Implementation Science Collaboration on Urban Health in East Africa:
Gaps, Opportunities, and Recommendations

The findings of this assessment regarding the vulnerability of urban slum dwellers in Kenya, Tanzania, and Uganda depict a challenging situation in terms of the nutrition and water, sanitation and hygiene (WASH) status of children and adolescents in these settings. The extent to which children and adolescents in slums and informal settlements suffer from poor health outcomes resulting from malnutrition and inadequate WASH services remains largely unknown in many locations due to lack of disaggregated urban data. Further compounding these challenges is the general lack of evidence surrounding effective strategies to combat poor health, malnutrition, and diseases associated with limited WASH access in the complex environments of slums and informal settlements.

Results from this assessment portray a vicious cycle of how lack of information on health research, policies, and programming affect investment in programs targeting slum residents (Figure 1). Without robust data reinforcing the need to address the health issues pervasive in slums, little attention is given from a political standpoint, thus resulting in generally minimal funding and programming efforts, which in turn leads to a lack of evidence on potentially helpful solutions. To break this cycle, it is critical that information gathered at the slum level is shared widely. Also, researchers, programmers, and policy makers must be informed regularly regarding efforts being implemented, including those in other countries – either policies being developed, programs being implemented, or data gathered.

Figure 1: Cycle contributing to the lack of information regarding slum health research, policies, and programming

We cannot expect to make significant progress towards achieving a number of the Sustainable Development Goals when the health of some of the world's most disadvantaged populations is not considered a priority. With less than a decade left to meet the targets set out to improve health, promote access to health services, provide access to safe water and sanitation, and build resilient cities, among others, it is a critical time to begin making coordinated, strategic efforts to generate evidence and develop innovative solutions in urban health.

Gaps and Opportunities in Urban Health Policies

Limited political priority for urban health

The absence of urban health-focused policies in Kenya, Tanzania, and Uganda found in this assessment demonstrates the little political priority for urban health, a finding consistent with current policy research on the topic. A recent study by Shawar & Crane (2017) assessed the various challenges related to advancing the urban health agenda and discovered key factors impeding the acceptance of urban health as a global health priority. The first factor is an apparent competition with the rural development agenda. The notion of the urban advantage must be refuted in order to garner support for and prioritize efforts to improve the lives of urban slum dwellers worldwide. Related to this is the second factor, which is the scarcity of data and tools to measure the magnitude of the problems facing poor urban dwellers. To do so requires disaggregated data that can elucidate the persistent inequalities that are present in cities. In addition to limited data on the problems in urban health, there is even less information available on known effective strategies that can be employed to solve these problems. Additional factors identified include a lack of coordination among the urban policy community, ineffective governance, and unsuccessful framing of the issue.

Opportunities for advancing the urban health agenda

The analysis conducted by Shawar & Crane (2017) concluded that one of the key opportunities for raising political priority for urban health is through the promotion of systematic knowledge sharing around effective urban health interventions. The multi-country assessment in Kenya, Tanzania, and Uganda is based on a collaboration facilitated by the East, Central, and Southern African Health Community (ECSA-HC) and a steering committee comprised of Ifakara Health Institute, Infectious Disease Institute, and Africa Academy for Public Health.

The gap was actively discussed in the ECSA-HC Best Practices Forum held in 2018, with a thematic focus on "Governance and Equity-Oriented Policies for Urban Health." Major progress in advancing the urban health agenda was made following this meeting at the Health Minister's Conference in which a resolution on Urban Health was passed, which included an emphasis on the following areas:

- Establish or strengthen formal frameworks for multi-sectoral engagements to improve delivery of urban health services;

- Embed implementation research into urban health policy and program to inform ongoing decision making; and

- Mainstream health equity aspects in all sectors' policies and plans and strengthen urban health systems to respond to the dynamics and specific needs of urban populations.

Engagement in this regional Forum has proven to be a key opportunity for influencing national policy and invites a broader network of stakeholders to work together toward realization of the resolution objectives and support accountability during subsequent convenings.

