Introduction

The foundations for the modern border and health regulations for infectious diseases have been built off multiple orders set up by the World Health Organization (WHO) and other organizations. Infectious diseases can spread like a wildfire if not treated carefully and generally the infectious diseases are spread from nation to nation through the borders.

Infectious diseases such as, Ebola and yellow fever, only become global pandemics because they spread through the borders of nations. The World Health Organisation (WHO), a branch of the United Nations (UN), is one of the largest body that plays a role to investigate and track these infectious diseases; along with other parties, the WHO has carried out border and health control regulations to try and abolish the threats set by these infectious diseases.

In 2009, a UN General Assembly resolution was set in place to combat this issue, with the topic of foreign policy and global health. This resolution was a comprehensive report, with recommendations on challenges and activities related to the foreign policy and global health. Discussed within this conference was also the spread of infectious diseases.

Not only is this solely an issue for infectious diseases, but also substances that can cause infectious diseases if transferred to humans. The issue of transportation of infectious substances through borders also poses a major threat to the health of nations. Infectious substances are transported for multiple reasons, within countries and across international borders. The transportation of these infectious substances requires the shippers to meet regulatory requirements that are more solely related to the packaging and shipping conditions.

Both infectious diseases and substances are generally spread through people that travel across multiple borders giving the disease to other people. However, infectious substances can be shipped through postal, airline, other transport industry personnel, and people transporting these infectious substances across these borders.
**Infectious substances:**

Infectious Substances are defined as substances which are known or are reasonably expected to contain pathogens. Pathogens can be seen in multiple forms including bacteria, viruses, parasites, fungi. These Pathogens can cause disease if transferred to humans. In this case, the pathogens are travelled across borders.

**Infectious diseases:**

Infectious diseases are disorders caused by organisms — such as bacteria, viruses, fungi or parasites. Many organisms live in and on our bodies. These diseases can be passed on from person to person and in certain circumstances may lead to endemics or pandemics.

**Border regulations:**

These are the rules and regulations set forth at the separation point between two political or geographic regions, in most cases countries. With regards to the issue at hand, the health regulations set up at the country borders to prevent infectious diseases from spreading.

**Quarantine:**

Quarantine is a state where a person is under a certain type of isolation because they have been exposed to some sort of an infectious disease.

**Isolation:**

Isolation can be defined as a hospital for people who have been exposed to some sort of infectious disease. This definition should not be confused with quarantine, as quarantine is a state that a person is placed under when they are in isolation.

**Vaccines:**

A vaccine is a substance that when injected into the body, sends antibodies to help assure immunity against infectious diseases. Vaccines are used as a preventative method of assuring safety from the spread of infectious diseases.

**The International Health Regulations (IHR):**

The International Health Regulations, or the IHR, is an international law set forth by the World Health Organization, who's goal is to prevent the international spread of diseases and other health risks. This law has as of now been entered by 194 countries and WHO member states, on the 15th June 2014. and monitors the international spread of diseases and other health risks.
Background

The issue of border regulations and the spread of infectious diseases has been a problem since early plagues that date back to the Common Era. This issue has caught the attention of multiple organizations and NGO's that are diligently trying to combat it. These organizations consist of but are not limited to the United Nations (UN), the World Health Organization (WHO), the International Society of Travel Medicine (ISTM), the Center for Disease Control (CDC), and the Institute of Medicine (IOM). The diseases that most of these organizations are looking at are diseases such as, Cholera, Diphtheria, Infectious tuberculosis, plague, smallpox, yellow fever, viral hemorrhagic fevers, severe acute respiratory syndromes, and a flu that can cause a pandemic.

Based on the Travel Destination of travellers, there can be more exposure to different infectious diseases. Places like Kenya and South Africa, have the risk of diseases like Yellow Fever, and the risk of being infected with diseases like this depend on the health and sanitary level of the area, the vaccinations given prior to the trip, and the behavior of the traveller. The WHO has 4 criteria to figure out the intensity and the care needed for the traveller with an infectious disease. The criteria is mentioned below:

- Diseases that have a sufficiently high global or regional prevalence to constitute a significant risk for travellers;
- Diseases that are severe and life-threatening, even though the risk of exposure may be low for most travellers;
- Diseases for which the perceived risk may be much greater than the real risk, and which may therefore cause anxiety to travellers;
- Diseases that involve a public health risk due to transmission of infection to others by the infected traveller.

