Step 2.9 Responses in fragile contexts

In this video, Professor Francesco Checchi, outlines key considerations on outbreak preparedness and response in fragile contexts such as refugee camps and conflict settings. He talks in general terms (recorded December 2018), but can you consider the specific challenges that will be faced in these contexts in outbreaks of COVID-19? What are the potential strategies for response? Caroline Favas, Research Fellow at LSHTM also shares some of her thoughts on the challenges of COVID-19 in fragile contexts and low income countries below.

The public health impact of COVID-19 in low-income countries could be more severe than in wealthier countries, in the context of inadequate water and sanitation; higher infection-to-case ratios and severe disease due to high prevalence of other health problems. Case-fatality could be higher due to a lack of intensive care capacity. Moreover, extreme pressure on health systems could strongly undermine the provision of other health services, resulting in indirect impacts such as the increase in maternal and child deaths observed during the Ebola crisis in West Africa.

Imposing major movement and contact restrictions at a population level, "lockdowns" have been used in many high income settings aiming to flatten the curve of the outbreak. However in low-income counties and fragile contexts, such suppression strategies are extremely difficult to enforce and would deeply disrupt the economy and threaten communities' livelihoods that are based on daily incomes, disproportionately affecting the most vulnerable. Demonstrations and violent protests against lockdowns have been reported in several countries such as India, Bangladesh and Malawi.

In low-income countries, unless a rapid test becomes widely available, the "test-and-trace" strategy is unlikely to prevent community transmission, due to weak disease surveillance systems, limited laboratory capacity and supplies for testing, and lack of resources for contact tracing. Further, inpatient and intensive care services are limited. For example, Central African Republic has three ventilators for a population of around five million, while Burkina Faso has 0.4 intensive care beds per 1,000 people, compared to 8.3 for Germany.

Thus, what could be done? A recent study suggests that strategies combining different 'non-pharmaceutical interventions' such as self-isolation of symptomatic people, moderate physical distancing (such as handwashing, curtailment of social gathering) and shielding of high-risk groups (physical isolation) could potentially

reduce pressure on health services and probably achieve substantial reductions in mortality while allowing economies to remain viable.

In any case, response strategies to tackle the epidemic should be feasible, equitable and tailored to local socio-economic contexts. Risk communication and community engagement will be crucial, and countries need to be supported to put in place impactful responses.

If you are looking for more specific details, you may also want to read the See Also document "Guidance for the prevention of COVID-19 infections among high-risk individuals in camps and camp-like settings."

Video transcript:

FRANCESCO CHECCHI: I'm going to be talking about the specific features of epidemic prevention, detection, and control in populations affected by crises.

When we talk about crisis, we are referring specifically to instances of armed conflict, natural disaster, mass displacement, food insecurity, and/or collapse of state functions, keeping in mind that these conditions often occur at the same time. At any point we estimate that about 300 to 500 million people are affected by any of these conditions.

So it's well known that epidemics occur more frequently and with greater severity in these kinds of crisis settings than in comparable stable situations. But it's worth understanding why that is, particularly. And why it is, for example, that in situations of acute food insecurity or mass displacement, epidemic threats such as measles and cholera are almost ubiquitous. And really there are two dimensions that explain this increased frequency and severity.

So the first dimension is really the extent to which crises increase the transmission of infectious diseases. There are a variety of risk factors that explain this. These include overcrowding. The fact that acute malnutrition tends to increase in crisis settings. The inadequacy of water and sanitation. The fact that populations often displace to camps having not received routine vaccination, or indeed the fact that health services on reception are sometimes altogether absent.

And it's also important to point out that these risk factors rarely occur in isolation. They tend to occur at the same time, and they are very much multiplicative, meaning that their net effect is all the more greater when one or more are present at the same time. And this also explains why we are particularly concerned with outbreaks from the very first few days of people moving into overcrowded unplanned camps.

The second dimension to worry about is severity, or how lethal epidemic prone diseases are. It's a quantity that we refer to as a case fatality ratio. And this quantity, again, tends to increase in crises as a result of a number of factors. First and foremost,

once again, the increase in prevalence of acute malnutrition. There are, however, a number of other risk factors at play as well. So taken together, considering transmission and severity, what we can see is some theoretical reasons why epidemics tend to be more frequent and severe in crisis settings.

I'm going to mainly focus on four key pillars. The first of these is risk assessment and preparedness. When we talk about risk assessment, we really refer to an analysis of the setting, the key risk factors, the epidemiological profile in order to actually identify the priority epidemic prone threats that one needs to worry about. In terms of preparedness, what we mean is really having a plan. A plan that is widely shared, understood, with clear roles and responsibilities whereby humanitarian actors can jump into action from day one in the event of an epidemic.

The second pillar is a set of key preventive interventions that must absolutely not be neglected and must be put into place early on to have the intended effect. I think here it's worth mentioning mass vaccination, as well as water and sanitation measures such as chlorination of water containers and soap distribution.

The third pillar is timely predictable epidemic alert and response. This basically involves reinforcing or setting up a surveillance system from the very earliest time point of a crisis. One very efficient way of doing so is known as event based surveillance whereby humanitarian actors and frontline health workers are trained to immediately report suspected cases or clusters of cases through phone means or social media messaging, toll free lines, and the like.

Event based surveillance also leverages personal networks and picks up media information, as well as community rumours going around of potential outbreaks.

The last pillar I'd like to talk about is prevention and treatment of acute malnutrition. This can take a variety of forms depending on the prevalence of malnutrition on site, ranging from managing severe cases among children to generalised food distribution. I can't think of a single nutritional emergency I've worked in or heard about in which we actually haven't seen cases of cholera, measles, whooping cough, or similar diseases. And this has to do with the fact that as we saw earlier, transmission of these diseases is greatly enhanced when people are malnourished. And we also saw that the outcomes, the clinical outcomes of these diseases, tend to be a lot worse among children and pregnant women in particular when these people are malnourished.

Similarly, many vaccines are less successful in inducing immunity in malnourished people. So for all the reasons I've outlined, preventing, controlling acute malnutrition really has to be regarded in humanitarian settings in particular as a key pillar of epidemic control.

See Also

Guidance for the prevention of COVID-19 infections among high-risk individuals in camps and camp-like settings

https://www.lshtm.ac.uk/sites/default/files/2020-04/Guidance%20for%20the%20prevention%20of%20COVID-19%20infections%20among%20high-risk%20individuals%20in%20camps%20and%20camp-like%20settings.pdf

Shielding High-Risk Populations from COVID-19

https://www.youtube.com/watch?v=gnZJuR6AF5o

Refugee and migrant health in the COVID-19 response

https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(20)30791-1/fulltext?rss=yes

Covid-19 spreading quickly through refugee camps, warn Calais aid group

https://www.theguardian.com/global-development/2020/apr/09/covid-19-spreading-quickly-though-refugee-camps-warn-calais-aid-groups