



## The Southern Regional Model United Nations—SRMUN XVII



Dear Delegates,

It is with pleasure that I welcome you to the World Health Organization (WHO) of the 17th annual Southern Regional Model United Nations (SRMUN). My name is Romina Savova and I will serve as your Director this year. This is my third year at SRMUN and my first as a staff member. I have participated in various conferences, both nationally and internationally. I am currently attending Emory University in Atlanta and double majoring in Economics and International Studies, hence my interest in global affairs.

The World Health Organization is plenary-sized SRMUN committee and it is my honor to serve as the director of this body. After carefully considering the various topics for this session, I chose issues that I believe are of current concern and are unfolding both within the international media and among civil society. Your topics for this conference are:

- I. Intellectual Property Rights and Access to Essential Medicines;
- II. Eliminating Malaria;
- III. Responding to Avian Influenza and Other Deadly Diseases.

You will notice that all of these topics currently affect some, if not all, countries of the world. Indeed, responding to potential epidemics and pandemics, such as avian influenza, is an issue that requires the immediate, united collaboration of this body. The topic on intellectual property rights requires you to analyze the work of an important commission created to address that issue and make recommendations based on their report. Finally, our topics on combating preventable diseases will address situations that have the potential to be fully alleviated, yet in many cases lack the political will to do so. I hope these topics pique your interest and that you become knowledgeable of them by the time we begin the conference in November.

As delegates of the World Health Organization, you are each required to submit a position paper reflecting your countries' stance on the issues presented in the background guide. It should be no longer than 2 pages, single-spaced. You are required to address all three topics in the order that you wish to see them discussed. I hope that you will find the background guide on these topics helpful in explaining the issues at hand and that you will utilize the committee directive to formulate insightful position papers with careful consideration paid to developing solutions for the problems presented. The background guide is only intended to provide you with the foundational material you need to begin researching the topics and your countries' positions. **Due to the delayed posting of this guide, the position paper deadline for the World Health Organization has been extended. Your position papers should be submitted both to me and to the Director-General, Laura Merrell ([dg@srmun.org](mailto:dg@srmun.org)) no later than 11:59pm EST on NOVEMBER 6th, 2006.**

As they become available, I hope you will have the chance to read the updates on our topics. Throughout the preparation process, please do not hesitate to contact me with any concerns you have related to our committee. I wish you the best of luck and success in this committee and I look forward to meeting you all in November.

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## The History of the World Health Organization

Prior to the establishment of the World Health Organization (WHO) there was little cooperation between nation states regarding issues of health. Although health problems often transcend national borders, without the assistance of a coordinating institution, there is little incentive for individual governments to engage in collectively beneficial action. The WHO was established on April 7, 1948 in order to facilitate cooperation between the member states of the United Nations.<sup>1</sup> It maintains that: “the enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being without distinction of race, religion, political belief and economic or social condition.”<sup>2</sup> In order to ensure that all human beings do indeed attain this fundamental right, the WHO has implemented a variety of policies over the latter half of the twentieth century. In the 1950s the Organization used its vaccine program to battle diseases like smallpox, which was eventually eradicated. It continues to fight against other diseases such as malaria. In the 1970s and 1980s it focused on renovating developing countries’ health programs and funding management.<sup>3</sup> It also improved its vaccine initiative by increasing the program’s coverage with the Expanded Programme on Immunization in 1974.<sup>4</sup> The WHO vaccine program has achieved remarkable success in combating measles, polio, diphtheria, tetanus, pertussis and tuberculosis.