Opportunities for enhancing existing policies

In examining the existing policy environments, results from the assessment highlight a few opportunities for improving current policy efforts. Of the three countries, Kenya appears to have the most conducive policy environment, with a number of existing policies that are urban-focused. Five policy documents explicitly outlined how to address issues affecting the urban poor:

1. **Kenya Environmental Sanitation Policy** that seeks to prioritize the scale up of urban sanitation to end the practice of open defecation and ensure access to improved and safe sanitation;

2. **Food and Nutrition Security Policy** that seeks to ensure adequate, safe, and nutritionally diverse diets are accessed by all the urban poor and ensure it takes into account their growing numbers. This policy promotes urban employment, urban agriculture (crops and livestock) and strengthening existing urban-rural linkages which hold potential to improve food access and overall food security and nutrition conditions in these areas;

3. **Reproductive Health Policy** which seeks to improve access by women to reproductive health information and to ensure skilled care throughout the continuum of pregnancy, delivery, post-partum and post-natal periods among the urban poor;

4. **The Reproductive Maternal, Newborn, Child, and Adolescent Health Policy (RMNCAH)** framework targets the urban slums to address inequity in health care and aims to reduce out-of-pocket payments for the urban poor; and

5. **Prototype County Environmental Health and Sanitation Bill** envisions for each urban area, a watershed storm water management plan will be implemented in accordance with the prescribed standards and ensure equitable financing of environmental health and sanitation by supporting the development and management of sanitation services.

There is potential to further improve these policies by promoting WASH and nutrition-specific implementation strategies. Furthermore, efforts to enhance existing policies in the country could benefit from more intersectoral collaboration, for example, with the Ministry of Housing, which is responsible for the development and implementation of Kenya's National Slum Upgrading and Prevention Policy.

Although in general there is limited inclusion of urban issues in policies in Tanzania, some key health and environmental policies acknowledge the importance of matters relevant to poor urban residents and slum dwellers, proving an opportunity for further development aligning with the priorities identified in our assessment. The National Health Policy (2017), for example, did highlight the burden of poor health in the urban population, and noted high rates of obesity among children and women of reproductive age in urban settings. In addition, Section 3.22 of the National Agriculture policy (2013) recognizes that urban and peri-urban agriculture is a vital aspect of food security. The country's National Water Policy (2002) highlighted that nearly half of the urban population live in slums and overall, about 73% of the urban population has access to reliable water supply services. In section 4.4, the policy recognizes the existence of the urban poor group and has a specific goal on the improvement of water and sanitation services in low-income and peri-urban areas.

Our assessment reported that the government of Uganda is in the process of finalizing the first-ever multi-sectoral Uganda National Nutrition Policy (UNAP), which is a possible entry point for inclusion of slum populations/focus on marginalized urban dwellers. The UNAP clearly highlights strategic objectives, strategies, and priority interventions to address causes of malnutrition at individual, household, and community levels, hence defining the framework for multi-sectoral nutrition implementation for Uganda. In line with the conclusions of the Global

Nutrition Report (2014, 2015, and 2016), the UNAP recognizes the universality of malnutrition and the need for actions that address malnutrition in all its forms. It also recognizes the attainment of good nutritional status, especially among children and women of reproductive age, as both a marker and a maker of sustainable development, with 12 out of 17 Sustainable Development Goals relevant to nutrition (IFPRI, 2015). Given that our assessment found insufficient household food security and poor infant and young child feeding practices in Ugandan slum locations, there is an opportunity for the UNAP policy to emphasize the importance of reaching women and children living in slums in order to bring about the most effective coverage and potential impact of the policy.

Development of new urban health policies

The multi-country assessment found that Uganda is in the process of developing an urban health policy, led by the Kampala City Council Authority. This presents an opportune time for collaboration as this new policy is still in the development phase. In addition to enhancing existing policies and working toward the development of new policies and strategies, there is a noteworthy opportunity to engage slum residents and community leaders in the policy-making process. This could serve as an exemplar of urban policy for other countries in the region.

