Curbing Mortality Among Slum Dwellers

The Health Status of the Urban Poor in Kenya

Policy Brief
August 2015

The Scandal of invisibility

Such invisibility is indeed a cause for concern for the rapidly growing urban poor, because if the policy makers do not know who is dying in their population and why they are dying, they can do very little to avert such deaths, especially those which are preventable.

> **"Most people in Africa and Asia are born and die without leaving a trace in any legal record or official statistic. Absence of reliable data for births, deaths, and causes of death are at the root of this *scandal of invisibility,* which renders most of the world's poor as unseen, uncountable, and hence uncounted."**
>
> **Philip W. Setel**

Estimating child and adult mortality in two Kenyan slums

Up to 60% of Kenya's urban residents live in slums [1]. The rapid growth in slum populations over the past two decades requires urgent attention by policy makers as they are characterised by extreme poverty and poor social infrastructure and amenities compared to their counterparts residing in non-slum areas. Sometimes, urban slum residents have poorer access to basic social amenities such as proper sanitation and primary health care compared to the rural populations. Consequently, slum populations have become the new hubs of poverty and tend to have worse health outcomes.

KEY POLICY MESSAGES

- With the rapid growth of urban slums, delivering essential services requires priority attention by policy makers.
- While there are some differences between slums, there is a predominance of deaths due to poor environment and treatable infections among both children and adults.
- Adult population in addition are also facing increase in deaths due to injuries and non-communicable diseases.
- To curb mortality among slum populations, the county governments need to:
  - Build partnerships with existing providers to effectively deliver the basic package of preventive and promotive services with a clear focus on improving quality and eliminating financial barriers.
  - Improve living conditions with strong emphasis on enhanced access to sanitation, reduced solid fuel use and better security.
  - Invest in collection, analysis and interpretation of mortality data.

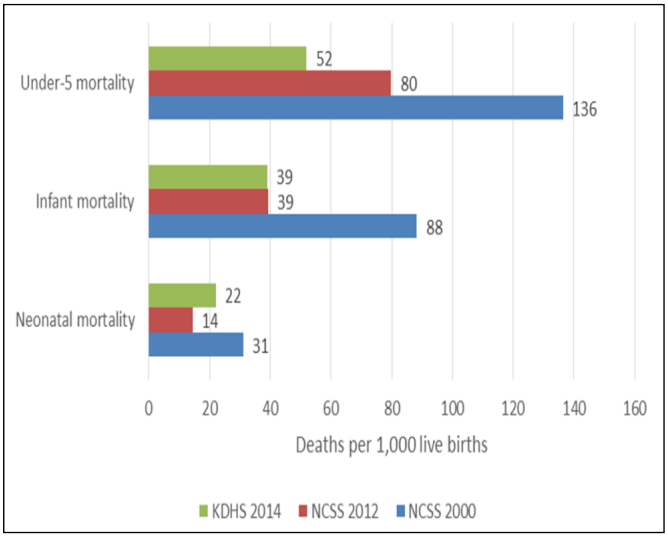


Figure 1 Trends in child mortality

The data presented in this policy brief draws largely from the **Nairobi Urban Health and Demographic Surveillance System (NUHDSS) operated by the African Population and Health Research Centre (APHRC) since 2002** [2]. The NUHDSS serves as a research observatory, which monitors the health and wellbeing of about 72,000 residents Korogocho and Viwandani slums, located in Nairobi's eastern area. The NUHDSS collects and maintains an active database on mortality patterns and causes of death in both slums. While each slum has its unique character, the NUHDSS can provide some useful lessons to county governments and their partners across Kenya on how to prioritize and target interventions aimed at reducing preventable deaths among slums residents.

What is killing children in Nairobi Slums?

The good news is that child mortality across all slums in Nairobi has declined by nearly 40% in the past decade (Figure 1). However, the overall child mortality among slums is higher compared to rest of Kenya (KDHS 2014) despite a two year difference in reporting periods. While the neonatal mortality among slum residents is lower than the national average, the 1-4 mortality remains high. This raises the question why is this so?

In 2012, about 82.6% of births in Nairobi's slums were attended by skilled providers compared to 61.2% reported by the KDHS. Skilled care at child birth is known to reduce neonatal mortality and this trend is quite evident from the data.