Although the WHO has seven regional offices that represent member state groups, it is the headquarters in Geneva that serves as the primary decision-making body of the Organization and the World Health Assembly convenes.<sup>5</sup> Every May, and in necessary special situations, 192 member states representatives determine the Organization’s policies and consider the reports of the Executive Board, which consists of 32 technically qualified experts in health. They also supervise the financial strategies and review and approve the proposed distribution of its \$1 billion budget.<sup>6</sup> The budget must cover the cost of 3,500 Secretariat employees and health programs in almost every country of the world.<sup>7</sup> Since 2000, the Organization has also been responsible for supervising the achievement of the health related Millennium Development Goals (MDGs), a set of eight objectives designed to reduce poverty and hunger, to combat ill-health, gender inequality, lack of education, lack of access to clean water and environmental degradation. The WHO tracks the progress, measures and reports on the MDG indicators of health.<sup>8</sup>

The policies of the WHO are wide in scope and range from developing, establishing and promoting international standards with respect to food, biological and pharmaceutical products to assisting Governments in strengthening health services.<sup>9</sup> Policies are often based on health recommendations made by the General Assembly (GA), the Economic and Social Council (ECOSOC), the Security Council and the Trusteeship Council of the UN. The WHO reports to ECOSOC in accordance with any agreement between itself and the UN.<sup>10</sup> One particularly important policy with regards to WHO is related to HIV/AIDS. The WHO guides the UN system in the international reaction to this deadly virus. The HIV/AIDS Department, a WHO committee, provides evidence-based, technical support to WHO member states to help them improve treatment, care and prevention services as well as drugs and diagnostics supply.<sup>11</sup>

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<sup>1</sup> “About Who.” World Health Organization. <http://www.who.int/about/en/>

<sup>2</sup> *Constitution of the World Health Organization*. World Health Organization. April 7, 1948

<sup>3</sup> “WHO: A Profile.” BBC News. April 25, 2003.

<http://news.bbc.co.uk/2/hi/health/2975139.stm>

<sup>4</sup> “Immunization Against Diseases of Public Health Importance.” World Health Organization. March 2005.

<http://www.who.int/mediacentre/factsheets/fs288/en/index.html>

<sup>5</sup> “Governance.” World Health Organization.

<http://www.who.int/governance/en/>

<sup>6</sup> Ibid.

<sup>7</sup> “WHO: A Profile.” BBC News. 25 April 2003.

<http://news.bbc.co.uk/2/hi/health/2975139.stm>

<sup>8</sup> “WHO and the Millennium Development Goals.” World Health Organization.

<http://www.who.int/mdg/en/>

<sup>9</sup> *Constitution of the World Health Organization*. World Health Organization. 7 April 1948

<sup>10</sup> Ibid.

<sup>11</sup> “WHO and HIV/AIDS.” World Health Organization.

<http://www.who.int/hiv/en/>

In order to choose the Organization's policies, WHO delegates each have one vote. For a resolution to pass, a majority of delegates present and voting must support it. Creating formal relations with the UN and NGOs must be approved by two thirds of the member states.<sup>12</sup>

To carry out its policies on a global degree, the WHO collaborates with various non-governmental organizations (NGOs). It maintains cooperation and formally connects with them through its Civil Society Initiative. The aim of this segment of the WHO is "to promote the policies, strategies and programs derived from the decisions of the Organization's governing bodies."<sup>13</sup> There are currently 182 NGOs that currently cooperate with the WHO.<sup>14</sup> The NGO network system is complemented by a parallel system of national institutions known as Collaboration Centers.<sup>15</sup>

All 192 UN member states are represented in the World Health Organization.

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<sup>12</sup> *Constitution of the World Health Organization*. World Health Organization. 7 April 1948

<sup>13</sup> "Principles Governing Relations with Non-Governmental Organizations." World Health Organization.  
<http://www.who.int/civilsociety/relations/principles/en/index.html>

<sup>14</sup> "List of 182 Nongovernmental Organizations in Official Relations with the WHO." World Health Organization. January 2006  
[http://www.who.int/civilsociety/relations/NGOs\\_list\\_rlct\\_EB117\\_decsE.pdf](http://www.who.int/civilsociety/relations/NGOs_list_rlct_EB117_decsE.pdf)

