



WHO

World Health Organization

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BACKGROUND GUIDE

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TOPIC A: COORDINATING INTERNATIONAL RESPONSES TO EPIDEMICS OF THE 21ST CENTURY

INTRODUCTION

Communities throughout the globe unite in efforts to exchange goods, ideas, perspectives, as well as other aspects of culture for rapid innovation and the spread of advanced ideas. This has allowed countries to become interconnected and dependent on one another for ideas, products and perspectives. Despite this interconnectedness on a cultural level, there has been an everlasting struggle to coordinate international responses to deadly epidemics of the 21st century.

These deadly diseases pose a great threat to the welfare of society on both a public health level and a socioeconomic level. In several points in history, various nations have had trouble and took a significant amount of time in responding to epidemics of the 21st century like HIV/AIDS, Ebola, and Zika.

The World Health Organization (WHO) is the United Nations Agency whose primary role is to direct and coordinate international health within the United Nations' system. The WHO is extremely effective at combating diseases such as HIV/Aids, Malaria and tuberculosis which are a constant threat, but there has been a struggle to provide appropriate aid in response to sudden outbreaks and epidemics.

Emerging diseases have been identified at unusual rates since the 1970's. These diseases pose a threat to individuals of all ages, genders, ethnicities and socioeconomic statuses. Communities are left vulnerable as scientists and researchers struggle to decisively develop strategies to combat the epidemics.

The WHO looks to develop a structure to continue surveillance, increase communication, improve research and training strategies, hire trained personnel, and

develop better facilities to combat epidemics and look out for the welfare of society. WHO must unite and work together to coordinate an international response to these deadly epidemics that harm millions of people annually while also focusing on developing countries who are suffering, and respecting the sovereignty of nations.

BACKGROUND

An epidemic is defined as “the occurrence of more cases of a disease than would be expected in a community or region during a given time period.” An epidemic usually leads to devastated communities that are infected with a certain type of deleterious disease which depends on the region it is in. These regions and areas that are infected with specific diseases have a hard time treating them immediately which leads to increasingly severe cases of the epidemic. Their responses to the epidemics have to be both short-term and long-term, but they have to act and think extremely quickly to save the lives of the people of their country.

The 21st century has been plagued with a myriad of epidemics that have caused detrimental effects to the respective area it impacted. The 21st century consisted of the epidemics of Dengue Fever, Cholera, SARS coronavirus, Leishmaniasis, Ebola, Yellow Fever, Malaria, the Chikungunya virus, Poliomyelitis, Influenza, the Bubonic Plague, Hepatitis B, Meningitis, Measles, Mumps, and the Zika Virus.

Today’s high mobile and interdependent world provides endless opportunities for the spread of infectious diseases, and radionuclear and toxic threats. Regulations are extremely necessary in these cases. Infectious diseases are spreading geographically faster than any other time. Due to the high number of passengers who travel on airlines, outbreaks or epidemics have the ability to travel the world easily.

Infectious diseases are emerging more rapidly than ever before. Newly emerging diseases are usually identified at the rate of one or more per year. There are now 40 diseases that were unknown a generation ago and during the last five years WHO has verified more than 1100 epidemic events throughout the world.

There are epidemic-prone diseases that the world faces today such as Cholera, Ebola, and SARS. They have triggered major international concern, raised new scientific questions and caused human suffering and damage to many areas. They call

for new efforts in surveillance, prevention, control and containment. Rapid assessment and response has been lacking, but these are imperative in the future for these threats.

There are also foodborne diseases due to the rapid changes in the food chain over the last 50 years. Foodborne outbreaks from microbial contamination, chemicals and toxins are extremely common in various nations. Trading between countries increases the spread of the outbreaks.

Lastly, there have been disturbing new health events that resulted from chemical or nuclear accidents and sudden environmental changes in the recent past which raised many concerns in the world. In 2006 in West Africa, the dumping of 500 tons of petrochemical waste in 15 sites around the city of Abidjan, Côte d'Ivoire, led to over 90,000 deaths. Other countries were concerned of being put at risk due to the dumping of chemicals elsewhere or contamination of transboundary rivers. There have been environmental disasters, as well. In Europe in 2003, the heatwave claimed the lives of 35,000 people.