A closer look at the two NUHDSS slums of Korogocho and Viwandani show that interestingly, they both behave differently when it comes to their levels of child mortality (see Figure 2). Viwandani has consistently had lower mortality rates than Korogocho. Viwandani is generally the "wealthier" slum, tend to have better educated residents as it is located next to Nairobi's industrial area that offers job opportunities for its residents [3]. Hence the residents may have more disposable income than Korogocho residents.

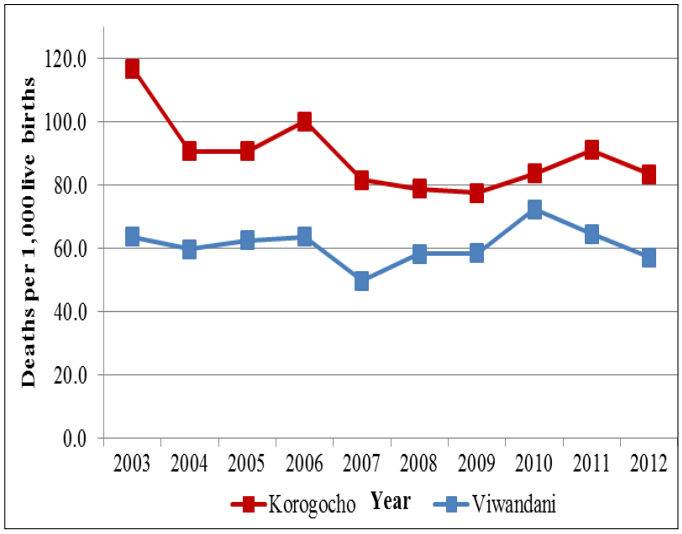


Figure 2 – Under-5 mortality rates per 1,000 live births, NUHDSS 2003-2012

Figure 3 shows that the vast majority of deaths among under-fives in both slums are attributable to acute respiratory tract infections, HIV/AIDS, diarrheal diseases and other infectious causes.