<sup>15</sup> "WHO Collaborating Centers General Information. World Health Organization.  
<http://www.who.int/kms/initiatives/whoccinformation/en/index.html>

## I. Intellectual Property Rights and Access to Essential Medicines

### *Introduction*

Many infectious diseases are exceptionally prevalent in developing countries.<sup>16</sup> In 1998, one in five South Africans was suffering from the human immunodeficiency virus (HIV) or the advanced version of the disease, known as acquired immunodeficiency syndrome (AIDS).<sup>17</sup> Although there is no cure for this fatal illness, there are medications, such as antiretroviral treatments that can ease the health burden and extend the lives of those living with HIV/AIDS.<sup>18</sup> Although the production costs of these drugs are very low, most are only available at very high prices. The cost of treating an AIDS patient is approximately \$15,000 a year.<sup>19</sup> This is an exorbitant amount for a country where the average citizen earns \$3000 per annum.<sup>20</sup>

Antiretroviral drugs are so highly priced in South Africa and other countries because they are protected by international intellectual property statutes and eligible for patents. According to the World Intellectual Property Rights Organization (WIPO), intellectual property is defined as the “creations of the mind” and includes inventions, literary and artistic works, symbols, names and designs used in commerce.<sup>21</sup> New medicines are considered inventions and are hence granted patents.<sup>22</sup> Patents ensure that the innovator is allowed to solely market, distribute and price the new invention for a period of 20 years.<sup>23</sup>

Because the South African government cannot afford to subsidize the patented antiretroviral medicines, many South Africans are left untreated.<sup>24</sup> Recognizing this problem, the government passed a law in 1998 that would enable it to acquire antiretroviral treatments from countries where the medicines were not protected by patents.<sup>25</sup> These cheaper medicines, it argued, would enable the government to provide better healthcare for its citizens. In response to the law, 39 pharmaceutical companies filed a lawsuit against the South African government, claiming that the government was infringing on their intellectual property rights.<sup>26</sup> Although the lawsuit was eventually dropped because of the public image ramification for the pharmaceutical companies, it illustrates the fundamental conflict between protecting intellectual property rights and improving access to healthcare.

### *History*

Antiretroviral drugs, like some other treatments, are considered essential medicines. The World Health Organization (WHO) defines essential medicines as “those that satisfy the priority health care needs of a population.”<sup>27</sup> Besides antiretroviral drugs, the WHO also classifies another 311 drugs as essential. These include anesthetics, antiallergics, anti-infective medicines, cardiovascular drugs, psychotherapeutic medicines and certain vitamins.<sup>28</sup> Considering the importance of these drugs, there have been vast improvements in their global provision. The total number of people with access to essential medicines has increased from 2.1 billion in 1977 to 3.8 billion in

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<sup>16</sup> *Priority Diseases and Conditions*. Bill and Melinda Gates Foundation. 2006.

[http://www.gatesfoundation.org/GlobalHealth/Pri\\_Diseases](http://www.gatesfoundation.org/GlobalHealth/Pri_Diseases)

<sup>17</sup> Amy Kapczynski. “Strict International Patent Laws Hurt Developing Countries.” *YaleGlobal*. December 16, 2002

<http://yaleglobal.yale.edu/article.print?id=562>

<sup>18</sup> *Ibid.*

<sup>19</sup> *Ibid.*

<sup>20</sup> *Country Report South Africa*. United Nations Office on Drugs and Crime. 2002.

<sup>21</sup> “What is Intellectual Property?” World Intellectual Property Organization. <http://www.wipo.int/about-ip/en/>

<sup>22</sup> “Patents.” World Intellectual Property Organization.

[http://www.wipo.int/patentscope/en/patents\\_faq.html#inventions](http://www.wipo.int/patentscope/en/patents_faq.html#inventions)

<sup>23</sup> EB 117. *Intellectual Property Rights, Innovation and Public Health*. World Health Organization.

