Key messages

- Living conditions in informal settlements directly impact residents’ health outcomes – due to inadequate access to services, including water, sanitation and formal healthcare.
- Waste management problems, poor quality of shelter, precarious livelihood options and limited healthcare access affect all communities studied – both coastal and hillside. However, Cockle Bay is the only one without a resident health facility, thereby forcing residents to seek care in places outside of the settlement.
- Other factors vary by place – Dwarzack and Portee-Rokupa experience the most severe conditions relating to water access, such as distance, cost and waiting time. Whereas Cockle Bay has better water access.
- Residents of informal settlements face a range of barriers to accessing formal healthcare – including high charges for treatment, long distances, difficult terrains, poor road networks, long waiting times, and social barriers related to religion and gender.
- The primary way people deal with ill health is through self-administered treatment (often using drugs from peddlers, traditional healers and nurses living within communities).
- There are large accountability gaps in healthcare due to limited communication between communities and health facilities about drug administration and grievance redress mechanisms. This reduces trust in formal healthcare systems, and makes health messaging less effective.

Introduction

Living conditions of people living in urban informal settlements are characterized by inhumane conditions, underpinned by lack of essential services like water and sanitation services including toilets and waste disposal dumps, housing and health services. The current state of service provision in Freetown’s informal settlements is in part a product of growing informality, in response to gaps in the provision of public services, notably in sanitation and health care. These gaps reinforce common health problems experienced through conditions like malaria, linked to the incessant spread of mosquitoes. A number of other factors related to living conditions accumulate health risk traps which influence health outcomes of informal settlement dwellers. These living trajectories include lack of access to or poor maintainence of toilets, lack of access to water, poor housing conditions, precarious livelihood practices and the nature of household energy use. While livelihood practices like fish smoking emit smoke into the eyes and the lungs, use of wood and charcoal also propel
respiratory problems like coughs and colds.

With respect to sanitation, informal communities along the coastlines are more inclined to using what is referred to as “hanging toilets (toilets built with sticks and sacks, depositing human wastes into the sea or streams),” while those without access resort to open defecation as the last option. While pit latrines are used generally, they are often in poor sanitary conditions with interactions between users and the food chains. These settlements are also characterized by lack of a well-planned and regulated waste management system, which is a vital driver of indiscriminate dumping, mostly in waterways and drainages, with huge piles being burnt as well. While morbidity in informal settlements due to living conditions affects wider demographic groups, women, children and the aged are more vulnerable than men. Children are the most vulnerable due to weaker immunity and lack of autonomy to seek care for themselves. Most residents administer self-treatment in the first instance, mainly from informal care providers, and delay seeking formal care due to several barriers. These include high costs of care, long distances to care services, difficult terrains, poor road access, long waiting times and cultural barriers relating to religion and gender.

This policy brief provides an insight into the current state of living conditions in informal settlements of Freetown and how these link to health. It is an outcome of a research work by the Sierra Leone Urban Research Centre (SLURC) in partnership with the Future Health Systems (FHS) in four informal settlements in Freetown to understand how living conditions relate to health. The study also observed how socio-economic conditions of informal dwellers affect their access to health service provision. Two of the communities, Moyiba and Dwar Zack are located on the hill side, while the two others, Cockle Bay and Portee-Rokupa are coastal communities.

Box 1: Future Health Systems and SLURC

The Sierra Leone Urban Research Centre (SLURC), based in Freetown, is a globally connected research centre created through a partnership between the Bartlett Development Planning Unit (University College London) and the Institute of Geography and Development Studies (Njala University). SLURC aims to strengthen the research and analysis capacities of urban stakeholders in Sierra Leone; make urban knowledge available and accessible to those who need it, prioritizing residents of informal settlements; and, deliver world-leading research in order to influence urban policy and practice. See slurc.org for more information.

Future Health Systems is a global research project led by John Hopkins University (JHU) in the USA and the Institute of Development Studies (IDS), University of Sussex, UK. SLURC, a member of this consortium, has carried out two research projects in Sierra Leone focussing on exploring some health systems in Freetown. SLURC’s urban health research started with a desktop scoping study to understand existing knowledge on health in informal settlements, and where there are gaps – for example, there was found to be limited understanding of the environmental and social determinants of health of the informal settlement dwellers. The findings of the scoping study provided a roadmap for further research.
Box 2: The four research settlements

Cockle Bay: is located in an environmentally protected area in Aberdeen Creek, western Freetown, housing an estimated 540 households on existing and reclaimed land. Although no extreme weather-related hazard has been reported in this community, its low altitude, poor drainage and weak infrastructure renders several areas and developments at risk of flooding associated with heavy rains, tidal waves and sea level rise. There is no resident PHC in Cockle Bay so, residents access the PHC in Murray Town.

