

WHS Prep Conference

2020

Topic Synopsis



Topic: Spread of Infectious Diseases

Credit: Costeas-Geitonas School Model United Nations

BACKGROUND INFORMATION

Key-factors

As observed during an infectious disease pandemic, communicable diseases are not limited within the borders of a country. The following key factors explain how our modern way of life can contribute to the spread of infectious diseases all around the world:

- **Globalization:** Urban environments have acted as the chief breeding places for diseases and epidemics since the dawn of history. The development of road and transport infrastructure as well as the ease of intercontinental travel via cruise liners or airplanes has greatly contributed to the transmission of infectious diseases as more and more people find themselves in unfamiliar surroundings making contact with new and heretofore unknown microbial habitats. The “swine flu” epidemic of 2009 with 30 countries being affected within 6 weeks and over 190 countries and other areas reporting cases over the course of a few months is a case in point. Salmonella and E.coli bacteria have also been easier to diffuse through the globalization of food supply.
- **Climate change:** Experts believe that global warming can be a contributing factor to the transmission of epidemics. In 1993, the United States witnessed the outbreak of hantavirus pulmonary syndrome, a lung infection caused by viruses found in the saliva. Similarly, increases in temperature and high rainfall rates can be instrumental to such outbreaks since they facilitate the increased fertility of insects and other vectors carrying diseases.
- **Poverty, Migration & War:** The incidence of highly infectious diseases is higher in Less Economically Developed Countries (LEDCs) where inadequate availability of clean water, cramped housing conditions, poor hygiene practices as well as relocated parts of population which, along with their livestock, enhance the variety of germs and vectors are held responsible for the death of two million people a year. Diarrheal diseases are common, with 90% of all deaths attributed to them being children. A further problem is the failure of governments in LEDCs to provide health preventive policies and immunization programs for children. Overall there is a link between poverty and contagious disease.

Transmission

Microorganisms (hosts) must have a way to be transmitted, so as to ensure their

species' survival.⁹ Transmission can take place either through sneezing on another person (droplet contact), touching or having sexual contact with an infected person (direct physical contact) or from contaminated food or water- main transmission way in LEDCs (fecal-oral transmission). Apart from the aforementioned and most likely ways of transmission, transmission can also be achieved through indirect physical contact usually by touching a contaminated surface or soil and through airborne transmission, meaning that the pathogen can survive outside the body and remain in the air for a long period.¹⁰

MAJOR COUNTRIES AND ORGANIZATIONS INVOLVED

Africa

Epidemics may strike in some European countries and in the United States, however Africa has a disproportionate share of infectious disease occurrence, be it malaria or the Ebola virus, due to weak public health infrastructure. Careful consideration is usually given to the appearance of new infections – namely filiovirus, monkeypox virus, Vibrio cholera, Rift Valley fever virus and penicillin-resistant Streptococcus pneumonia – but old-fashioned contagious diseases such as malaria, yellow fever and tuberculosis keep erupting from this continent. Infectious diseases that initiatives based on volunteer actions fail to address due to absence of observation and study mechanisms as well as public health infrastructure constitute a persistent problem in African countries.

⁹ <https://www.boundless.com/microbiology/textbooks/boundless-microbiology-textbook/pathogenicity-14/surviving-within-the-host-and-exiting-the-host-165/portals-of-exit-825-7121/>

¹⁰ https://en.wikipedia.org/wiki/Transmission_%28medicine%2

UN INVOLVEMENT: RELEVANT RESOLUTIONS, TREATIES AND EVENTS

International Health Regulations (IHR)

Since the mid-19th-century, international law has been important to international infectious diseases control strategies. Treaties became, therefore, the international legal mechanism after the first Sanitary Conference was held in 1851, when the states realized the ineffectiveness of quarantine policies. The 1903 International Sanitary Convention was marked as the first comprehensive convention on infectious disease control, as it superseded the previous treaties, set forth detailed provisions on dealing with the international spread of plague and cholera, and processed to the creation of the first international organization devoted to health. One of the earliest actions of the newly formed World Health Organization

(WHO) was to consolidate all the aforementioned treaties under one piece of legislation. This was a slow process as it first involved the adoption of the International Sanitary Regulations in 1951, the replacement of the treaties in question, the amendments of the 1950s, 1960s and, finally, of the early 1980s when smallpox was removed from the list of diseases. In the meantime, in 1969, the International Sanitary Regulations were henceforth to be known as International Health Regulations (IHR). Today, the IHR represents the “only international health agreement on communicable diseases that is binding on Member States of WHO”¹³; the IHR Emergency Committees serve as a consultation body of international experts in charge of numerous activities concerning infectious diseases. Namely, informing member states on potential health risks, working closely with governments helping them to organize the appropriate agencies that will observe, monitor, announce and deal with a public health crisis, and providing member states with the necessary scientific and professional advice.