<sup>24</sup> Amy Kapczynski. “Strict International Patent Laws Hurt Developing Countries.” *YaleGlobal*. December 16, 2002

<http://yaleglobal.yale.edu/article.print?id=562>

<sup>25</sup> *Ibid.*

<sup>26</sup> *Ibid.*

<sup>27</sup> *WHO Policy Perspectives on Medicines*. World Health Organization. March, 2004.

[http://whqlibdoc.who.int/hq/2004/WHO\\_EDM\\_2004.4.pdf](http://whqlibdoc.who.int/hq/2004/WHO_EDM_2004.4.pdf)

<sup>28</sup> *WHO Essential Medicines Model List, 14th ed.* World Health Organization. March 2005.

1997.<sup>29</sup> Despite these strides, the lack of access to essential medicines is still one of the most dire health problems facing the world today.<sup>30</sup> Indeed, nearly one third of the world's population is still unable to regularly obtain essential medicines.<sup>31</sup> It is estimated that, with improvements in the provision of essential drugs and vaccines, 10 million lives could be saved annually.<sup>32</sup>

The WHO has identified several general impediments to the development of equitable access to medicines. Health reforms in certain countries have eroded funding for health programs and essential drugs. Furthermore, governments often place the burden of paying for essential medicines on their citizens. This problem is particularly severe in developing countries, where patients pay for 50 percent-90 percent of their medicines alone.<sup>33</sup> Further exacerbating the problem are the high costs associated with the sustained use of essential drugs, particularly for terminal diseases such as HIV/AIDS, malaria and tuberculosis.<sup>34</sup> These factors, alone or in combination, are often responsible for the inadequate availability of essential medicines.

Fortunately, medical research is continuously yielding improved medicines that offer patients the opportunity to live longer, healthier lives. Indeed, innovation is the key to ensuring the mitigation and ultimate eradication of fatal illnesses. Scientific discoveries in public health “involve the introduction of new ideas, policies, methods and programs to improve the population's health status.”<sup>35</sup> Continued improvements in healthcare treatments are currently more essential than ever before. Additional research on molecular genetics and human and pathogen genomes could lead to new vaccines, medicines and other methods for controlling health problems.<sup>36</sup> Consequently, it is of crucial importance to ensure that the research and development of essential medicines continues. To this end, inventors of new drugs are awarded intellectual property rights in the form of patents. Intellectual property rights enable the inventor to recover the high sunk costs; about US\$ 802 million for each newly introduced medicine, associated with research and development.<sup>37</sup> Thus, they act as an incentive for inventors to create new drugs.

While intellectual property rights are beneficial to the extent that they encourage innovation, they can also be detrimental to the ability of patients to access drugs. Because patents allow innovators exclusive pricing rights, they charge high prices for drugs that have very small manufacturing costs.<sup>38</sup> Although prices are not the sole determinants of access to medicines, they do play a very important role. The affordability of medicines, like that of all other goods, can act as a powerful barrier to obtaining them on a regular basis. In low-income countries the problem is compounded by minimal government funding for health programs, poor delivery systems and a lack of distributional facilities.<sup>39</sup> Thus there remains a fundamental conflict between encouraging innovation and achieving sustainable access to essential drugs.

### ***History of Intellectual Property Rights***

According to the Queen Mary Intellectual Property Research Institute, the term intellectual property rights “most likely first became widely used during the twentieth century.”<sup>40</sup> Internationally, the term is divided into two categories: Industrial Property and Copyrights, by the WIPO.<sup>41</sup> Both on the national and international level, the

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<sup>29</sup> WHO Policy Perspectives on Medicines. World Health Organization. March, 2004.  
[http://whqlibdoc.who.int/hq/2004/WHO\\_EDM\\_2004.4.pdf](http://whqlibdoc.who.int/hq/2004/WHO_EDM_2004.4.pdf)

<sup>30</sup> Ibid

<sup>31</sup> Ibid.