Portee-Rokupa is a merger of two settlements (Portee and Rokupa), and houses 6,000 people (YMCA, 2012) in a small bay along the eastern Freetown coastline, surround by a cliff. Owing largely to the prevalent poverty, housing shortages, high rental cost and a shortage of land for housing, there is much land reclamation especially at the seafront. There is a high environmental risk due to the cliff, and waste and contamination from the plateau flowing into the informal settlements below. There is a PHC in Portee-Rokupa (ISCON) but residents also visit the Rokupa referral hospital when they are sick.

Dwarzack is a hillside settlement near the city centre. The population is estimated to be 16,500, 65% of which are under the age of 30 (YMCA, 2012). The topography of the land is undulating and composed of large rocks/boulders over hanging dwellings. Poor housing, poor road networks, high illiteracy, poverty and inequality are prevalent in Dwarzack. Some of the women are involved in agricultural activities along the bank of the George-Brook Stream, which is also a key community water source along with wells due to limited alternatives.

Moyiba is situated in a hilly area in eastern Freetown. According to the last census (2015), the settlement’s population is 37,000, half of which are young people. Income levels in Moyiba are generally low. The settlement is characterised by poor housing, congestion, poor road networks, poor hygiene, high illiteracy and unemployment rate and high poverty and inequality. It suffers severe erosion during heavy rains leading to flooding and the contamination of the stream.

Living Conditions and Health Links

Living conditions in Freetown’s informal settlements are generally poor, reflecting poor quality of housing, limited access to water and sanitation services, including toilet and waste dumping facilities. It also reflects the kinds of precarious livelihood options and kinds of energy used, which largely influence health outcomes. While these socio-environmental factors interact, they require among other things, tailored policy actions to address these needs. Housing and equitable healthcare delivery for example affect people of the same spatial settings, but require independent actions by stakeholders including the Ministries of Housing and Health, while others like water and sanitation issues require broadly stakeholder collaboration from sectors including the the Ministries of Water Resources, Guma Valley Water Company and the Freetown City Council.

Figure 3: Interactions between living conditions, health conditions and access to formal health in Freetown’s informal settlements
Housing

The housing conditions of informal settlements in Freetown are generally poor. “Panbody” (temporary houses made from sticks and corrugated sheets) and mud houses are predominant, with fewer brick dwellings. Decisions to build panbody and mud houses are influenced by topography and cost of construction. This is particularly true for people living on hillside terraces of Dwarzack and Moyiba, whose income vulnerability prevents them from building durable houses that are resilient to extreme weather conditions and building collapse. They resort to building mud houses, with considerations for easy accessibility of local materials like mud and sticks. Similarly, economic considerations override safety precautions for people of Cockle Bay and Portee-Rokupa who encroach on seafront locations, using a process of accumulating waste over time to harden the ground for construction. While this exposes residents to immediate health risks including incessant mosquito and fly infiltration of homes, long term hazards could include sea erosion and flooding.

Housing in informal settlements faces high levels of overcrowding, coupled with inadequate regulation of the sector by the state. Immense pressure is exerted therefore on people in extreme poverty who cannot afford the high cost of living in built up formal settlements. People living in overcrowded households are also exposed to disease conditions like tuberculosis, which transfers rapidly from one person to another. Poor construction of houses also enables easy access by mosquitoes spreading malaria. The tenure insecurity of many homes is both a barrier to investment in dwellings, and also to the expansion of healthcare provision to underserved populations. Prioritisation of slum upgrading programmes would have a direct positive impact on health.

Toilets

Pit latrines are generally common in Portee-Rokupa, Cockle Bay, Moyiba and Dwarzack, though some variations exist, dictated by topography. Seafront residents or those near streams, like Portee-Rokupa, Cocklebay and parts of Dwarzack use hanging toilets, built with sticks and sacks over the water. Proximity to the sea makes it difficult for residents to dig proper toilets because of infiltration of salt water, and possible overflowing. Residents of Moyiba and Dwarzack commonly utilize pit latrines, though the locations of these are constrained by rocky grounds. Lack of maintainance of such toilets attracts flies and mosquitoes, and poor sanitary conditions mean interactions between human excrement and food chains. Inadequate space for construction of toilets means huge number of people lack access to toilets. This results in open defecation as an alternative option. Cholera and diarrhoea are therefore linked to poor toilet conditions and the breeding of flies close to food preparation.

Figure 4: A panbody housing structure at Portee-Rokupa

Figure 5: Photos of a hanging toilet (left) and a pit toilet (right)
Water

Communities derive water from a mixture of taps, water wells, spring and streams. There is often not enough safe drinking water to meet demands, and it is frequently contaminated.