Gaps and Opportunities in Urban Nutrition and WASH Programming

Insufficient targeting of interventions

In Uganda, most WASH and nutrition interventions in the country were found to target rural districts. Of the twenty-three interventions identified during the assessment, only one was found to be currently targeting urban children. This project, which provides basic water and sanitation for peri-urban communities, targets children in Kampala District as a whole, but does not focus specifically on urban poor or slum residents.

While the number of programs and interventions targeting slum dwellers was much greater in Kenya relative to Tanzania and Uganda, several gaps in programming were identified. In particular, adolescent-focused programs were lacking. Main barriers to accessing health services among this population were identified through the focus group discussions FGDs and community workshops, including a lack of adolescent-friendly health facilities and providers. Findings from the assessment point to a lack of services targeting pregnant adolescents as a barrier to uptake of health and nutrition services. There is therefore a need for demand creation for health services among adolescents. This can be achieved by having specific times when adolescents are attended to as the lack of privacy and long lines were identified as barriers to utilization.

Limited focus on behavioral interventions in WASH and nutrition

The Tanzania assessment found a total of nine health projects being implemented by various non-governmental organizations and community-based organizations in urban slums in Dar es Salaam, and in some cases, other parts of the country. Several of the interventions identified focus on infrastructure improvements and slum upgrading, but there appears to be few behavioral interventions to address hygiene promotion. The assessment found no interventions focused on nutritional practices among caregivers of infants and young children. In Kenya, our assessment reported that socio-cultural factors have also been shown to influence decision making on feeding practices whereby communities have different perceptions about the types of foods children should eat (Wanjohi et al., 2017). Efforts should therefore be geared towards behavior change communication to demystify and educate the community on the benefits of

breastmilk and exclusive and continued breastfeeding. Potential interventions that are likely to influence food behaviors and feeding practices include nutrition counselling and support to mothers, especially at the community level (Ochola et al., 2013, Kimani-Murage et al., 2017). In Uganda, the assessment revealed a dearth of program activities in urban areas and noted that of the 23 interventions identified during the stakeholder mapping activity, only one is targeting urban children. This intervention, providing basic water and sanitation for peri-urban communities, targets children in Kampala District as a whole and does not specifically focus on urban poor. There was no mention of a behavioral component to the program, highlighting an opportunity to establish/work toward the implementation of behavioral interventions surrounding WASH.

Behavioral hygiene promotion remains a key intervention requiring wider implementation to improve health outcomes related to diarrheal disease reduction and improved nutritional status, but this entails an understanding of how such programs will operate best in slum settings. Basing program design and implementation on the lessons learned in rural areas will not suffice, and as such there is a significant and immediate need to carry out implementation research in slums focusing on behavioral hygiene promotion.

Opportunities to strengthen existing slum upgrading and urban health interventions

The Kenya Informal Settlement and Slum Improvement Project,) a $165 million investment implemented in 14 counties across the country from 2011-2019, aimed to improve the living conditions of people living in informal settlements. Phase 1 of the project was completed in 2019, but there may be potential to inform the development of the next phase. Collaboration and coordination with the Department for Housing and Urban Development will be necessary to explore this option.

The USAID-funded Afya Jijini ("health in the city") program aims to improve access to health services, including access to and use of maternal, neonatal, and child health, WASH, and nutrition services in Nairobi. The program engages with early child development centers and community health volunteers to carry out nutrition outreach activities. The program also implements WASH activities in health facilities and at the community level to promote positive handwashing behaviors. Findings from this study should be shared in the final phase of implementation of the Afya Jijini program (running through August 31, 2020), and if the project continues, researchers and program implementers should explore further collaboration.