<sup>32</sup> Ibid.

<sup>33</sup> Ibid.

<sup>34</sup> Ibid.

<sup>35</sup> EB 117. *Intellectual Property Rights, Innovation and Public Health*. World Health Organization.

<sup>36</sup> Ibid.

<sup>37</sup> “Pills, Patients and Profits.” BBC World Service  
[http://www.bbc.co.uk/worldservice/specials/1718\\_pills/page2.shtml](http://www.bbc.co.uk/worldservice/specials/1718_pills/page2.shtml)

<sup>38</sup> EB 117. *Intellectual Property Rights, Innovation and Public Health*. World Health Organization.

<sup>39</sup> *Commission on Intellectual Property Rights and Development Final Report*. Commission on Intellectual Property Rights and Development. September, 2002.  
[http://www.iprcommission.org/graphic/documents/final\\_report.htm](http://www.iprcommission.org/graphic/documents/final_report.htm)

<sup>40</sup> Peter Drahos. “The Universality of Intellectual Property Rights: Origins and Development.” Queen Mary Intellectual Property Research Institute. January 11, 2005.  
<http://www.wipo.int/tk/en/hr/paneldiscussion/papers/word/drahos.doc>

<sup>41</sup> “What is Intellectual Property?” The World Intellectual Property Organization. <http://www.wipo.int/about-ip/en/>

purpose of intellectual property law is “to ensure that persons other than the inventor do not free-ride, or exploit the intellectual property without attributing credit to the inventor.”<sup>42</sup> The evolution of intellectual property rights on an international scale can be divided into three periods.

During the initial era, known as the territorial period, there was no protection of intellectual property internationally.<sup>43</sup> On the contrary, different territories throughout medieval Europe developed their individual regimes. The Venetians, for example, developed the first version of patent law as early as 1474. Almost 200 years later, in 1623, England passed the Statute of Monopolies, which allowed only the first inventor of a particular manufacturing process exclusive marketing rights. France and the United States of America granted similar privileges to inventors in the late 18<sup>th</sup> century. Other European countries eventually adopted intellectual property rights in the first half of the 19<sup>th</sup> century.<sup>44</sup> These types of laws were rudimentary and did not extend beyond the territory of the rulers who made them. Nevertheless, they did pave the way for the intricate intellectual property regimes that subsequently emerged.

The second era is defined as the international period.<sup>45</sup> During the 19<sup>th</sup> century internationalization forced states to become concerned with international cooperation for the protection of intellectual property. Indeed, as goods flowed more freely between countries, inventors wanted to maintain the exclusive rights to their creations beyond the borders of their country. At the Paris Convention of 1883, the participating European countries formed a union for the protection of industrial property, which consists of trademarks, patents and designs.<sup>46</sup> At the Berne Convention of 1886 the Union formed at the Paris Convention was extended to incorporate literary and artistic works. Within 25 years, most major trading nations had become signatories to both Conventions.<sup>47</sup> After the Paris and Berne Conventions, international secretariats were established to monitor the protection of intellectual property. The secretariats merged to establish the United International Bureaux for the Protection of Intellectual Property in 1893.<sup>48</sup> This organization was replaced by the World Intellectual Property Organization (WIPO) in 1967. WIPO officially became a specialized organ of the United Nations in 1974.<sup>49</sup> Although WIPO formally institutionalized various agreements, many developing and even some developed countries did not recognize all of the organization’s principles. Developing countries, for example, did not accept the patentability of chemical compounds.<sup>50</sup> Intellectual property was thus not completely synchronized on a global level.

