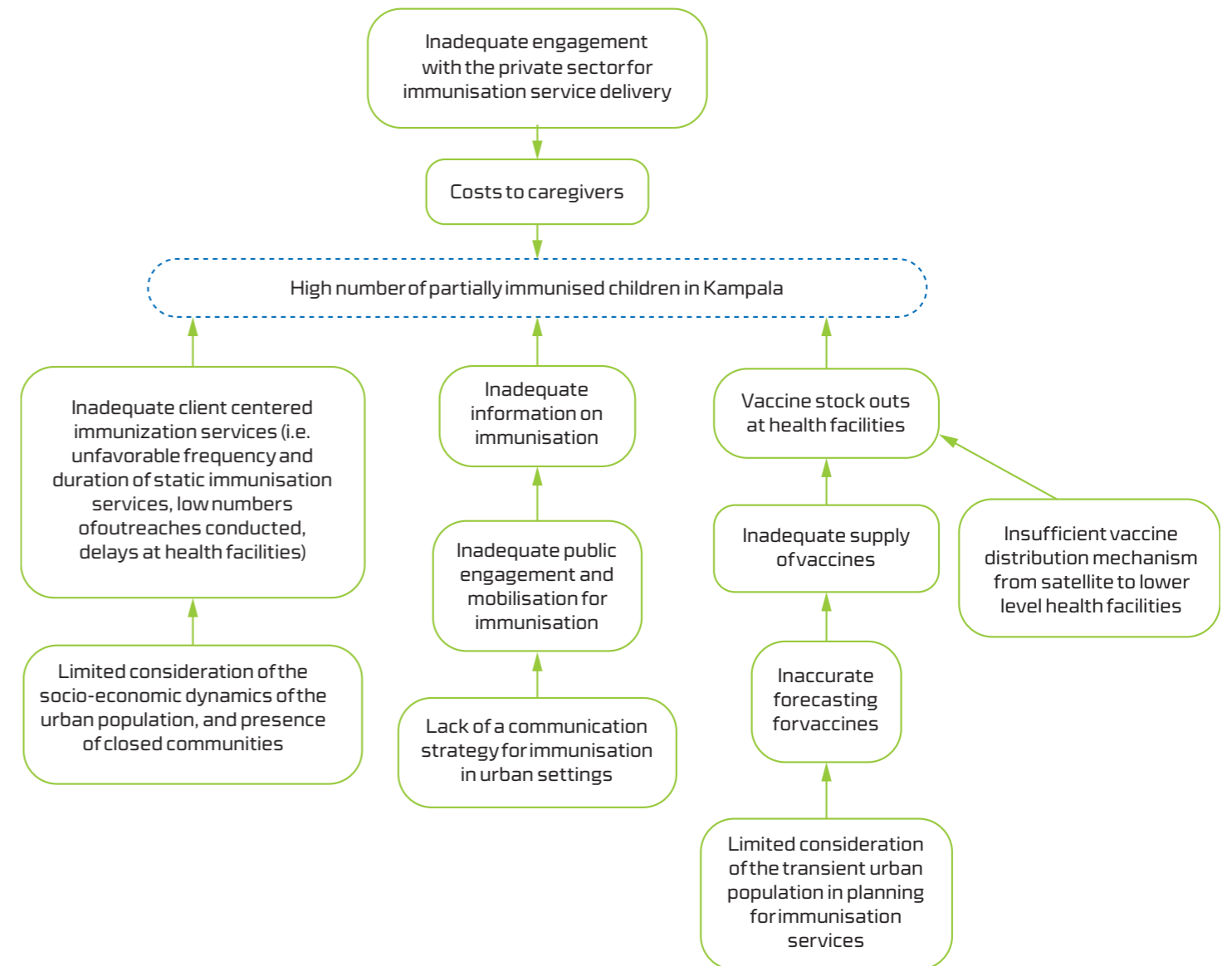
**c) Low number of outreaches conducted.** Key informants partly attributed the sub-optimal immunisation coverage in Kampala to the low numbers of outreaches conducted. Reasons for the low numbers of outreaches included: 1) inadequate funding for health worker allowances, lack of transportation and VHT facilitation to conduct outreaches, 2) low motivation of private health facilities to conduct outreaches, 3) inadequate health workforce at public health facilities and 4) restrictions in movement due to the COVID-19 pandemic.

**d) Delays at health facilities.** Delays at health facilities are a key challenge to accessing immunization services. From the household survey, the third most frequently mentioned reason for partial immunization of children was long waiting time for immunization services at health facilities (mentioned by 15.9% of caregivers). Caregivers in the FGDs reported a) frequent delays in the commencement of immunization, and b) delays experienced as health workers waited for a requisite number of children to be present before opening the multiple dose vaccine vials.

Findings reflect a lack of an urban immunisation strategy that takes into consideration the uniqueness of urban settings in health service delivery i.e.:

- absence of a clear strategy for mobilization and education targeting the urban context,
- limited consideration of the transient urban population in planning for immunisation services
- limited consideration of the socio-economic dynamics of the urban population
- Inadequate engagement with the private sector for immunisation service delivery

Figure 4: Analytical framework of barriers to full immunisation coverage in Kampala city



Lack of an urban immunisation strategy that takes into consideration the uniqueness of urban settings in health service delivery

### 3. ADAPTATIONS OF THE EPI TO THE CHALLENGES OF IMMUNISATION IN KAMPALA

The EPI is taking steps to adapt to the challenges of immunization in an urban setting.

