To avert repeated COVID-19 outbreaks, access to healthcare for all

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SARS-CoV-2, the virus that causes COVID-19, may kill more people than seasonal influenza, Ebola, measles, hepatitis, HIV, and tuberculosis combined over the next five years if transmission resembles that of influenza (see link). As the cataclysmic COVID-19 tsunami subsides from Asia, surges in the Middle East, Europe, and North America, and swells in Africa and Latin America, it is already clear that systems providing services to homeless, prison, and immigrant populations are failing millions of the most vulnerable and putting us all at risk. Previously, we have witnessed the devastating effects of barriers to access to vaccines, care and treatments that has resulted in millions of deaths from smallpox, measles, HIV, and tuberculosis. We know that eventually there will be effective therapies and vaccination to prevent COVID-19. But the promise and the power of these will be seriously dampened unless we realize that the ongoing transmission anywhere is a potential threat to all of us, everywhere. For this reason, we must be diligent in our efforts to ensure the fair and equitable distribution of any new weapons – everyone in our society, even those who have traditionally been disenfranchised and effectively barred from receiving health care, must be included.

As the number of COVID-19 cases in New York City surges past 100,00 (as of April 14th, 2020), all but non-essential workers are ordered to remain indoors, leaving mostly people in search of food or essential items out on the streets. Of these, nearly half are homeless who, because opportunities to panhandle have dwindled, haven't the means to procure them. The New York City Department of Health has instructed anyone who suspects they have COVID-19 to self-quarantine at home. Yet hundreds of area homeless with probable COVID-19 evaluated by and discharged from hospital emergency rooms have no means by which they can comply. High rates of HIV coupled with tuberculosis among homeless in congregate shelters fueled a

resurgence of tuberculosis in New York City in the late 1980s (see link). More recently, poor sanitation conditions and illicit drug use have fueled outbreaks of severe hepatitis A virus among the homeless with fatality rates that are many-fold higher than has been seen with foodborne HAV outbreaks among the highly vaccinated general population (see link). Homeless New Yorkers with COVID-19 will fair even worse.

Several children in detention centers along the US-Mexico border have died from influenza during the past year because they were denied vaccination and life-saving treatments. Undocumented migrants and refugees, particularly minors exposed to high-risk environments, are highly vulnerable to influenza. The global resurgence of measles over the last decade has been driven by increasing vaccine refusals in industrialized nations, where measles case fatality rates are approximately 1 in a 1000. Yet among inadequately vaccinated and malnourished children in refugee camps fatality rates are an order of magnitude higher. For example, 186 children among 6,488 refugees less than 5 years old died from complications of measles during a 6-month period in 2011 in a crowded Kenyan refugee complex (by MSF estimates), a case-fatality rate greater than 30-fold higher. Thus, a parent's decision to not vaccinate a child against measles anywhere puts children everywhere at risk for this highly contagious disease.

Decisions by the US government to continue to deport detainees, many of whom may already be infected with COVID-19, risks spreading the virus to countries in Central America that are poorly equipped to deal with the pandemic. Decisions by governments in Central America to close their borders are leaving deportees in limbo (see link).

Disproportionately high rates of HIV among inmates predisposed to outbreaks of fatal drug-resistant tuberculosis in the New York State prison system in 1991 (see link). Similarly, conditions in these same prisons that predispose to outbreaks of severe COVID-19 include a high proportion of inmates that are older and have chronic health conditions. Nearly 150,000 people incarcerated in state correctional facilities nationwide were 55 or older in 2016 (see link). Relatively unsanitary conditions, crowding and the absence of social distancing

accommodations will further complicate control of COVID-19 in prisons. A COVID-19 outbreak at New York's Rikers Island prison involving over 280 inmates and 440 employees prompted New York City Mayor Bill de Blasio to order the release of several older inmates who are at low risk of offending again, and to review hundreds of similar cases.

Solutions/Advocacy

At present, those of us able to practice strict social distancing, for now the only fool-proof way to prevent the spread of COVID-19, are obligated to do so. In time, we have an obligation to provide "truly universal" access to health care and safeguards against COVID-19 for all, including for migrants and detainees, regardless of their documentation status.

Control of a severe outbreak of fatal Hepatitis A among homeless populations in San Diego in 2016 was accomplished with mobile teams educating and mass vaccinating high-risk individuals in affected areas (see link). The ongoing homelessness crisis in New York City, Los Angeles, San Francisco, Seattle, and in many other locales throughout the United States will facilitate transmission of COVID-19 with far more devastating effects. We know so far that 23 homeless shelter residents have died in New York City already, with many more infected.

Concerted efforts to reduce the spread of tuberculosis in New York City jails through engineering and patient isolation, in addition to expanding directly observed therapy, quelled the ongoing spread of drug-resistant tuberculosis in New York City in the 1990s (see link). A failure to rapidly and drastically reduce the population in these same jails will allow COVID-19 to overwhelm the City jails' healthcare system. New York City Board of Correction interim chair Jacqueline Sherman has advocated for fewer people in the City's jails (see link) as well as for the release of more than 2,000 inmates, including those over 50, with health conditions such as lung and heart disease, and held for minor violations to curtail COVID-19. David Patton, Executive Director and Attorney-in-Chief of the Federal Defenders of New York has called for

coordinated, preemptive, thoughtful and decisive action to reduce prison crowding in general with public health at its center to save lives in prison, jails and in our communities (see link).

It is imperative now more than ever that we turn to science for facts and solutions. We must ensure that vulnerable populations have full access to such solutions to defeat it. While we work to optimize social distancing, which, for homeless, inmate and refugee populations is not an option, we can take consolation from the fact that over 80 treatments or vaccines against COVID-19 are already under development (see ClinicalTrials.Gov). Safe and effective vaccines and treatments against COVID-19 could become available within the next two years. In order to avoid repeated seasonal COVID-19 epidemics, or the next coronavirus or influenza pandemic, we must extend vaccines and therapies interventions, to all. GAVI, the Vaccine Alliance has already taken steps to help buttress health system preparedness in lower-income countries, (see link) and plans to partner with WHO, CEPI, World Bank, and UNICEF to create the optimal conditions for accelerating development of priority candidate COVID-19 vaccines. Their major focus will be to deliver a vaccine to where it is needed.

The news that Prince Charles, the 71-year-old heir to the British throne, has tested positive for COVID-19 is a poignant reminder that this virus does not discriminate between royalty and refugee, a prince and a pauper. No human is an island, and COVID-19 can afflict us all. We are well past the time to extend health coverage to all, including the most vulnerable. To not do so will encourage seismic epidemics among the most vulnerable populations, bringing repeated tsunamis of COVID-19 crashing upon us all.

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