Communities’ access to water significantly differ based on where they live. Residents of Portee-Rokupa do not drink well water due to saltiness, and do not have pipe-borne water. The rocky terrain of hillside communities (Dwarzack and Moyiba) make digging wells or fixing pipes challenging, so people mostly rely on streams or must travel to obtain water. Stream water sources in these communities are contaminated with garbage and faeces from upstream, but travelling long distances to purchase drinking water, is slow and expensive (Le 1,000-2,000 per container). Cockle Bay has greatest access to taps, wells and spring water of the four settlements studied.

Skin disease prevalence is related to bathing in contaminated water, whereas typhoid, diarrhea, dysentery and cholera stem from drinking contaminated water. Challenges related to water access are city wide but greater investment in the informal settlements would increase access to water and limit possibilities of water borne diseases.

Waste

The inadequacy of garbage collection or disposal points is a city scale challenge, but conditions are more acute in informal settlements where there are many competing demands for use of limited land spaces. Waste is thus disposed of in the sea, drains, dug out holes or by burning. With the challenges in waste management, coastal communities have developed banking for land reclamation as a local remedy. However, residents where this is practiced are exposed to health risks like malaria through mosquito breeding.

At the moment, a major challenge to waste management at community level is the limited capacity of local authorities to address the issue. For example, some of their actions instituted through by-laws against illegal dumping, do not seem to be yielding much. These laws are circumvented by people who dispose of wastes in drains, streams and the sea at night instead – polluting water that is also used for bathing and laundry. Some initiatives are in place for garbage collection by youth groups using tricycles but this is irregular and not possible on difficult hillside terrains. While waste recycling might be a medium or long term action given the resources and planning required, city authorities must consider it a priority to link up the nationwide monthly cleaning with those undertaken in communities for better results.

Energy

The majority of houses are either connected to electricity or use Chinese lamps for lighting, and also use charcoal for cooking and other domestic work. While charcoal is considered generally safe by communities due to low emissions, they widely ignore the dangers of the use of plastics for lighting, thereby releasing carbon monoxide, and causing respiratory or lung infections. Wood is used by people drying fish and baking bread especially in Cockle Bay and Portee-Rokupa, and considered more dangerous by residents because of its longer period of smoke emission, exposing users to eye problems and high blood pressure. Sustainable and clean energy use is therefore vital to keeping city residents healthy and productive.

Livelihoods

Informal residents engage in diverse livelihood options to sustain their families, which vary greatly by location. Coastal communities commonly work in fishing, fish drying and selling, sand mining, wood and charcoal selling, while hillside communities undertake more stone quarrying and petty trading. Nonetheless, bike riding, masonry, carpentry, auto mechanics are common across all settlements. People engaged in stone mining, itinerant women traders and bike riders are usually exposed to waist and muscle pains, while bike riders are exposed to cold and dust related respiratory infections. The Freetown economy is predominantly informal with many informal settlement workers making a living in precarious conditions. A closer look at livelihood activities could enhance environmental sustainability and address associated risks.
Healthcare Delivery

People living in informal settlements face unequal access to healthcare, and a range of barriers to seeking formal care. The primary way in which people deal with ill health in Freetown’s informal settlements is through self-administered treatments, only later seeking care from hospitals or health centres when conditions get worse; or when self-treatment fails. These decisions are largely based on cost – direct and indirect – it can be expensive both to travel to, and to obtain healthcare from, formal facilities. The relatively high care seeking behaviour among pregnant women, nursing mothers and their children under five is largely attributed to the free health care policy pursued by the government.

However, in places such as the upper hillside areas of Dwarzack and Moyiba settlements, pregnant women are often treated at home by traditional birth attendants due to the steep topography and long distances to health centres. Also, Cockle Bay has no PHC within the settlement, making it expensive and strenuous to travel and visit one elsewhere.

While residents could be better helped to understand the importance of seeking timely formal healthcare, there needs to be intensified efforts to increase access to formal healthcare (both physically and financially) in the poorest and most hard-to-reach communities.

Informality is a key factor that overrides healthcare seeking. Deeply rooted “community knowledge” about certain health conditions determine where to seek care. For example, a few health issues (e.g. convulsions, “pile”, epilepsy, elephantitis, etc.) are only taken to traditional healers since people do not trust conventional medicine for such illnesses. People also often purchase drugs from peddlers (“pepe doctors”) for conditions like colds, headaches, fevers and malaria, as they do not have the money to pay for health services. Herb sellers, nurses living within communities and pharmacies are also relied on by people before they would seek care at peripheral health centres (PHCs) or hospitals. These health behaviours come with consequences including delays in seeking quality formal healthcare by communities, particularly for people considered as vulnerable, including children and pregnant women.

