

**Forum:** Economic and Social Council

**Issue:** Combating the spread of Zika Virus

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## Introduction

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Since the beginning of early history, infectious diseases have been a major problem as it obstructs the progression and smooth operation of human societies and developments. Because epidemic diseases may bring about a serious problem into social community, infected countries should offer their citizens the best health care and treatment they are capable of. Such diseases, being epidemic, should be dealt swiftly and effectively. If it takes long enough for the diseases to be treated, the effects will become larger and more serious. From then, the problem will no longer be domestic, but international. Moreover, the epidemic diseases tend to make the gap between developed and developing countries more apparent. While developed countries with paramount technologies are able to provide their peoples with the best treatment, developing countries are not capable of doing so. Therefore, as epidemic diseases spread, it is not just a domestic problem where the sole goal is to treat the infected peoples, but is also an international problem where people from developing countries should be gaining similar level of remedy.

Zika virus, which is first identified in Uganda in 1947, is a mosquito born disease that was first found in monkeys with the symptoms of yellow fever. However, in 1952, the symptoms of Zika Virus was identified in Uganda and United Republic of Tanzania. From 1960s to 1980s, human infections of Zika Virus was found across Africa and Asia, accompanied by mild symptoms. The incubation period, which is the period from exposure to symptoms, of Zika Virus is still yet to be discovered; however, it is likely that it will be few days. The symptom of such disease is very similar to that of other diseases, and the symptoms include: fever, skin rashes, conjunctivitis, muscle and joint pain, malaise, and headache. The symptoms listed are usually tender and lasts two to seven days.

The transmission of Zika Virus is through a bite of mosquito that is infected from Aedes genus, "mainly Aedes aegypti in tropical regions. Such mosquitoes usually bite during day time, mainly during early morning and late afternoon. The mosquito that transmits Zika Virus is the same with those that transmit dengue, chikungunya, and yellow fever. However, mosquito bites are not the only means of transmission of such disease. Other modes, such as sexual transmission and blood transfusion are also being investigated. If the symptoms of Zika Virus are observed, it can be suspected that you are infected; however, the only means to confirm the diagnosis of Zika Virus is through laboratory tests on blood or other fluids. The symptoms of Zika Virus are very gentle and do not require a specific treatment. Once infected, people should get enough rest, treat fever and such with common medicines.

Concurrently, there is no vaccine available for a direct treatment. Because Zika Virus is predominantly transmitted through mosquito bite, the best way to prevent from getting the disease is by avoiding mosquito bites. Such ways include: wearing clothes that cover most of the body, prevent mosquitoes from entering your room. In order to avoid infectious diseases to spread widely, people in the society must support their local government efforts to reduce mosquitoes in their area. Recently, in January 2016, Zika Virus was transmitted into Brazil, and Brazil has taken actions to reduce its impact. Brazil has released what is called “self-limiting” mosquitoes to fight such virus. Male genetically modified mosquitoes mate with females in the wild and transmit a self-limiting gene that causes the resulting offspring to die before reaching adulthood and thus diminishes the local mosquito population. By taking such action, Brazil was able to reduce 90% of its impact.

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## Definition of Key Terms

**Zika Virus** - Zika virus is a member of the Flaviviridae family and is transmitted to humans by mosquitoes. It is related to other pathogenic vector borne flaviviruses including dengue, West-Nile and Japanese encephalitis viruses but produces a comparatively mild disease in humans.

**Infectious Disease** – “Infectious diseases are caused by pathogenic microorganisms, such as bacteria, viruses, parasites or fungi; the diseases can be spread, directly or indirectly, from one person to another. Zoonotic diseases are infectious diseases of animals that can cause disease when transmitted to humans.”

**Influenza** - “Influenza (flu) is a contagious respiratory illness caused by influenza viruses. It can cause mild to severe illness. Serious outcomes of flu infection can result in hospitalization or death. Some people, such as older people, young children, and people with certain health conditions, are at high risk for serious flu complications.”

**Epidemic** - “Epidemic refers to an increase, often sudden, in the number of cases of a disease above what is normally expected in that population in that area. Outbreak carries the same definition of epidemic, but is often used for a more limited geographic area.”

**Pandemic**- “Pandemic refers to an epidemic that has spread over several countries or continents, usually affecting a large number of people.”

## History

In 1947, scientists researching yellow fever placed a rhesus macaque in a cage in the Zika Forest, near the East African Virus Research Institute in Entebbe, Uganda. The monkey developed a fever, and researchers isolated from its serum a transmissible agent that was first described as Zika virus in 1952. It was subsequently isolated from a human in Nigeria in 1954. From its discovery until 2007, confirmed cases of Zika virus infection from Africa and Southeast Asia were rare. In 2007, however, a major epidemic occurred in Yap Island, Micronesia. More recently, epidemics have occurred in Polynesia, Easter Island, the Cook Islands, and New Caledonia.

## Previous Attempts

Since diagnosing prior Zika Virus infection is very difficult, the government had attempted to develop means to confirm the infection in the first week of its transmission. Moreover, various countries such as Puerto Rico and United States are working together to improve mosquito control efforts. Since complete eradication of mosquitoes is highly difficult, countries in order to figure out means to have total control over mosquitoes require much money and work.

