COVID-19 pandemic exposes a rapidly developing global health crisis

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The World Health Organization (WHO) press briefing on Monday focused their report, not on the break in their relationship with the United States or the protests that are seeing the tattered social threads unravel quickly. Instead, they emphasized their concerns over the state of global health that has been exacerbated by the pandemic.

The globe continues to see daily cases of COVID-19 exceed 100,000 per day, with close to 6.4 million cumulative cases. Total deaths are approaching 380,000 as the pandemic is settling in the Americas for the present moment. In response to a question as to whether the virulence of the virus seems to be waning, both Drs. Michael Ryan and Maria Van Kerkhove rejected such claims. The genetic studies do not support such a mutational shift. Instead, they attribute the change in the numbers to public health measures that have thus far been employed.

However, with lockdowns and travel restrictions making the delivery of critical medical supplies to the much-needed developing world difficult, the WHO warned that if these disruptions are not soon overcome, communities across the globe could be facing health consequences on a massive scale. Last month they noted that the world could expect 500,000 more deaths from AIDS in the coming year. They also estimated that 1.4 million people could succumb to tuberculosis if access to vital medications is not available.

Non-communicable diseases (NCDs)

Based on these concerns, WHO conducted a survey in May—a rapid assessment of service delivery for non-communicable diseases (NCDs) like diabetes, cancer, cardiovascular and chronic respiratory diseases—with 155 countries submitting. These NCD illnesses, which kill more than 41 million people each year (equivalent to 71 percent of all deaths globally), make these populations more vulnerable to becoming severely ill and at risk for succumbing to infection with SARS-CoV-2 (the coronavirus).

According to WHO Director-General Tedros Adhanom Ghebreyesus, “Many people who need treatment for diseases like cancer, cardiovascular disease and diabetes have not been receiving the health services and medicines they need since the COVID-19 pandemic began.”

Low-income countries have been most severely impacted in services for NCDs. More than half the reporting countries have reported that such services have been partially or entirely disrupted, while at least two-thirds said rehabilitation services had been affected. Almost unanimously, every country stated that health workers had been reassigned, wholly or partially, to support COVID-19 response. Screening for breast and cervical cancer has been postponed in more than half of the countries. Of note, in 2018, 627,000 women died from breast cancer and 300,000 from cervical cancer.

Service disruptions (from the WHO):

• 53 percent have partially or completely disrupted services for hypertension treatment;

• 49 percent for treatment for diabetes or diabetes-related complications;

• 42 percent for cancer treatments;

• 31 percent for cardiovascular emergencies;

• 15 million people between the ages of 30 and 69 die from NCDs—85 percent of these “premature” deaths occur in low- and middle-income countries.

Director of the Pan-American Health Organization (PAHO), Dr. Carissa Etienne, said, “One of the most concerning aspects of the COVID-19 pandemic is the disproportionate impact of the virus on people suffering from NCDs. We have never seen such a destructive relationship between infectious disease and NCDs. Some of the data is truly alarming, especially for our region where NCDs are pervasive.”

Antimicrobial resistance

Worldwide, more than 700,000 people die each year due to drug-resistant infections, according to the WHO. Although the viral pandemic has taken priority, according to Muhammad Hamid Zaman, Howard Hughes Medical Institute Professor at Boston University, “We have to think of antimicrobial resistance not as detached but as something that’s going on simultaneously with this pandemic.”

According to a senior science adviser to the US Centers for Disease Control and Prevention (CDC), “Since the emergence of COVID-19, collected data have shown an increase in antibiotic use, even though most of the initial illnesses being treated have been from COVID-19

viral infection. The resulting increased exposure to health care settings and invasive procedures, along with expanded antibiotic use, amplifies the opportunity for resistant pathogens to emerge and spread." The use of antibiotics does little to treat the viral infection, but the over-prescription of antibiotics can lead to multi-drug resistant bacteria.

The use of antimicrobial treatment for COVID-19 patients has been commonplace, with many taking hydroxychloroquine and macrolides in the population as preventative measures against the infection. The dangerous hype by President Trump or celebrity politicians by promoting untested therapies not only led to drug shortages but potentially promoting the development of multi-drug resistant "superbugs."