Cordial patient-health worker relationships are important for enabling confidence in patients about the care provided. However, many care seekers are put off seeking formal care due to their own prior bad experiences with providers, or the experiences of other people in their communities. PHCs, especially in the free health centre category, are regularly out of stock for drugs that are in high demand. Additionally, some lack basic storage for vaccines and also equipment such as scales for weighing children, or ambulances. Therefore, people are usually less inclined to visit the PHCs since all they will get is a prescription to purchase the drugs elsewhere. Inadequate drugs provision in facilities access by poor people is a factor that inhibit access to care when they are in dire need. This could affect the attainment of Universal Health Coverage, which requires equity in healthcare provision particularly for the poor and vulnerable. Breaches of confidentiality by health workers and poor attitudes are barriers to accessing care. Health workers, on the other hand, are experiencing high workloads, a lack of formal enrolment, and low motivation.

Accountability in Healthcare Provision

Accountability in the health care delivery system is critical. This is of more relevance to services delivered at the informal community level where health risk traps are diverse. This is particularly so, because of the fact that informal settlement dwellers are vulnerable across many layers, including income earnings to afford personal healthcare within or outside the public healthcare system. Therefore, the role of the Community Health Management Committees (CHMCs) are key in enhancing transparency and accountability in the delivery of healthcare to people considered to be in extreme poverty in informal slums. At the moment, communication between communities and the Peripheral Health Units (PHUs) is rare. The CHMCs are the main channel that links health facilities with the communities in meeting their health needs particularly through mediation of grievances related to poor quality of care, including mistreatment by health workers. Above this, they also bear the responsibility of overseeing the activities of the health centres and routinely report to community residents, through religious and social platforms like churches and mosques. Occasionally, CHMCs can also work as redress mechanisms especially in communities where their roles have been well established.

Figure 7: A sick relative being carried to the nearest PHC in Dwarzack

1 WHO (2010) Health Systems: Financing the Path to Universal Coverage
Fundamental gaps exist in the operations of CHMCs in relation to maintaining accountability in the overall operations of health facilities, including drug supplies and administration. Often, they take stock of drugs delivered to health facilities, but they do not monitor drug use to ascertain how they are dispensed to beneficiaries, especially those in the Free Health care (FHC) category. Vigilance in drug administration is critical in building confidence in healthcare seekers about the health delivery system, given that suspicions are often rife that drugs run out primarily in health facilities because health workers squander them. Essentially, weaknesses ingrained in the operations of CHMCs have limited them to proving intermittent health messages to communities through collaborations with NGOs, health workers and Community Health Workers, with limited attention on opening up communication for promoting accountability. Lack of trust in the health care provision could be exacerbated with an ineffective accountability mechanism through which people can channel their grievances. This could potentially affect the already low formal health care seeking behavior in the informal settlements where many people seek care from informal care providers. It is particularly disturbing that while community residents often want to report their grievances, they do not know which channels exist for reporting.

In the absence, of functional CHMCs, some people resort to taking their complaints to community chiefs, like in the case of Dwarzack, who relay such complaints to the Community health leads for action, while others air their grievance through radio call-in programmes. However, actions from community health leads are rare, inappropriate or untimely in addressing complaints made against their staff.

Recomendations and Actions for Policymakers
1. There is need to promote slum upgrading programmes which will be a deliberate effort to improve settlement locations as well as make them better serviced. All settlements are in need of better drainage systems, regular cleaning of waste from drainage channels, and enforcement of community bylaws on the compulsory provision of toilets for the houses built. This could be monitored by the sanitary inspection directorate at the Ministry of Health, and will reduce exposure to health risks like malaria, diarrhoea, etc.

2. Provision of additional water tanks for communities that cannot dig or easily access pipe water because of either their location or terrain. Also, constant refill of water tanks provided by the government to ease the burden of distance and cost on community residents.

3. Promotion of greater community planning would ensure sustainable land use for purposes like proper waste management, new healthcare facilities, and reduced overcrowding.

4. Public health planning should be linked to helping residents understand and appreciate the benefits of seeking timely formal healthcare.

5. Efforts should be intensified to increase access to formal healthcare, especially to people living in hard-to-reach areas including areas located far away from the nearest PHC. Public health planning should also prioritise access for the poorest, whose health is most affected by living conditions and for whom healthcare costs are the greatest barrier.

6. Revitalise Community Health Management Committees (CHMCs) in order to improve communication between health facilities and communities, and ensure greater accountability of health providers to their clients. This should include greater transparency around drug supply and administration.
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