The third stage of intellectual property rights development is known as the global period.<sup>51</sup> After post-World War II decolonization, many developing states became members of the Paris and Berne Conventions. Under the principle of one vote per state they formed a large coalition with significant bargaining power over the developed world.<sup>52</sup> In 1967 the developing countries, under India’s leadership, succeeded in establishing the Stockholm Protocol, which allowed them greater access to copyright materials for educational and developmental purposes.<sup>53</sup> India continued to pursue the liberalization of intellectual property protection by passing a law that allowed it to utilize the chemical components of medicines while acknowledging only the production processes of medicines as intellectual property.<sup>54</sup> Under pressure from the American pharmaceutical industry, the United States government established bilateral enforcement strategies of intellectual property rights with its trading partners in the 1980s. The United States continued to reform its trade laws by incorporating issues of intellectual property.

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<sup>42</sup> Peter Drahos. “The Universality of Intellectual Property Rights: Origins and Development.” Queen Mary Intellectual Property Research Institute. January 11, 2005.  
<http://www.wipo.int/tk/en/hr/paneldiscussion/papers/word/drahos.doc>

<sup>43</sup> Ibid.

<sup>44</sup> F. Machlup and E. Penrose, “The Patent Controversy in the Nineteenth Century”, 10 (1950) *Journal of Economic History*, pp. 1, 3.

<sup>45</sup> Ibid.

<sup>46</sup> Ibid.

<sup>47</sup> Ibid.

<sup>48</sup> Ibid.

<sup>49</sup> Ibid.

<sup>50</sup> Ibid.

<sup>51</sup> Ibid.

<sup>52</sup> Ibid.

<sup>53</sup> Ibid.

<sup>54</sup> Ibid.

### ***Agreement on Trade-Related Aspects of Intellectual Property***

In 1986, at the Ministerial Meeting at Punta del Este, the preliminary negotiations for the establishment of the World Trade Organization (WTO), is the global organization managing the rules of trade between countries, the United States included intellectual property as a negotiating issue.<sup>55</sup> The United States argued that the rules of the WTO should include regulations pertaining to intellectual property because trade involves the transmittance of ideas and knowledge.<sup>56</sup> The US was successful in its mandate and when the WTO was established in 1994 all of its members were required to sign the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS).<sup>57</sup>

For the first time in history, this agreement sought to harmonize intellectual property rights legislation into one global agreement. The agreement establishes minimum levels of intellectual property rights protection that each member of the WTO is required to provide other members.<sup>58</sup> Developed countries implemented the agreement in 1996.<sup>59</sup> However, developing countries were not required to implement most provisions of the agreement until January 1, 2000.<sup>60</sup> The section on patents specifies that they are to last 20 years and that protection must exist for both products and processes.<sup>61</sup> The agreement does provide certain exceptions to the protection rules. If a patent holder refuses to supply his product, governments can issue the patent holder's competitors a "compulsory license" to manufacture the product or utilize the process.<sup>62</sup>

Many governments criticized the agreement for compromising public health. They argued that the high prices of patented drugs would hamper their ability to provide their citizens with essential medicines.<sup>63</sup> As a result of the controversy, the WTO ministers formulated a special declaration at the Doha Ministerial Conference in 2001. The declaration allowed the Least Developed Countries (LDCs) a grace period until 2016 to implement the legislation on patent protection.<sup>64</sup> The declaration also afforded other member governments the flexibility to protect public health under the TRIPS agreement. Member governments can issue compulsory licenses for the production of generic drugs in public health emergencies.<sup>65</sup> Member governments can also parallel import essential medicines from countries where the drugs are available at lower prices.<sup>66</sup>

### ***The Response of the World Health Organization***

As the United Nations' primary coordinating body for issues of public health, the WHO established the Commission on Intellectual Property Rights, Innovation and Public Health in May 2003 at its 56<sup>th</sup> World Health Assembly.<sup>67</sup> Resolution WHA56.27 requested the Director-General of the WHO "to establish the terms of reference for an appropriate time-limited body to collect data and proposals from the different actors involved and produce an analysis of intellectual property rights, innovation and public health, including the question of appropriate funding and incentive mechanisms for the creation of new medicines and other products against diseases that disproportionately affect developing countries."<sup>68</sup> A small secretariat was established to oversee the work of the Commission.<sup>69</sup>

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<sup>55</sup> Ibid.

