

Strengthening Global Health

HIGH SCHOOL READINGS

The world is more interconnected than ever before, allowing for global cooperation, communication and movement. However, this interconnectedness also has implications on public health and is an enabling factor in the spread of infectious disease and pathogens. The quick rise of global human population has outpaced our ability to set up, maintain and provide adequate infrastructure and health care systems in many parts of the world. Consequently, lack of proper sanitation, as well as water and air pollution, continue to contribute to poor health outcomes.

The current COVID-19 pandemic has exposed cracks in global health systems and highlighted the need to enhance emergency response and preparedness. Globally, less than half of the world's population is covered by essential health services, and maternal mortality remains a major public health concern. As tropical climate zones spread (a result of climate change), and as human settlements continue to expand and encroach onto wildlife habitats, many **zoonotic** and infectious diseases, pathogens and the range of disease vectors are also spreading.

Access to health care

Access to health care services promotes healthy habits, prevents disease and reduces the incidence of preventable deaths. The United Nations estimates that in 2017 less than half of the world's population was covered by essential health services.¹



[CDC.](#)

There are many barriers to accessing health care such as high cost, geographic availability and lack of culturally competent care. In settings where health care services are available, they're often unaffordable. The proportion of the population spending more than 10 percent of their household budget on out-of-pocket health expenses

continues to increase.² Increasing access to quality health care is an essential component in strengthening global health. Vaccinations and antibiotics are some of the most powerful tools in combating viruses and bacterial and parasitic infections. Despite this, **in 2019, an estimated 14 million infants were still not reached by vaccination services.** Regions where health care systems **are inadequate leave residents extremely vulnerable to disease.** Emergency situations, such as the current COVID-19 pandemic, highlight this fact.

¹ Goal 3 | Department of Economic and Social Affairs. (n.d.). Retrieved August 27, 2020

² Goal 3 | Department of Economic and Social Affairs. (n.d.). Retrieved August 27, 2020

Pandemics and emergency response

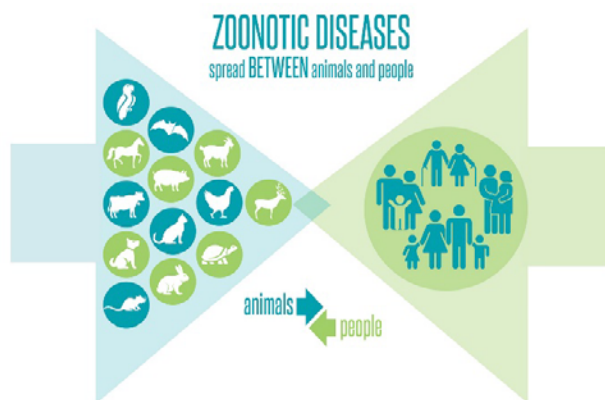
The world is in the midst of a pandemic. The novel **COVID-19 virus has upset the modern world** and highlighted the need to revamp and invest resources in global health security and emergency preparedness and response.

During a pandemic, hospitals can quickly become overwhelmed and health care workers on the frontlines of the response are vulnerable. Pandemic emergency response plans require global cooperation and significant monetary investment in surveillance systems (to track disease spread) as well as investment in human capital (nurses, doctors, community health workers). In order to understand the reach of an outbreak or pandemic and to inform action and policy, widespread testing is necessary. Both before an emergency situation and during one, **public health surveillance systems are critically important in quickly detecting and reporting cases, especially in low-income and resource scarce settings.** As we learn more about the disease, **governments must be able to properly communicate findings and health guidelines to the public.** Health literacy varies by community, region, and country so messaging strategies should take this into consideration. In a highly interconnected world where, **as of 2018, 55% of the world's population lives in urban areas** (expected to increase to 68% by 2050), disease can spread quickly, what should governments be doing to prepare for pandemics and disease outbreaks?

Disease spread (zoonotic and vector-borne)

Zoonotic diseases are diseases or infections that are naturally transmissible from vertebrate animals to humans. Humans all over the world interact with animals on a daily basis. Some people live very close to wildlife and others come into contact with pets or wild animals while traveling and some people come into contact with animals through the trade (often illegal) of exotic animals. Zoonotic diseases are transmitted to humans through direct contact (animal saliva or blood) or by indirect contact (animal habitats).