A recent meta-analysis published in the *Journal of Clinical Infectious Diseases* looking at coinfection in patients with coronavirus infections found that 8 percent of patients with COVID-19 also experienced a bacterial or fungal infection. However, the use of broad-spectrum antibiotics, despite a lack of evidence for bacterial infection, was reported in 1,450 out of 2,010 patients (72 percent).

The WHO has discouraged the use of antibiotics in mild cases of COVID-19, although recommending its use for severe cases where the risk of a bacterial infection and death is high.

Before the pandemic, approximately 65 percent of adults in the US received antibiotic prescriptions for bronchitis even though the overwhelming cause of the condition is viral infections. Given the lack of COVID-19 testing, and clinical confusion caused by overlapping symptoms, the inappropriate use of antibiotics will only worsen. Dr. Priya Nori, the medical director of the antimicrobial stewardship program and outpatient parental antibiotic therapy program at Montefiore Health System in the Bronx, said in the *British Medical Journal*, "hospitals' data also show a slow and steady increase in multi-drug resistance among gram-negative bacteria that can be potentially deadly coinfections with COVID-19."

The WHO director-general said at Monday's press briefing, "I'm glad to say a record number of countries are now monitoring and reporting on antibiotic resistance … but the data they provide reveals that a worrying number of bacterial infections are increasingly resistant to the medicines we have traditionally treated them with, as we gather more evidence, it's clear that the world is losing its ability to use critically important antimicrobial medicines all over the world."

While decrying developed nations' overuse of antibiotics in humans and animals, underdeveloped nations continue to see these medicines out of reach for those that need them, which adds further to the already heavy burden of unnecessary morbidity and mortality. Presently, no studies are investigating the association between COVID-19 and the development of superinfections or multi-drug resistance.

Pre-pandemic data from the CDC last reviewed in 2017 shows a remarkable health crisis in development: In the European Union, antibiotic resistance causes 25,000 deaths per year and 2.5 million extra hospital days. In the US, there are over 23,000 antibiotic-resistant deaths and over 2 million illnesses. In India, over 58,000 infants died in one year as a result of infection with resistant bacteria passed from mothers. In Thailand, over 38,000 deaths were attributed to antibiotic resistance. In the chaos created by the pandemic, vulnerable nations may lack the ability to track these emerging opportunistic infections as a byproduct of the disruption in health delivery and monitoring.

According to World Health Statistics, although low-income countries had reported the most significant gains in life expectancy, rising by 11 percent from 2000 to 2016, globally, 55 percent of the world's population lacks access to safely managed sanitation, 29 percent lack safely managed drinking water, and close to 40 percent of all households do not have necessary hand washing facilities.

Maternal and child mortality

UNICEF reported two weeks ago that an additional 6,000 children might perish from preventable causes over the next six months as the pandemic interrupts and degrades fragile health systems in low- and middle-income countries. Estimating their projections based on the Johns Hopkins Bloomberg School of Public Health study, in a worst-case scenario of 118 countries, "an additional 1.2 million under-five deaths could occur." Tragically, 15,000 children die every day. In 2017, 5.4 million children died from causes such as pneumonia, preterm births, and diarrhea.

They also noted that 56,700 more maternal deaths could occur in this six-month projection. This is on top of the 144,000 deaths that already take place.

Additional concerns UNICEF raised include:

• Nearly 1.3 billion students—over 72 percent—are out of school as a result of nationwide school closures in 177 countries.

• Nearly 370 million children across 143 countries who regularly rely on school meals for a reliable source of daily nutrition must now look to other sources as schools are shuttered.

• As of 14 April, over 117 million children in 37 countries may miss out on their measles vaccination as the pandemic causes immunization campaigns to stop, to reduce the risk of spreading the virus.

Universal health is a global concern, and it requires an international perspective to address the enormous inequity that exists. That so many languish and face life-long health insecurities can no longer be tolerable.