<sup>56</sup> "Intellectual Property: Protection and Enforcement." World Trade Organization.  
[http://www.wto.org/english/thewto\\_e/whatis\\_e/tif\\_e/agrm7\\_e.htm](http://www.wto.org/english/thewto_e/whatis_e/tif_e/agrm7_e.htm)

<sup>57</sup> Ibid.

<sup>58</sup> Ibid.

<sup>59</sup> "Fact Sheet: Trips and Pharmaceuticals." World Trade Organization.  
[http://www.wto.org/English/tratop\\_e/trips\\_e/factsheet\\_pharm04\\_e.htm](http://www.wto.org/English/tratop_e/trips_e/factsheet_pharm04_e.htm)

<sup>60</sup> Ibid.

<sup>61</sup> "Understanding the World Trade Organization." World Trade Organization. 2005  
[http://www.wto.org/english/thewto\\_e/whatis\\_e/tif\\_e/agrm7\\_e.htm](http://www.wto.org/english/thewto_e/whatis_e/tif_e/agrm7_e.htm)

<sup>62</sup> Ibid.

<sup>63</sup> Ibid.

<sup>64</sup> Ibid.

<sup>65</sup> "Fact Sheet: TRIPS and Pharmaceutical Patents." World Trade Organization.  
[http://www.wto.org/English/tratop\\_e/trips\\_e/factsheet\\_pharm02\\_e.htm#health](http://www.wto.org/English/tratop_e/trips_e/factsheet_pharm02_e.htm#health)

<sup>66</sup> Ibid.

<sup>67</sup> "Background on the Commission." Commission on Intellectual Property Rights, Innovation and Public Health.  
<http://www.who.int/intellectualproperty/background/en/>

<sup>68</sup> WHA56.27. *Intellectual Property Rights, Innovation and Public Health*. World Health Assembly.

<sup>69</sup> "Background on the Commission." Commission on Intellectual Property Rights, Innovation and Public Health.

The Executive established five terms of reference for the commission. First, the commission had to summarize the available evidence on the prevalence of diseases of public health importance.<sup>70</sup> They were to pay close attention to those diseases that predominantly affect economically disadvantaged people and gauge the diseases' social and economic impact on these populations. Second, the commission reviewed the amount and distribution of existing research, development and innovation endeavors related to these diseases.<sup>71</sup> Third, the commission was required to consider the importance and usefulness of intellectual property regimes as well as those of other incentive and financial mechanisms in encouraging research for the development of new medicines and other therapies against these diseases.<sup>72</sup> Fourth, they evaluated improvements to the current incentive intellectual property rights regime, particularly their effects on encouraging the development of new medicines and facilitating access to them.<sup>73</sup> Finally, the commission was mandated to establish recommendations for national and international stakeholders.<sup>74</sup>

The members of the commission were selected under the principles of expertise, geographical distribution and diversity in gender, occupational mix and discipline.

### ***The Report of the Commission***

In its report, the Commission first recognized that intellectual property rights potentially influence public health in developing countries.<sup>75</sup> The Commission also noted that, should such a problem exist, its resolution must involve the cooperation of all global health stakeholders, including developed and developing country governments, pharmaceutical companies and scientists.<sup>76</sup>

As a basis for its recommendations the Commission first considered the burden of diseases in developing countries. Although HIV/AIDS, which emerged in the 1980s, has been of growing concern in the last 20 years, other diseases, such as tuberculosis and malaria, have spontaneously reemerged in alarming proportions.<sup>77</sup> In severely affected countries, the prevalence of these diseases has lowered the life expectancy rates for citizens. South Africa, Botswana and Kenya are examples of countries where the life expectancy rates peaked in the late 1980s and early 1990s, only to plummet drastically in subsequent years.<sup>78</sup> In Botswana, life expectancy at birth fell from 65 years in 1990-1995 to 40 years in 2000-2005.<sup>79</sup> Most of the affected countries are located in Africa and Eastern Europe. While the probability of dying in these countries rises, mortality rates have declined in other parts of the globe.<sup>80</sup>

