

How viruses spread in Kenya's low-income areas, and what can be done to prevent it

April 6 2020, by Eric Fèvre



Credit: AI-generated image ([disclaimer](#))

As the new coronavirus spreads in African countries, a big source of concern is how it will spread and affect those that live in congested low-income areas. Moina Spooner from The Conversation Africa asked Eric Fèvre about how viruses spread in Kenya's low-income areas, and what can be done to prevent it from happening.

What viruses are usually found in Nairobi's low-income settlements and why?

Kenya's capital, Nairobi, [has more than](#) 40 areas defined as slums and approximately 60% of [Nairobi's population](#), of 4.4 million people, live in low income settlements.

There are many [viral infections](#) that cause [health problems](#) in these low income settlement environments. This is because they are unplanned, lack sanitation services—like running water or sewerage systems—and their residents are largely poor.

Some of the viruses of most concern are those that cause diarrhea and pneumonia. Diarrhoea and pneumonia are [the leading](#) cause of death in children under the age of five.

For instance, norovirus—a highly contagious virus that is [usually transmitted](#) through the ingestion of contaminated food and water—is a common cause of diarrhea. In Kenya's largest slum, Kibera, a study [showed that](#) of 524 people tested for norovirus, 30% were positive. Another study found that [soil ingestion](#), by children, is how these diarrheal diseases spread.

Various forms of [viral pneumonia](#) - a lung infection—are also prevalent in low-income areas. This is because the pathogens that cause it are highly contagious and can spread quickly in environments where people live close together. Families in Kenya's low-income settlements may also not be [able to afford](#) the drugs needed to fight it.

In Kenya, these viruses can have devastating consequences, and mortality rates linked to these infectious diseases [are high](#).

From what we know of SARS-CoV-2, are the conditions of Nairobi's low-income areas conducive to the spread of the virus?

In a word: yes. SARS-CoV2, the virus that causes the COVID 19 disease, spreads because of poor hygiene and close contact.

The [global message](#) about reducing the risk of spread is to increase personal hygiene, especially regular hand washing, to keep physical distance from other, potentially infected people and therefore reduce the density of people in any one place (including "working from home"), and to avoid touching potentially contaminated surfaces especially in [public places](#), given that the virus can stay viable for up to 72 hours (3 days) on some kinds of material.

But many of these avoidance mechanisms are difficult to enact in low-income areas. Average household size [is between](#) three to four people, though there are cases [where](#) 10 people might live in a small informal structure with no windows. There is no piped water and soap may be a luxury expense.

A subsistence daily wage is often earned by traveling long distances to a job. And people rely on that daily wage for their [daily meals](#).

How can residents of these areas minimize their risk to SARS-CoV-2?

Vaccines are usually the main way that the risk of a virus can be minimized. Common viral diseases, including chicken pox and measles, would have spread rapidly in close-knit populations were it not for extensive state sponsored vaccination campaigns to keep people safe. There is a race to create the COVID-19 vaccine, but this [will take](#) a long

time.

To minimise their risk to the virus—challenging as it might be—residents should, like residents everywhere, be practising as much personal hygiene as they can. For instance, wash hands whenever possible. The community and local government can and [are helping with this](#), and I understand that water distribution points for hand-washing are [being set up](#) as a public service.

The community must also unify, alerting each other where necessary of illness resembling COVID-19, and self-isolate (if possible) in the case of a potential exposure.

Most importantly, no one is to blame for the spread of the [virus](#), and there should not be a pattern of blaming others. Each individual should take responsibility for themselves.

In short, these are the same recommendations as everywhere else in the world right now, within what circumstances allow. Government public health authorities are doing what they can, and people should listen to and follow their advice.

The added challenge for residents during this pandemic are the diseases and health conditions that already exist, and which could predispose people to worse outcomes if infected with COVID-19.

These include respiratory bacterial infections, such as [tuberculosis](#) and chronic disease [related to](#) nutrition and poor health. We don't know for sure what the interactions are between COVID and other diseases, but [it is likely](#) that there will be interactions.

What steps should the government take to help

mitigate these risks?

The government is helping by providing easier access to water and sanitation. It should also make plans to ease the routes of food supply. People will become more susceptible if they're starving. Food distribution systems in these environments follow largely informal channels through markets and selling on the streets. These channels [work well](#). But they are also vulnerable, especially as movement and transport links get disrupted. And when markets are being closed down, as is the case now.

The authorities must allow supply chains to operate and continue to move the essential food commodities—such as milk, meat and vegetables—that people need.

Finally, the government should be open about its mitigation strategies, and provide clear information to allay the fears of the population.

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