Gaps and Opportunities in Slum-Based Research

Insufficient quantitative data

Our assessment of data sources and literature on nutrition and WASH among poor urban residents in Kenya, Tanzania, and Uganda recognizes an overall dearth of data comprising health related indicators for vulnerable populations residing in slums or informal settlements. Representative, quantitative data on the health of slum dwellers and access to health services is absent, particularly in Tanzania and Uganda. In Uganda, only five publicly available quantitative datasets were identified: National Census (2002 & 2014); Uganda Demographic Health Survey (2001, 2011, 2016); Nutritional Anthropometric Survey Children Under Five Years of Age Informal Settlements in Kampala City; National Panel Survey; and the Uganda National household survey. With the exception of data collected through the Anthropometric Survey of Children Under Five Years of Age Informal Settlements in Kampala City, four of the datasets are not specific to urban settings but can be used to generate WASH indicators among the urban

poor as they have variables for poverty and location. However, in most of the datasets, location clusters are not explicitly labeled as slums and therefore there is a need to identify areas that are predominantly slums where the urban poor are most likely to dwell. Child development indicators (cognitive and psychosocial skills); nutrition indicators such as overweight/obesity prevalence, micronutrient deficiencies and dietary practices were not collected in any of the data sets.

In Tanzania, no quantitative data sets specific to slum populations currently exist. While all national survey data can be disaggregated between urban and rural as per the National Bureau of Statistics classification based on the population of the enumeration areas, the data cannot examine urban poor located specifically in slums or informal settlements, as sampling is not carried out at that level. In addition, nutrition data from the country is deficient, with only three national surveys containing nutrition-related data.

Results from the database review in Kenya show that the country has the greatest amount of quantitative data specific to the health and wellbeing of urban poor populations compared to Tanzania and Uganda. A total of 48 quantitative datasets, which consisted of large nationwide and county surveys such as the Kenya Demographic and Health Survey and smaller surveys (cross-sectional studies) conducted between 2005-2018, were identified. Out of the 48 datasets, 11 were available on request, 29 require communication with study authors, and no contact information was provided for the to access the remaining eight databases. Of all the surveys,71% were small surveys carried out in specific settlements, most of which focused on children under-five years and women of reproductive age.

Inadequate data on adolescents

In addition to the amount of data available in Kenya, the type of information collected from these surveys was more nutrition-specific compared with Tanzania and Uganda, and included child anthropometric measurements (weight and height), age, socio-economic status, infant and young child feeding practices (breastfeeding and complementary feeding), and WASH indicators, such as access to water and toilets. Some datasets also had information on infections, such as diarrheal disease and parasitic infections. However, despite the relative data strengths uncovered in Kenya, there remain a number of indicators that were not adequately covered/assessed:

1. Child development (cognitive and psychosocial skills);

2. Nutrition and WASH vulnerabilities affecting adolescents, school aged children, orphans, and street children;

3. Prevalence of overweight/obesity and micronutrient deficiencies among children and adolescents;

4. Dietary practices among adolescents;

5. WASH among children and adolescents;

6. Socio-cultural beliefs and practices; and

7. Infant and young child feeding practices among adolescent mothers.

The results from Kenya regarding gaps in existing data, in particular, highlight the need to carry out research on adolescents in slum settings. The qualitative evidence generated through this assessment suggest they are among the most vulnerable residents of slums and informal settlements, but more robust data are needed to effectively design interventions to improve health outcomes of poor urban populations.

Opportunities to expand on identified research strengths

The research strengths found in Kenya, namely the availability of data and research specific to slums and informal settlements in Nairobi, provide a solid base from which to build future research and strategic research partnerships. Through increased data sharing activities, lessons learned from multiple efforts in slums in Nairobi can be scaled up elsewhere in the country. Future research in Kenya comprising a representative sample of slums (urban, peri-urban, slums with various population densities) would be a potential next step as research is showing that slums vary not only across countries, but even within countries. Understanding the magnitude of the problem in the country, and building on the existing evidence on health in Nairobi slums, will be key for future investments in programs and policy development targeting this population.