Figure 3: Core Functions of the International Health Regulations (IHR)¹⁴

United Nations Security Council Resolution 1308 S/RES/1308 (2000)

The first UN resolution recognizing the far-reaching and damaging effect that HIV/AIDS can have on societies across the world was passed unanimously on 17 July 2000 acknowledging, among other things, that UN peacekeeping missions must be regularly tested and trained with a view to preventing peacekeepers from contracting and transmitting the virus.

¹³ <http://www.birdflubook.org/resources/fidler57.pdf>

¹⁴ <http://www.who.int/ihr/ihr-functions-310.jpg>

View resolution:

http://www.unaids.org/sites/default/files/sub_landing/files/20000717_un_sresolution_1308_en.pdf

United Nations Security Council Resolution 2177 S/RES/2177 (2014)

In view of the grave danger posed by the Ebola outbreak facing the international community, the UNSC Resolution 2177 was voted on by all members of the UN Security Council on 18th September 2014, whereby the Secretary General is to coordinate action between UN departments towards tackling the crisis as well as encourage WHO to bolster economic and humanitarian aid to the afflicted areas. Neighboring countries were advised to relax border controls and afflicted states, such as Sierra Leone and Liberia, were urged to speed up the process by which health service mechanisms for diagnosis and care are established.

View resolution:

<https://www.ifrc.org/docs/IDRL/UN%20SC%20Res.pdf>

POSSIBLE SOLUTIONS

Infectious diseases may be an unavoidable fact of life, but there are many ways, through which they can be eliminated or at least treated once they have developed. Measures to eliminate infectious diseases include measures that individuals can take or national and worldwide strategies of detection, prevention, and treatment. Even the simple act of washing hands is considered the most important way to prevent disease transmission, however, sanitary standards are not kept in LEDCs where the infectious diseases spread the most. Therefore, MSF should continue educating people in LEDCs as far as proper sanitation is concerned and continue distributing soaps and toiletries as it did before. Apart from this, healthcare facilities and infrastructure in LEDCs should be improved through various voluntary programs, so that possible infectious diseases can be prevented or treated properly.

Transmission of harmful microorganisms among animals and food contamination which can cause food poisoning as well as other illnesses resulting from consumption of contaminated foods can be hampered by applying good agricultural and manufacturing methods while precautions during sex and regular testing for STD can contribute to the elimination of HIV/AIDS.

Immunization is the key in the battle to control infectious diseases, many of which are now eliminated, such as smallpox, or effectively controlled thanks to vaccination. The more people are vaccinated, the more difficulty a pathogen has in spreading from person to person

as a “wall of protection” is built even around those who are not vaccinated. This is why international collaborative research ought to be sought for the development of new vaccines and medication especially since drug-resistant infections call for the creation of a new generation of antibiotics and antivirals. Most drugs with antiviral properties are used for HIV; however other medicines need to be developed to fight epidemics such as hepatitis B and C as well as influenza.

Careful and systematic monitoring is crucial for dealing with the emergence of a communicable disease. An electronic system reporting on the appearance of such a disease at an international level should be developed and the international community has to be creative in the implementation of automated laboratory reporting systems, even in MEDCs by improving their health care system. Generally, governments are in a way responsible for monitoring the spread of infectious disease. In war-torn areas, especially in LEDCs, living standards are even harder than normally and governments fail to focus on a possible infectious disease epidemic in their country or in other cases, opponent parties use it as a weapon of war in order to fight the country, which will have to face thousands of deaths from infections alongside. Therefore, there should be a fundamental legislation for treatment of infectious diseases and obligatory vaccinations for everyone.

QUESTIONS TO CONSIDER

1. What are some current effective methods to provide immunization in rural areas?
2. What are some pieces of legislation put in place to make sure civilians abide by proper health and safety rules?
3. How effective was your country’s response to larger outbreaks in the past or even COVID-19?
4. What measures can countries take in order to expand testing capabilities when new outbreaks are found?
5. How do outbreaks impact LEDCs differently, and what measures can be taken in these areas?
6. How much do your country’s government/politics influence the handling of outbreaks and diseases?

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Pictures' and Graphs' Bibliography

Figure 1: http://www.uefgm.org/images/ui/PageFeature/Slide_04.jpg Figure 2:

<https://cdn.thinglink.me/api/image/566638426267320322/1024/10/scaletowidth> Figure

3: <http://www.who.int/ihr/ihr-functions-310.jpg>

Figure 4: <http://wwwnc.cdc.gov/eid/page/world-health-days>

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