International response is required today to not only the known, but also to the unknown. Diseases many arise from acute environmental or climate changes, or accidents that put billions of people at risk in various nations. Detailed and effective international responses are required.

Recent epidemics were an important wake-up call for all nations. The world must be far more prepared for outbreaks for emerging and epidemic-prone diseases. The emergence of new diseases are inevitable. There is constant mutation and adaptation to survive in the microbial world. Large outbreaks have disproved a number of myths about the vulnerability of the world to threats from new pathogens and epidemic-prone diseases.

MAJOR EPIDEMICS OF THE 21ST CENTURY AND RESPONSES BY WHO/UN

Ebola Virus Disease

Ebola was once regarded as a distant and geographically confined threat, and a remote disease of poor African countries. However, several Ebola outbreaks have occurred in central Africa.

Ebola virus disease is a severe and often fatal illness in humans. It is transmitted to people from wild animals and it spreads in the human population through human-to-human transmission. It is thought that fruit bats of the Pteropodidae family are Ebola virus hosts. Then Ebola spreads through direct contact with other humans. People are infectious as long as their blood contains the virus.

The symptoms of Ebola are fever, fatigue, muscle pain, headache and sore throat. This is followed by vomiting, diarrhea, rash, impaired kidney and liver function. It can also be followed by internal and external bleeding. It is difficult to distinguish EVD from other infectious diseases but tests such as ELISA, antigen-capture detection tests, serum neutralization tests, and electron microscopies can be used for diagnosis. It is treated by rehydration with oral or intravenous fluids, but there is no proven treatment available yet. There are a range of potential treatments and vaccines being evaluated.

The EVD first appeared in 1976 in 2 outbreaks in South Sudan and Democratic Republic of Congo. The outbreak in West Africa which began in March 2014 is the largest and most complex outbreak of Ebola since it was first discovered. It also spread to countries such as Guinea, Sierra Leone and Liberia by travelers.

The countries impacted most severely by Ebola have very weak health systems and lack resources. They also have instability within their country. The WHO declared the West Africa outbreak a Public Health Emergency of International Concern on August 8th and “published a roadmap to guide and coordinate the international response to the outbreak, aiming to stop ongoing Ebola transmission worldwide within 6-9 months.” However, this call was not as immediate as it should’ve been due to the fact that the first cases of the reappearance of Ebola were in March in Guinea. Guinea faced “an epidemic of a magnitude never before seen in terms of the distribution of cases in the country” according to Doctors Without Borders. Africa offered very few updates on the progress of the Ebola crisis and the WHO did almost nothing before calling a meeting in June of 2014.

By the time the WHO declared Ebola a Public Health Emergency, there were already 1975 cases of Ebola and approximately 1,069 deaths. Many were upset that the WHO waited so long to declare Ebola a health emergency. They argued that the WHO knew enough earlier to respond more quickly and respond in an organized way. There were a multitude of difficulties that the WHO encountered in ensuring a timely identification and response to this epidemic, as well as other epidemics. There was insufficient monitoring, an oversight in the global security approach, a weak

surveillance system and alert mechanisms, delays in the declaration of the epidemic (a political decision), as well as lack of resources such as research and development framework. This also increases the risk of future large scale epidemics.

Immediate support to the developing countries of Sierra Leone, Guinea, Liberia and Nigeria was needed and the failure to provide this immediate assistance was detrimental to the lives of the population of these countries. An immediate and international mobilization of medical resources was needed to assist these countries.

These countries already struggle with the basic health needs of their people, let alone deal with an emergency of high magnitude and complexity. “Sierra Leone and Liberia, for instance, have just 0.2 and 0.1 doctors per 10,000 people respectively (compared to the average 2.6 in West Africa and 240 times that number in the United States).” In Liberia and Sierra Leone, many health facilities are closed or empty. People did not seek care for normal illnesses due to their fear of being infected with Ebola. Many health workers risked their lives to only become infected or die from Ebola which leads to other workers being terrified to come to work every day. The epidemic strained weak health systems that were already trying to cope with existing health crises like malaria and maternal mortality. Ebola also had a colossal social and economic impact on various countries due to leaving orphaned children and elderly people with all the deaths that occurred. There were hardly any people to work in the fields or provide for their families.