## Key Issue

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Successful projects to tackle the problem of infectious diseases:

### ***Cambodia (Tuberculosis)***

The WHO, in cooperation with various international partners, managed to create a successful national TB care and control programme. The UN tried to support this effort by enhancing the economic development as well as re-establishing the main pillars of the primary health system of Cambodia.

### ***Democratic Republic of the Congo (Malaria)***

The WHO and the UNICEF, in constant contact with the Government, launched a mass campaign in order to distribute 13.7 million long lasting insecticide-treated nets. Furthermore, the World Bank and PMI-USAID provided funding, while various NGOs and UN partners offered logistical support and transport.

### ***Zambia (HIV)***

The UNDP support along with the Ministry of Health of Zambia, created 68 new antiretroviral therapy (ART) sites. The Global Fund support provided ART drugs to some 214,339 patients in 2012 and 195,679 in 2013, including HIV-positive pregnant women.

### ***Thailand (Drug resistant malaria)***

In 2008, the WHO supported the cooperation between Thailand and Cambodia for the launch of a more effective monitoring, prevention and treatment project along their shared border. More than 300 volunteers were trained in order to contribute to the observation and treatment testing process. Furthermore, an electronic malaria information system (e-MIS) was create, enabling the share of data about the progress of the project via smart phones.

## Major Parties Involved and Their Views

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## **European Union:**

The European Union has laid the foundations for the development of strategies against the spread of infectious diseases through the work of the ECDC. Nevertheless, it is still difficult to implement common policy on national health systems of member states hesitating to address the particularities of health systems in the individual member-states, and the possible reaction of large financial interests. The current enormous migration flows from the Middle East to Europe, as well as the deterioration of the economic conditions in especially in the region of the East Mediterranean Sea have caused the concern of the European leaders. The need for an enhanced and financially viable strategy against a possible epidemic or pandemic outbreak grows day after day.

## **Developed Countries:**

All developed countries and especially those which are members of the “G5” support the actions of the WHO and the ECOSOC and acknowledge their importance. Some of them, participate in the funding of the WHO project, while the biggest distribution comes from the USA. Nevertheless, as sovereign developed countries, they seem to be reluctant to allow international organizations to engage in “internal matters” such as the response to hazardous incidents within the borders of the country as they do not wish their autonomy to be reduced. For this reason they prefer to incorporate every international initiative or recommendation in governmental programmes.

## **Developing Countries:**

The developing countries are seriously affected by the infectious diseases. The global economic situation worsens and extremism/terrorism constitutes a serious threat for the lives of people residing especially in countries of North Africa and the Middle East. At the same time, the developing countries remain almost totally dependent on international financing programmes for developing strategies related to public health. In cases where the WHO struggles to offer its help, especially as regards the immediate response to an outbreak, the implications are enormous. Many non-governmental organizations can offer some support but do not have the means to handle a big number of incidents.

## **Least Developed Countries**

The least developed countries, such as those in Sub-Saharan Africa, are the main victims of the infectious diseases. Simultaneously, they do not have the capacity to preserve their population or “fight” effectively against the spread of these diseases. In such cases, the most important issues are the satisfaction of basic human needs and the poverty eradication. Regarding the establishment of a reliable health system for prevention and treatment, the funding and support from IOs and NGOs, is the one and

only solution. In the least developed countries, even the existence of a national framework of elementary competent authorities for public health, cannot be taken for granted.

## Timeline of Relevant Resolutions, Treaties and Events

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Early 1800s	“As formidable as any other threat to the pioneers in the new Arkansas Territory was the threat of infectious disease. Smallpox, yellow fever and measles, and malaria epidemics had nearly wiped out the Native American population in Arkansas and the rest of the country before the Civil War.”
1915	As the connection between malaria and mosquitoes was recognized, an outbreak of malaria occurred in Crossett, Arkansas.
1919	Majority of local government power where they can block information about criminal trials were limited or eliminated
1960 ~ 70	Perhaps the most dramatic and ground-breaking public health work in the state’s history came from research done during the 1960s and 1970s by Arkansas-based doctors Paul Reagan, William Stead, and Joseph Bates, which led to a new local hospital and out-patient treatment for tuberculosis (TB).

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## Possible Solutions

The ECOSOC should intensify its efforts to achieve the goals that the UN has set for the state of global health, in particular for addressing the problem of the spread of infectious diseases. Through proposals, research, dialogue, awareness and close monitoring of each programme, the ECOSOC must support the work of the WHO. There is a need for more funding, cooperation with a bigger number of IOs and NGOs and better communication with national and regional bodies. Only through the stabilization of the economic, social and environmental determinants to sustainable levels, with the contribution of each and every UN member state, we can achieve a sufficient prevention of infectious diseases, and thus it becomes possible to support the activities of the WHO to intervene by offering remedy for any epidemic

outbreak and emergency response measures in case of the outbreak of pandemics, which is the most sensitive issue.

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