Adaptation refers to the conscious efforts and systemic responses to address immunisation challenges. The EPI is taking steps to adapt to the challenges of immunisation in an urban setting. These steps include:

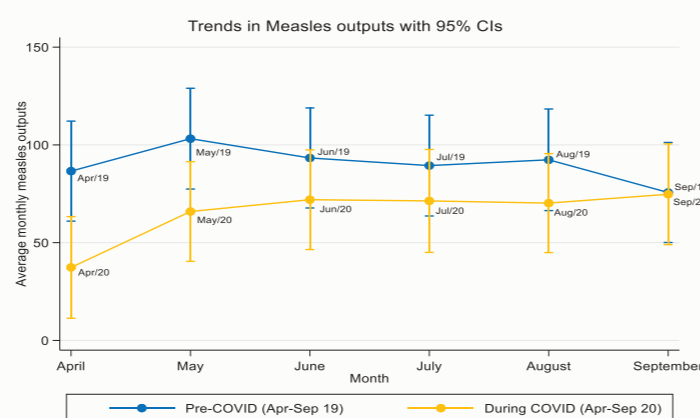
- 1) Development of an urban immunisation communication plan to guide social mobilization for immunisation in urban settings.
- 2) Revision of the vaccine requisition vouchers to improve vaccine forecasting.
- 3) Allocation of vehicles by Ministry of Health to KCCA to support immunisation activities.
- 4) Engagement of the private sector in immunisation services delivery as way of minimizing delays at public health facilities.
- 5) Proposed review of the staffing norms at public health facilities in Kampala so as to address inadequate staffing at public health facilities.
- 6) Leveraging partner support to conduct outreaches.

### 4. EFFECT OF COVID-19 AND THE LOCKDOWN ON IMMUNISATION SERVICE DELIVERY IN KAMPALA CITY

During the lock down period (25th March-26th May 2020) there was a decline in the number of children receiving DPT3 and measles vaccines. This decline resulted from immunisation service disruption, which was due to: i) limited availability of health workers, ii) unstable supply of vaccines to health facilities and iii) difficulty in conducting outreaches. Also, some caregivers were sceptical and reluctant to seek immunisation services due to the uncertainty and fear of contracting COVID-19.

#### Response of the Ministry and KCCA to COVID-19 related disruptions:

To reduce disruptions to immunisation service delivery during the lockdown period, the Ministry of Health and KCCA put in place measures which included 1) provision of continuity of service guidelines stipulating that routine immunisation service delivery should continue but with strict observance of the COVID-19 infection prevention and control measures, 2) provision of vehicles by KCCA to transport essential health workers to and from work, 3) provision of movement permits by KCCA to health workers enabling them to use private vehicles, and 4) leveraging support from UNICEF to conduct outreaches.



**Figure 4:** Average number of children immunized for both vaccines during the pre-COVID 19 period and the COVID-19 period.

### Effect of COVID-19 vaccination on immunisation service delivery in Kampala city

According to key informants, COVID-19 vaccination has increased the workload of health workers and has negatively affected routine immunisation.

According to key informants at health facility level, COVID-19 vaccination has increased the workload of the already stretched human resource which has negatively affected routine immunisation.

“... It also came with some challenges, it is so taxing, it also needs a lot of time. Of course, we are vaccinating; we have to do so for both routine immunisation and COVID 19 vaccine. It is already affecting but we have nothing to do. So you keep on doing, you vaccinate here 10, you run there you vaccinate 10, you come back here, on a heavy day it's very hard so you end up finishing late” (KII, EPI focal person-public health facility)

Furthermore, key informants at health facility level reported that there's more focus by the EPI on COVID-19 vaccination than on routine immunisation.

### RECOMMENDATIONS

This evaluation has confirmed that the urban context is complex, and this needs to be put into consideration when designing programs for health service delivery. Therefore, global and national health sector managers and funders of immunization programs should pay special attention to financing and implementation of urban immunization programs, as more resources are needed, and strategies need to be innovative and context specific. Based on the findings, we recommend the following:

#### Policy recommendations

1. The Ministry of Health in collaboration with KCCA, and other partners including the private sector should develop a national urban health policy and strategy that takes into consideration the complexity of health care service delivery in urban settings.
2. UNEPI in collaboration with the private sector should ensure that the urban immunization guidelines that will be developed include provisions for cities and districts to establish an accountability framework with private health facilities offering immunisation services to all in an equitable manner (e.g. through memoranda of understanding and contracts).

#### Operational recommendations

1. Given the high mobility of the urban population, the Ministry of Health should develop a system for tracking children's vaccination status countrywide through an electronic register.
2. KCCA with support from UNEPI should develop a vaccine distribution strategy in Kampala. The distribution strategy should include details on storage, distribution and retrieval of vaccines at both the public and the private health facilities.
3. The Ministry of Health in collaboration with the Ministry of Public Service should revise the staffing norms for health facilities in Kampala to reflect the workload at public health facilities.
4. The Uganda Bureau of Statistics (UBOS) should generate estimates of the transient population for the different urban settings in Uganda, which should be considered when planning for health services.

#### Future research and evaluation

1. To inform a workable model for immunization in urban settings, there is need to assess the extent to which the urban immunization policy, strategy and guidelines address immunization in urban settings.
2. Given the increasing complexity of COVID-19 and its vaccination (including vaccine hesitancy, negative messaging, limited vaccine availability), there is need to embed a prospective evaluation of the EPI's response so as to generate real time evidence to guide decision making and provide learning for future public health crises.
3. Given the increasing complexity of the EPI program (including many new vaccines, vaccine hesitancy, and COVID-19), it is important to strongly embed capacity building for research on vaccines and immunization in Uganda so that local evidence informs decision making and implementation in the country.

### ACKNOWLEDGEMENTS

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#### More information

For more information refer to the full evaluation report: Evaluation Team. Evaluation of the Drivers of Urban Immunization in Uganda: A case study of Kampala city, Kampala, Uganda: IDRC; 2021

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