The WHO needs an organized, coordinated, and quick response to epidemics of the future to preserve the safety of the population of countries that are affected with deadly diseases. The WHO also needs to coordinate additional support to health workers so the hospitals and health centers can remain open to treat common diseases in their respective countries in the future. If health systems shut down in these countries, mortality levels from other diseases and conditions may rise astronomically and will become a terrible indirect effect of epidemics.

The Zika Virus

Another deadly epidemic of the 21st century which is still apparent is the Zika crisis. The Zika virus is a Aedes mosquito-borne virus that was first discovered in Uganda in 1947 in monkeys, and later identified in humans in 1952. The first large outbreak caused by the Zika infection occurred in the Island of Yap in 2007. In May 2015, the WHO reported the first local transmission of the Zika Virus in the Americas with cases identified in Brazil. There were about 400,000-1,300,000 suspected cases

in Brazil by the end of 2015. By January 2016, there were reported cases of Zika by the WHO in Puerto Rico and 61 other countries in the Americas. This epidemic has been spread by travellers to various countries. In 2015, Brazil reported a relationship between the Zika virus and microcephaly in babies and children.

Many people who are infected with Zika have little or mild symptoms. Some of these symptoms are “fever, rash, joint pain, or conjunctivitis.” Other symptoms are muscle pain and headache. It can be self-diagnosed through awareness of these symptoms or through blood tests by a doctor. There is no vaccine or medicine to prevent Zika. One who is infected should get rest, drink plenty of fluids and take acetaminophen or paracetamol to reduce fever.

The response to the Zika virus is/was far more effective than the response to the Ebola crisis, as well as responses to various other epidemics. The WHO director Margaret Chan declared Zika to be Public Health Emergency of February 1st, 2016. This was an improvement since the spread of Zika started in January 2016. However, there were up to 1,000,000 cases in May of 2015 which were detrimental to the population of Brazil. There wasn't much action done during this time and the action started to occur in February of 2016. There needed to be a more organized, quick and coordinated response to the virus, but it was definitely an improvement from the Ebola virus that occurred earlier. They were being proactive and had learned not to wait as long from the Ebola crisis.

There was other action that was taken and cautionary measures that had to be followed. The WHO director Margaret Chan called for countries to not impose travel restrictions on Latin American countries in which the Zika virus is spreading, but issue a warning for passengers. It isn't a feasible option to not allow people in and out of the affected countries to stop the spread of the virus, especially because affected and unaffected countries border each other. There is not much that can be done until populations can build up immunity through natural infection or through vaccination. This imposes a real risk to pregnant women and requires close observation and care.

It is extremely difficult to take measures to combat Zika due to the fact that there is no treatment for it, as well as the fact that there are little to no symptoms. “Eighty percent of the people infected by Zika do not develop significant symptoms...,” so the situation is more serious than most imagine.” To obtain clarity, authorities instruct local health authorities to report all cases of Zika with the new equipment and personnel to carry out Zika tests. The Zika tests detect if a person has had Zika before or has it at the moment. It will also ban these people from donating blood.

There is a major lack of resources and reliable data. The Zika test is only effective during the initial infection period of five days which is sometimes pointless because it is hard to detect in the first five days without noticeable symptoms.

Another issue of the Zika virus is the possible link to microcephaly and Guillain-Barre syndrome. Microcephaly is “a condition in which a baby's head is significantly smaller than expected, often due to abnormal brain development.” Guillain-Barre syndrome leads to the paralysis of the muscles. These possible associations are significant and extremely detrimental which is why an instant solution is necessary. The WHO along with NGO's and the White House have funded and launched studies to discover definitive associations with the virus. A coordinated international response will discover the association. The WHO says that surveillance needs to be strengthened. Scientists need to report reliably on every case of microcephaly. The WHO strongly encourages research and development of a vaccine against the virus, as well as reliable diagnostic tests which may take years.

There is a need for a global response. Disease surveillance by the WHO is extremely low, and international bodies are driven by private interests rather than sovereign states. The global response to the Zika virus show the inequity in the system of global governance. There needs to be a global response led by the WHO to face the challenges of the Zika virus and force an effective and rapid response.