The demand for food, animal protein and timber is increasing with population growth and rising affluence. This demand has led to increased deforestation as farmers need to clear more land for agriculture and cattle ranchers need more land for grazing. **Deforestation is harmful to the environment, contributes to climate change and has been associated with disease spread.**



Diseases can also spread through **vectors** such as mosquitoes, ticks and fleas. Vector-borne diseases account for more than 17% of all infectious diseases, causing more than 700,000 deaths annually.³ **Climate change plays a role in the geographic spread of vector-borne diseases.** Globally, equatorial-type climate zones (tropical

climate) is spreading into areas that normally do not experience this type of climate. This can help vectors, such as mosquitoes, adapt and expand into new geographic ranges. Diseases like malaria, dengue fever and West Nile virus are vector-borne and expanding into new global regions.

Maternal Health

According to the World Health Organization, every day in 2017, approximately 810 women died from preventable causes related to pregnancy and childbirth.⁴ The health care solutions to prevent or manage maternal complications are well known. Yet, many women are not receiving the care that they need, and this disproportionately affects women in remote and developing regions where health care systems are non-existent or inadequate.

For the best health outcomes, women need to have access to the full range of reproductive health services so that they can prevent unwanted pregnancies



and ensure safe deliveries and healthy babies. **Skilled delivery attendants** (doctors, nurses or midwives) are also required for safe delivery and to intervene when complications from delivery arise. **The current COVID-19 pandemic poses a threat to the progress of the Sustainable Development Goals, including the progress made in maternal health.**

The pandemic has caused a shortage of health workers,

supplies and equipment. It has also sparked a surge in demand for health services. Access to quality health care and nutrition are essential for positive maternal health outcomes and consequently, lower maternal and infant mortality rates.

3 Vector-borne diseases. (2020, March 2). Retrieved August 27, 2020

4 Maternal mortality. (2019, September 19). Retrieved August 27, 2020

Sanitation

Although global industrialization has facilitated improvements in standards of living, it has also contributed to geographically uneven development. Globally, 2.2 billion people lack safely managed drinking water and 4.2 billion people lack safely managed sanitation. **Strong sanitation and hygiene practices, like handwashing and disinfecting surfaces, are essential in stopping the spread of disease.**

Those who live in crowded conditions without access to clean water, or who lack access to hot water and soap are most vulnerable to the current COVID-19 pandemic. Nearly 40% of healthcare facilities in low- and middle-income countries lack a water source, **one in five do not have adequate sanitation**, and over one third do not have soap and water for handwashing. **Poor sanitation infrastructure can also contribute to antibiotic resistance** by leading to infections and a greater use of antibiotics to treat them. Water-borne diseases such as cholera and typhoid fever are also linked to poor sanitation. As populations increase, local and national governments will have to consider how to ensure proper sanitation for all. What strategies for sustainable development focused on improving sanitation can you think of? Who should be involved in facilitating these strategies?



Health Effects of Environmental Pollution

Environmental pollution, or contamination, can enter an ecosystem in many ways. Contamination can be introduced into rivers and streams from industrial practices such as coal-fired power plants, nutrient runoff from farms, or trash from landfills. [The sky and air can become contaminated](#) by car exhaust fumes, power plant emissions or forest fires. Land and soil can become polluted from improper waste management and harmful fossil fuel extraction practices. All of these environmental contaminants pose a threat to human health.

According to the World Health Organization, ambient (outdoor) air pollution is linked to an estimated 4.2 million premature deaths globally. The burden of air pollution-related illness is inequitable within and across countries. In fact, most of the burden is borne by



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low- and middle-income countries and poor and marginalized populations who tend to live near busy roads and industrial sites characterized by high levels of ambient air pollution.⁵ Fracking, or hydraulic fracturing, is a method of drilling gas that pollutes water and air. [Fracking has been associated with a number of health impacts including, respiratory problems and birth defects.](#)

A recent study by UNICEF and PurEarth revealed that [one-third of the world's children have blood lead levels that exceed the acceptable amount](#), citing industrial pollution and informal and unregulated lead battery recycling in low and middle-income countries. As the world's population grows so does the demand for cars, energy, and the need to develop infrastructure. How should cities, countries, and governments balance human health with environmental pollution?

5 Ambient air pollution: Health impacts. (2018, September 25). Retrieved August 27, 2020