Findings from Kenya can also help shed light on the grave situation of slum dwellers compared to other marginalized urban counterparts in Tanzania and Uganda and hopefully serve as motivation for future research in slum settings. Establishing a capacity building or mentorship component of the existing ECSA-HC platform is one possible approach to sharing best practices from Kenya with researchers and programmers in Tanzania and Uganda. As APHRC has a significant presence in slums in Nairobi, and years of experience conducting research in these settings, they can provide valuable insights and strategic advice on approaches to implementing future studies. In addition to building on existing partnerships, creating linkages with new research networks, such as the Research Initiative for Cities Health and Equity in Africa, should be explored.

In Uganda, our assessment identified research carried out on malnutrition among adolescents in slums, a key strength considering the limited amount of data on this age group in the other study countries. There is an opportunity for Kenya and Tanzania to learn from the research experience in Uganda and to plan for future nutrition and WASH research focused on adolescents. In Tanzania, findings from the assessment show urban disadvantages despite using aggregate urban data. Future research in the country could explore this urban burden by undertaking quantitative assessments, sampling within slums specifically, to investigate and quantify the magnitude of the effects on urban poor. New research approaches that gather longitudinal data and integrated assessments that address the critical linkages between nutrition and WASH should be considered.

As a well-established implementation science collaboration, partners involved in this research should use the results of this study to further promote capacity building and knowledge sharing among the study partners, researchers, policy makers, and programmers, both within the study countries and beyond. Benefiting from this unique set of stakeholders, it may be possible to connect researchers in urban health, WASH, RMNCAH, and nutrition between countries. The results from this study describe strengths from each of the study countries, and more direct country-to-country consultations and learning opportunities would allow the different country experiences to be shared and lessons learned implemented in other settings. For example, Kenya's relative wealth of data in the slums of Nairobi based on long-standing research activities of APHRC can be shared with research partners from Tanzania and Uganda. Similarly, partners in Uganda have the opportunity to share their experience implementing an adolescent malnutrition study with partners in Kenya and Tanzania. Lastly, Tanzanian partners have mentioned interest and potential to include a slum sample in the next Demographic Health Survey round. Documenting and sharing that experience, along with the processes involved for realizing such a forward-thinking undertaking, would certainly provide valuable information and insights for counterparts in Kenya and Tanzania.

Summary of Recommendations

One of the most logical next steps to follow from this research is the design and implementation of integrated intervention studies needed to identify effective approaches to improving the health and wellbeing of slum dwellers in Kenya, Tanzania, and Uganda. Using the UNICEF malnutrition framework along with the in-depth data gathered through the FGDs and key informant interviews in this study should be used to inform holistic approaches taking into account the multidimensional aspects of urban health interventions in slum settings. In particular, using the framework as a guide, intervention studies in the following areas are recommended:

1. To address *inadequate maternal and childcare*, focus on the design and implementation of social and behavior change programs targeting mothers, caregivers, and educators in slum settings. Such programs should place a strong emphasis on breastfeeding promotion, infant and young child feeding practices, and providing well-balanced diets for children and adolescents in the context of urban poor environments;

2. To *address insufficient health services and unhealthy environment*, attention should be given to designing programs targeting providers, health facilities, schools (to encourage uptake of information on health behaviors), and community groups to advocate for environmental improvement. Creating linkages with existing programs, such as deworming, should be considered. Such efforts could be enhanced through the inclusion of additional behavioral hygiene promotion activities, and micronutrient supplementation, for example; and

3. To address the specific *barriers faced by adolescents in slums* found in this study, any programming should consider this age group when designing interventions.

Results from our study illustrate the importance of policy advocacy for urban health, and slum health, specifically. To address the *weak political context* and limited political priority for urban health, further efforts to engage in discussion with governments, such as the successful ECSA-HC BPF, should be explored. Building on this experience will provide an opportunity for advocating for more commitment from government ministries to include vulnerable populations in policies intended to help the poor and move beyond the predominant focus on rural populations in low- and middle-income countries. In addition, any urban health or slum upgrading policies that are in the process of review could harness the information gathered here and utilize the findings to make specific changes to include nutrition and WASH actions. Presenting the data gathered here, and future data gathered from intervention studies, will be crucial for elevating the agenda to improve the health and wellbeing of slum dwellers.