It is imperative that the nations come together in the World Health organization to find a way to coordinate and organize effective responses to epidemics that pose deleterious threats to a plethora of nations around the globe.

TOPIC A RESEARCH QUESTIONS

1. With the rapid spread and detrimental effects of various epidemics, what is the most effective way to deter the spread and harmful effects?
2. What further action can the UN take to support international coordination in responding to epidemics and pandemics?
3. Where can funding come from?
4. How can NGO's and other organizations play a role in assisting countries with epidemics?
5. What factors/resources contribute to coordinating international responses to epidemics? (eg. personnel, vaccinations..)
6. How does one contain such large epidemics?
7. What is the best way to deal with epidemics with little to no symptoms or treatment?
8. What is the role of the WHO in coordinating international responses to epidemics?
9. What other epidemics have been detrimental to various nations and what has the WHO and the UN done to coordinate an international response?
10. Has past action taken by the WHO and UN been effective?

TOPIC B: BUILDING HEALTH INFRASTRUCTURES IN DEVELOPING COUNTRIES

INTRODUCTION

A distressing number of 400,000 million people worldwide do not have access to health services that are imperative for everyday life. Additionally, 6% of people in low- and middle-income countries are tipped into or pushed further into extreme poverty because of health spending. According to WHO, by 2035 there will be a global deficit of an estimated 12.9 million skilled health professionals if no action is taken to provide those in need with health services. All countries throughout the world deal face health problems and inequality in healthcare, but developing countries are the most susceptible to bleak healthcare situations. There is a plethora of factors that add to these health issues and inequality, but almost all of the health problems in developing areas are traced back to the ineffective or non-existent health infrastructures in these areas.

According to the World Health Organization, “a health system is the sum total of all the organizations, institutions and resources whose primary purpose is to improve health.” A good health system consists of “a robust financing mechanism, a well-trained and adequately paid workforce, reliable information on which to base decisions and policies, well-maintained facilities and logistics to deliver quality medicines and technologies. One of the key strategies for fighting poverty, infections and fostering development is by strengthening health systems.”

Public health infrastructure has been referred to as “the nerve center of the public health system. All public health services depend on the infrastructure itself. It is the ultimate goal of WHO to ensure all countries have the necessary infrastructure to provide essential public health services, and eventually have universal health coverage without financial hardship in paying for the necessity. WHO must work together to navigate a path to assist countries, especially developing countries who are lacking health services, to build durable and competent health infrastructures.

Developing countries face a multitude of obstacles in providing health services to all the people of the nation. These issues can be resolved with the help of developed countries who already have strong and effective systems, who have access to technology, healthcare personnel, empowerment, and the knowledge to assist these developing nations. Developing countries face issues in having no access to necessary treatment, tools and personnel on time for the patients who are in dire need of help. In many countries, “health services can be too far away, poorly staffed with long waiting times, or they do not conform to people’s cultural, ethnic or gender preferences.” Even when people do access services, they can be of poor quality, endangering the safety of patients. Developed nations must assist developing nations with their knowledge and resources.

This issue is one that must be given full attention to and is one that is at the heart of WHO’s purpose and mission. We must respect the sovereignty of the developing and developed nations in the process of attempting to provide assistance to them. The WHO must work to provide assistance and resources to the people and the nations in need, and help build health infrastructures in these respective countries with a focus on those whose health sector is non-existent or unattainable.

BACKGROUND

According to WHO, “a health system consists of all organizations, people and actions whose primary interest is to promote, restore or maintain health. This can be analyzed in its totality by using different groups or blocks.” These blocks for health systems are shown in the diagram below.

The system's building blocks along with access coverage and quality safety hope to reach the goals/outcomes of improved health, responsiveness, financial risk protection and overall improved efficiency. Leadership and governance is imperative because it involves ensuring that "strategic policy frameworks exist and are combined with effective oversight, coalition-building, the provision of appropriate regulations and incentives, attention to system-design, and accountability." Health care financing is crucial because it raises a significant amount of funds for health to ensure people can make the most out of health services and are guaranteed protection from financial downfall and impoverishment by paying for them. A health workforce that is well-performing is vital to achieve the best health outcomes possible. There must be sufficient numbers of competent and responsible staff. The lack of healthcare personnel and lack of funding have both been detrimental and catastrophic issues. Lastly, essential medicines and health information are both significant to ensure the performance of the health system and ensure access to essential products, vaccines and technologies that are safe and effective.