The recent outbreak in West Africa of the highly infectious Ebola virus has taken the world by surprise. The Ebola crisis has recently been the most significant issue with regards to the topic of border regulations and the spread of infectious diseases. This is an example of the governments' inability to control the spread of infectious diseases when they act in isolation. Majority of the parties involved including the United Nations, the World Health Organization, and the Center for Disease Control have been persevering in trying to prevent this issue by enforcing border regulations with health checks, making sure that a person who has the possibility of having the disease cannot transfer it to someone else. These measures are being taken to protect the health of the citizens of different nations. Other than the recent example of Ebola, other diseases that had been a massive impacts on the world were the pandemics, Avian Influenza, commonly known as bird flu, and Swine Influenza, commonly known as swine flu. These diseases had been a very large threat to the WHO and multiple other organizations as they had created distress in the world. These diseases had seriously been an impacting factor both locally and globally, with regards to the economies of nations, the international trade of nations, and the general border regulations of nations.
Apart from specifically infectious diseases, the other side to the issue is infectious substances that can lead to infectious diseases if not treated carefully. Daily, thousands of samples of infectious substances are shipped in the world. These substances are shipped for multiple reasons some being, clinical trials, surveillance studies, disease investigations and many other reasons. However there is definitely a risk when transporting these substances and in the interest of international public health, these substances have to be transported with care and precaution. Along with the care and precaution aspect, these substances need to reach the customer in an efficient and legal way, but at the same time it should not risk infection that could later pose as a threat. The WHO has recently been taking actions to prevent such a risk from occurring. Mostly all of the WHO member states have been strictly following the regulations set out by the WHO and are improving their border regulations, packing regulations for the infectious substances, labeling regulations, and general preparation for the shipment of these infectious substances. Along with this, the WHO has also set out to aid the nations that are not member states, by giving them suggestions to improve and heighten safety when using and transporting the materials.

The United Nations General Assembly has also given guidelines and steps that need to be followed in the near future to prevent an event, like a pandemic, to occur. The UN has addressed this issue as a global threat and said that the foreign policy makers have to amend their policies, to strengthen the health systems at borders, and to control emerging infectious diseases that could be a potential risk if spread. The United Nations and a plethora of organizations have worked together to strengthen both the border regulations and the international and national health regulations to prevent the spread of infectious diseases.

**Major Parties Involved**

**United Nations (UN):**

The United Nations is an international organization created in 1945 to increase political and economic cooperation between member states. The UN works to solve global issues consisting of problems such as development of nations or reducing global conflicts around the world. Regarding this particular issue, the United Nations General Assembly has taken measures with setting forth a resolution discussing methods to improving foreign policy and the global and international health.

**The World Health Organization (WHO):**

The World Health Organization, or the WHO, is a specialized agency branched off of the United Nations (UN) that is concerned with international public health. The WHO was established on 7th April 1948, headquartered in Geneva, Switzerland. Regarding the issue, the WHO is the biggest party involved within this issue as it along with smaller parties sets the border regulations for WHO member nations and other nations that are involved in the initiatives. The WHO has created the IHR, as previously stated above, to prevent the international spread of infectious diseases in these nations.

**The International Society of Travel Medicine (ISTM):**
The International Society of Travel Medicine (ISTM) is an international society of physicians, pharmacists, nurses, and other medical professionals who help promote travel health initiatives. The ISTM in a lot of cases aids the WHO in their attempts to investigate and track public health trends. Regarding the issue, the ISTM is a smaller organization that works along with the WHO to create border regulations and research the public trends related to the spread of infectious diseases through borders of nations.

The Center for Disease Control (CDC):

The Centers for Disease Control and Prevention, or the CDC, is the national public health institute of the United States. Along with that the CDC acts as a research facility that tracks and investigates public health trends. Although the CDC only pertains to the United States of America, the CDC has taken steps to strengthen border regulations with regards to isolation and quarantine. The CDC is mostly concerned about Cholera, Diphtheria, Infectious tuberculosis, plague, smallpox, yellow fever, viral hemorrhagic fevers, severe acute respiratory syndromes, and a flu that can cause a pandemic.