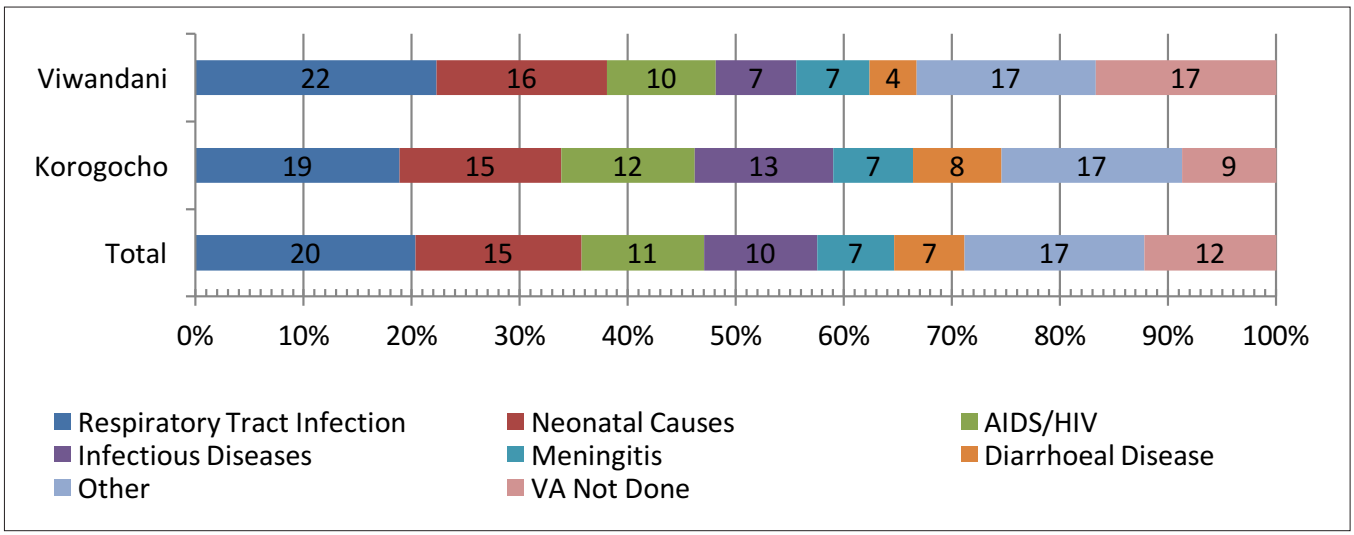
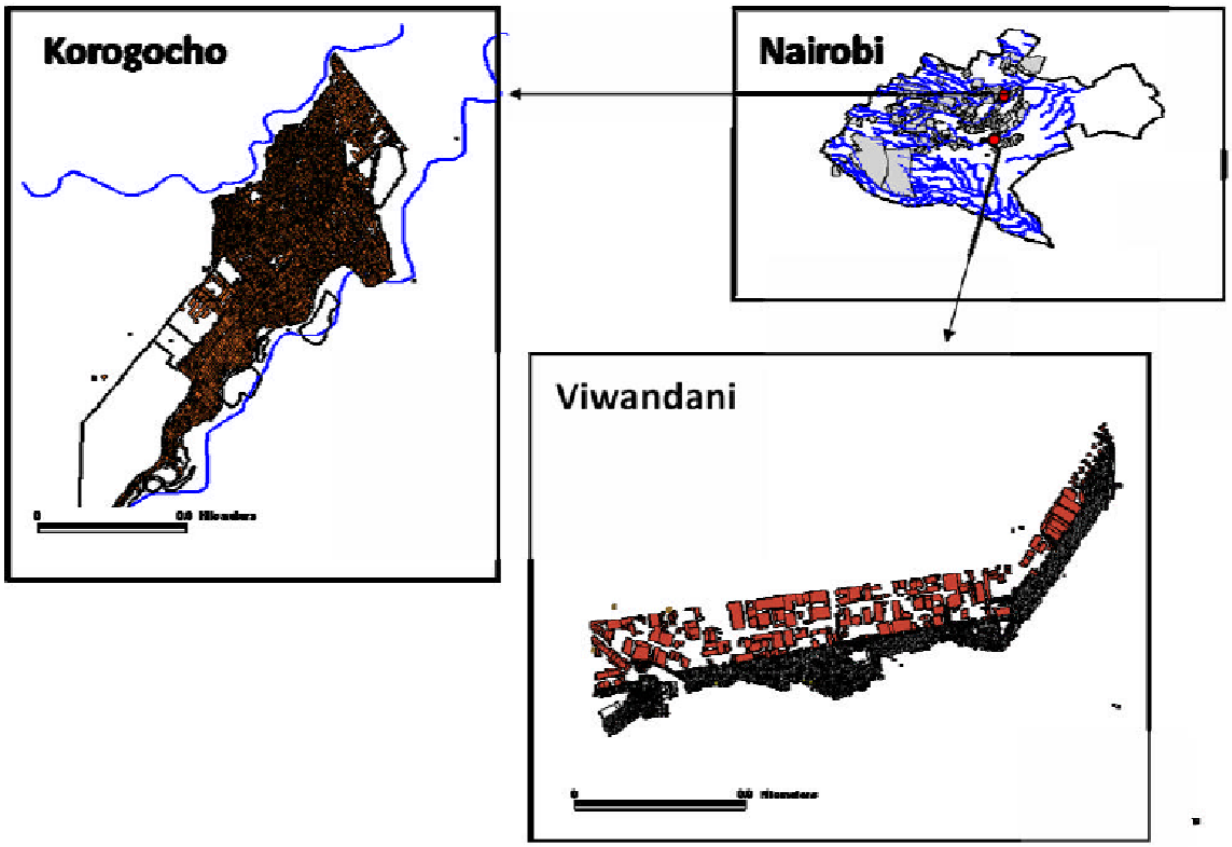


Figure 3 – Cause of death distribution among KOROGOCHO and VIWANDANI under-5 year-olds, NUHDS, 2003-2012



Maps – Map showing the location of the two study sites within Nairobi city

The high levels of deaths due to respiratory infections may be explained by the fact that between 12% and 25% of Viwandani and Korogocho residents utilize solid fuels (charcoal and wood) to cook in the same room where they and their children sleep [3]. Even though diarrheal diseases are highly preventable and can be treated at very low cost, many children in both slums still die of diarrhoea. Poor access to improved sanitary facilities in both slums (<1%) and general unhygienic conditions characterised by open dumping of refuse on the streets of the slums contribute to the diarrhoea in these slums. It remains unclear, why children continue to die of HIV/AIDS considering that Prevention of Mother to Child Transmission (PMTCT) services are provided for free at public health facilities.

How are adult slum residents dying?

Similar to children, the mortality levels among adults in Viwandani has been consistently lower than that of adults in Korogocho over time (Figure 4). Overall, in both slums infectious diseases such as TB and HIV/AIDS account for most deaths, followed by injuries (Figure 5). This is particularly worrying since treatment for TB and HIV/AIDS (DOTS and ARVs) are provided for free in all public health facilities. Most deaths due to injuries in the slums result from homicides and road traffic accidents [7], highlighting the need for improved security and transport safety. About a tenth of the deaths in both slums are attributable to 'lifestyle diseases" such as cardiovascular diseases and cancers.