Each block on its own is extremely important, but the combination of all these blocks will be what will lead to effective health systems that will be able to help the population of each respective nation.

PAST WHO ACTION

WHO provides support to strengthen countries to be able to develop and implement the legislative and regulatory frameworks required to achieve the ultimate goal of universal health coverage. There must be routine collection of health expenditure data for these countries to track development. The key results expected for 2016-2017 were 115 countries with comprehensive national health strategies, 25

countries with their national health strategy reviewed, 65 countries with tracking of health resources and progress on universal health coverage monitored.

WHO has developed a “global strategy on integrated and people-centered health services”. It supports nations to adopt and implement recommendations to its policy through strategic planning and costing. WHO works with associations, health systems, hospitals, social services and various governments to empower and engage patients and their families to improve the safety, quality and responsiveness of health services.

WHO also supports countries to improve health through innovation and supporting countries to “develop, implement, monitor and evaluate national policies on better access to medicines and health technologies.”

WHO has had many key achievements due to their persistent work and efforts. 95 countries reviewed and updated their national health strategies and plans, 32 out of 57 countries increased their number of health workers, over 100 countries developed national medicines policies and plans, and WHO prequalified another 110 medicines, 43 active pharmaceutical ingredients, 7 quality control laboratories, 17 vaccines, 17 diagnostics and 1 medical device in the past 2 years.

There is far more action that needs to be done with the help of all nations coming together in WHO to find an effective solution and developing a durable plan of action to build health infrastructures in those countries who are in dire need.

BLOCS

All countries face different situations regarding health infrastructures, but these sectors are of the utmost importance to all countries throughout the world. Developed countries have access to resources, finances and personnel to assist developing countries that are lacking in these areas to build effective health infrastructures.

There are various considerations that must be taken into account when determining a country’s position on this topic. Many countries’ position will not apply

to only one bloc position. A country's views can vary based on their respective history.

AFRICA

There have been various improvements in the health system of sub-Saharan Africa such as the improvements in Zanzibar, Tanzania. Malaria deaths have been cut substantially in Tanzania and in Uganda, maternal mortality has reduced by more than 50%. Despite these improvements, the health of the population of sub-Saharan Africa still remains a colossal issue. Life expectancy is now 47.1 years and millions of Africans suffer from diseases that are simple to prevent or treat with the correct tools, personnel and resources. The region's health systems struggle to meet basic standards of care.

The poor health of people in sub-Saharan Africa has been known for years, but with HIV/AIDS, Malaria, Ebola, Cholera, Yellow Fever all having a deleterious impact on various nations in Africa, there is an urgent issue. The region continues to face profound health challenges. 1 in every nine Tanzanian children dies before age 5 and 75% of the maternal mortality of the country can be prevented.

However, Malawi has had successful healthcare leadership. Even though HIV/AIDS devastated the country, over 135,000 people survived due to the leadership in the country. Botswana's health care service delivery is extremely effective. Almost all citizens in Botswana live about 8 kilometers from a health center.

Many areas of Sub-Saharan Africa are in need of healthcare professionals. Many doctors in African nations leave due to better opportunities in countries with developed health systems. Pharmaceuticals are extremely difficult to obtain in this region due to the poverty of the area and the high price of pharmaceuticals.

There must be action to help the Sub-Saharan African region who need the help of developed countries to improve their health institutions and infrastructure.

AMERICAS

The Americas region achieved a multitude of significant public health milestones leading up to June 2015. It became the first region in the world to be declared free of endemic transmission of the rubella virus. Cuba became the first country to have eliminated mother to child transmission of HIV and syphilis. "In a

historic agreement at the 53rd Directing Council of the Pan American Health Organization, PAHO Member States unanimously endorsed the goals of universal access to health and universal health coverage and adopted a regional strategy to advance these goals.”