The Institute of Medicine (IOM):

The Institute of Medicine, or the IOM, is an American non-profit, non-governmental organization founded in 1970, under the congressional charter of the National Academy of Sciences. The IOM, like the CDC, mostly pertains to the United States of America. The IOM also focuses on quarantine systems at borders and in it's report the IOM concluded that the primary function of these quarantine stations should shift from providing inspection and information about diseases to a strategic national public health leadership.

Timeline of Events

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<tr>
<th>Date</th>
<th>Description of event</th>
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<tr>
<td>October, 1945</td>
<td>The United Nations Conference in San Francisco unanimously approves the establishment of a new, autonomous international health organization.</td>
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<td>April, 1948</td>
<td>The World Health Organization Constitution comes into force on 7th April.</td>
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<td>May, 1961</td>
<td>The International Sanitary Regulations are renamed the International Health Regulations, specifically covering cholera, plague, smallpox and yellow fever.</td>
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<tr>
<td>July, 2005</td>
<td>The World Health Assembly revises and adopts the International Health Regulations, a new legal framework adopted by most countries to contain the threats from diseases that may rapidly spread from one country to another.</td>
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A new International Health Regulations that begun in 2005 is actually now entered into force.

Previous Attempts to Resolve the Issue

Several current and past programs have worked towards lessening the prevalence of the spread of infectious diseases worldwide, through border regulations. The CDC and the IOM only pertain to United States of America and as of now at the borders they have rigorous border checks, quarantine at borders, and isolations at borders to make sure people do not spread infectious diseases, (some of the diseases mentioned above in the CDC section).

According to the UN 64th general assembly report, the WHO along with multiple other organizations are taking steps to control emerging infectious diseases, including sharing biological materials with pathogenic potential, and increasing vaccines, drugs and other benefits. Along with this, these organizations are also attempting to boost the international support for strengthening health systems at borders to address the issue of the spread of infectious diseases through these channels.

Through the IHR, general precautions have been taken in mostly every country including all the WHO member nations. These general precautions consist of but are not limited to, authorizing vaccines for the prevention of diseases, giving advice to travellers to nations that could potentially have a risk of spreading infectious diseases such as yellow fever in some countries in Africa.

With respect to transportation of infectious substances, many countries have adopted the United Nations Model Regulations to stand against the transportation of national dangerous goods. Some countries apply variations. National authorities should provide details of their own national requirements.

Possible Solutions

Mandatory check-ups for quarantined patients

Multiple organizations have taken it upon them to create a system where infected travellers are transported to an isolated quarantine. This is the first step to prevent the spread of infectious diseases, however there can be more done as a preventative method of stopping the spread. As of now with the systems that are set place, the patient is immediately sent home after they are treated, however not called back to make sure that everything is alright. A possible addition to the system that is already set in place would be to have mandatory check-ups post quarantine for the infected patients. What this means is that the infected patients would have to come back to be checked for any signs of previously deemed infectious disease.

Enforcement of the existing laws for member states
Many nations that are member states and non-member states of the WHO take extra precautions when a new infectious disease enlarged in scale, however these precautions don't last for a very long time. These precautions only last till the disease is over, however when a new infectious disease comes up the border rules and regulations heighten up to the same extent as the previous disease. A possible solution to solve this issue is to enforce the rules and regulations that are already set in place. Rather than taking away health checkups at airports right after a cure for an infectious disease is found, there should be an enforcement policy of the regulations set in place by the WHO and other organizations. This, again, is a preventative method for stopping diseases to come in the near future.

**Strengthening the role of the IHR**

The IHR right now has the role of several international agreements that consist of rules and regulations that pertain to health issues around the world. One of the big issues is that the IHR does not consist of input from all organizations and countries. A possible solution to that issue is gathering all member nations and organizations like the ISTM to revise the IHR to create a more understandable and effective agreement.

**Covering more diseases in the IHR**

As of now the IHR only covers a certain amount of diseases consisting of yellow fever, the plague, and cholera. One issue with this is that the diseases they are focusing on are very limited. A possible solution to this is for them to broaden their view, and highlight more diseases like influenza.

**Bibliography**