While this may be surprising considering the high levels of poverty in slums, previous research shows that risk factors for these lifestyle diseases are on the rise in slum populations. For example, more than half of adult slum residents consume unhealthy diet (high in salt, low in fruits and vegetables), up to a fifth of them smoke tobacco daily and almost a quarter are overweight or obese [5,6]. About a quarter of the adult population in both slums are either hypertensive or diabetic or both and more importantly four in five of those with these conditions are completely unaware of having these conditions.

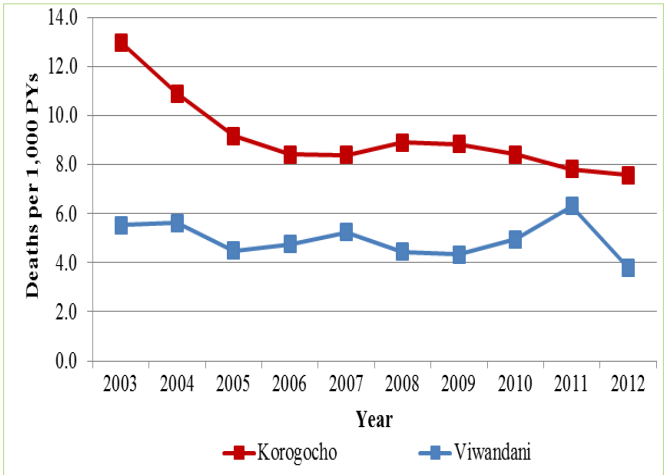


Figure 4 – Adult mortality rates per 1,000 person-years, NUHDSS 2003-2012

Call to action

1. **Invest in innovative approaches to health care delivery in slums.** Most residents of Korogocho and Viwandani slums have to rely on private health providers receiving variable quality of care and do not have any form of health insurance cover[8]**.** It is likely that this situation is similar in other slums across Kenya. We propose three specific policy actions:

    a. **Strengthen public-private-partnerships for primary health care provision**. Rather than reinventing the wheel, the government could partner with the existing private providers to ensure that they offer quality primary care services. For example, sub-county health management teams could enter in to service contracts with private providers to offer preventive and promotive services, supply them with commodities and undertake supportive supervision to promote quality and compliance with the protocols.

    b. **Promote outreach services.** Effective outreach programs in slums could improve service delivery and demand generation. Community health volunteers supported by nurses providing regular outreach services could ensure sustained delivery of preventive services to slum households. To ensure accountability, incentives linked to performance could be used effectively rather than fixed honorarium.

    c. **Extend health insurance cover to the urban poor.** Identify and address barriers for improving medical cover for slum residents, through innovative approaches like introduce a health insurance subsidy for slum residents and flexible payment terms for those that can afford to pay.

2. **Improve living conditions with immediate emphasis on improved sanitation, reduced solid fuel use and better security.** The slum upgrading programme of the Government of Kenya is highly commendable. As this program is getting expanded to cover all slums, the county governments in the interim should prioritize investing in immediate measures such as constructing more public toilet facilities, ensuring timely refuse disposal, and promoting the use of improved cooking stoves and solar lamps. It is also important to intensify community security initiatives such as *Nyumba Kumi*. Additionally, all slums should be given the attention they deserve. Currently, some slums like Kibera and Korogocho get lots of attention while others like those in the central part of Nairobi (e.g. next to Ngara) remain invisible.

3. **Finally, invest in collection, analysis and interpretation of mortality data.** This policy brief demonstrates the importance of mortality and cause of death data. However, the surveillance methods used to generate this data only provide an interim and quite expensive solution in the absence of a fully functional vital registration system across Kenya. Operating the NUHDSS costs over sixty-five million Kenya Shillings annually and it only covers two slums out of dozens in Nairobi. It would therefore be more sustainable and in the strategic interest of all county governments to invest in supporting the Civil Registration Department (CRD) in strengthening the vital registration system to produce reliable and timely mortality and cause of death data from slum areas and beyond.

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Authors

- Dr. Donatien Beguy and Dr. Sam Oti (APHRC)
- Dr. G.V. Ramana and Dr. Jane Chuma (World Bank, Africa)