However, the Americas struggled with new health challenges that require attention and immediate responses. The Ebola virus was brought from West Africa to the United States, “raising the possibility of imported cases in Latin America and the Caribbean and testing the preparedness and response capacity of ministries of health and the implementation of the International Health Regulations core capacities.” Chikungunya spread in and beyond the Caribbean which overwhelmed health services in many countries. Millions of people in the Americas are unable to access needed health services “due to high health care costs, political and economic crises, and other barriers, despite meaningful progress toward the goals of universal access to health and universal health coverage.” There are other health inequities in the Region that are a direct result of social and cultural exclusion, unemployment, poor working conditions, lack of education and information, geographic isolation, unhealthy environments, and other social determinants.

However, countries like the United States and Argentina have developed health systems and health infrastructures unlike most developing nations of the Americas. These developed nations can assist the developing nations in the region to help build effective health infrastructures.

A majority of the population of nations in the Americas are unable to access health services which makes their health infrastructure ineffective. There must be changes made to help these nations.

MIDDLE EAST

Health systems are growing in the Middle East’s nations of Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the UAE due to rapidly growing populations, growing per capita incomes, rising life expectancies and medical infrastructure projects. The region is making progress in its ultimate goal of universal health coverage.

These countries depend heavily on government funding to meet health system needs. In Saudi Arabia, the government accounted for 65.8% of health service spending in 2012, according to the WHO. Saudi Arabia spent 35.9 billion dollars on health system provision in 2013. The population of this nation is entitled to free

health care and free health services. The government's budget funded 11 new hospitals, 11 medical centers, and two medical complexes, with 132 hospitals and health care centers under construction already. Hospital capacity will raise from 38,000 to 68,000 beds in five years.

This is a priority in the UAE's budget because the government wants to avoid the political unrest that is seen in the Middle East. There is unequal access to health services and facilities, as well as a continued shortage of health care professionals. This illustrates the need for more funding and private sector involvement to increase resources and personnel.

EUROPE

Developed countries such as the United Kingdom, Denmark, Sweden France, and Switzerland, along with many more have extremely developed health infrastructures. They have developed systems of health care to provide pharmaceuticals to their citizens. The population of these countries are very knowledgeable on health systems and have the ability to assist the developing countries to build their health systems.

The inequalities in health are increasing in Europe. These inequalities exist between population groups within and between countries. The inequalities lead populations to be vulnerable and have increased differences in health behaviors and outcomes. This differences can be measured by education, income and employment. There is a trend in a number of countries to have more responsibility for health systems at the regional levels. There is increased demand for health information at the regional level and for knowledge on options for addressing health inequalities. The actions that can be taken to improve health equity are discussed specifically.

There is healthcare corruption in Central Europe due to the lack of law, transparency and accountability. Hospital services are provided by bribes a majority of the time. There is a large amount of inequality in developing nations in Europe. These inequality needs to be solved with the joint effort of the nations in WHO.

ASIA

WHO collaborates with member states to evaluate the extent of the work that needs to be done in a certain region. Evidence-based approaches help to identify targets efficiently and use resources effectively. There has been collaboration on use of technology, organization of workforce development, universal coverage, financing and safety in health-care.

There are various projects in this region that are going on. There is decentralization to improve health system responsiveness and accountability, and immunization systems strengthening.

There are inequities in service coverage and problems in funding. There are developed countries such as China and Qatar that can assist developing countries in their fight to build health infrastructures. China has a great health information system with population assessments at every level (individual, community, population), which can tell about the needs of the people and how to best care for them.

In low-income areas on Asia, many people have to pay for health services from their own money because there is low government expenditure on health. Southeast Asia spends the lowest amount of money on health out of all the WHO regions, allocating only 37.1% of total government expenditure.

The nations of WHO must come together and in a joint-effort find solutions to these critical issues.

TOPIC B RESEARCH QUESTIONS

1. How can WHO respect the cultures and sovereignty of different countries by building, establishing and altering necessary health systems in these countries?
2. How can countries deal with epidemics and crises in their own countries and surrounding countries?
3. How can the international community decrease the number of trained professionals and personnel from migrating to developed health care systems?
4. How can developing and developed countries build up their healthcare leadership and governance?
5. Which building block of the WHO framework should be focused on first and why?
6. What roles do NGOs play to build up health care systems?
7. What are other ways the health systems in developing countries can be built up?

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