However, it is not just these diseases that have adversely impacted developing countries. So-called diseases of poverty contribute to over 50 percent of the disease burden.<sup>81</sup> These diseases are organized in four categories: communicable, maternal, perinatal and nutrition-related diseases.<sup>82</sup> There are currently six illnesses that are classified as diseases of poverty: tuberculosis, malaria, HIV/AIDS, measles, pneumonia and diarrheal disease.<sup>83</sup> These illnesses and other infectious diseases most severely impact sub-Saharan Africa.<sup>84</sup> The report of the Commission identifies several ways to improve the public health situation in developing countries. These include

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<http://www.who.int/intellectualproperty/background/en/>

<sup>70</sup> EB113/INF.Doc./1. *Intellectual Property Rights, Innovation and Public Health: terms of reference for review group*. World Health Organization.

<sup>71</sup> Ibid.

<sup>72</sup> Ibid.

<sup>73</sup> Ibid.

<sup>74</sup> Ibid.

<sup>75</sup> *Public Health, Innovation and Intellectual Property Rights*. Commission on Intellectual Property Rights, Innovation and Public Health. April 3, 2006.

<sup>76</sup> Ibid.

<sup>77</sup> Ibid.

<sup>78</sup> Ibid.

<sup>79</sup> "HIV&AIDS in Botswana." Avert. <http://www.avert.org/aidsbotswana.htm>

<sup>80</sup> *Public Health, Innovation and Intellectual Property Rights*. Commission on Intellectual Property Rights, Innovation and Public Health. April 3, 2006.

<sup>81</sup> Ibid.

<sup>82</sup> Ibid.

<sup>83</sup> "World Health/Diseases of Poverty." Results. <http://www.results.org/website/article.asp?id=238>

<sup>84</sup> *Public Health, Innovation and Intellectual Property Rights*. Commission on Intellectual Property Rights, Innovation and Public Health. April 3, 2006.



preventing the spread of diseases, eradicating a disease vector or transmitter, curing patients with existing medicines, alleviating conditions with existing medicines and researching new modes of prevention, diagnosis and treatment.<sup>85</sup> These measures are not mutually exclusive. On the contrary, the most effective public health outcomes involve a combination of these approaches.<sup>86</sup>

Since the advancement of these approaches is dependent on innovation, the Committee recognized the intimate link between intellectual property rights, which are designed to stimulate innovation, and access to essential medicinal products.<sup>87</sup> As accorded by the Constitution of the WHO, access to health is the fundamental right of every human being.<sup>88</sup> The Commission hence investigated the impact of patents on access to health in developing countries.

As previously mentioned, patents are granted in order to stimulate innovation in the pharmaceutical industry. Indeed, the role of patents as an incentive mechanism was used to justify the adoption of the TRIPS agreement. The Commission first recognized a central assumption pertaining to patents: that they are applied in a financial and technological environment that can support innovation.<sup>89</sup> Although this assumption is justified for developed countries, developing countries are not privy to the same amounts of capital and research institutions.<sup>90</sup> As a result, patents most often yield benefits to pharmaceutical companies in developed countries.

More disturbing, however, are the effects of patents on the prices of essential medicines. In order to gauge these effects, the Commission first considered company-pricing policies. Patents award pharmaceutical companies monopoly-pricing rights, which allow them to profit enough to cover their research and development costs. According to economic theory, when pharmaceutical companies set their prices according to their customers' willingness to pay, they will maximize their profits.<sup>91</sup> Indeed, pharmaceutical companies charge different prices for the same product in different countries. This process is known as "differential pricing."<sup>92</sup> In developing countries, which are often characterized by high levels of inequality, rich inhabitants are more willing than poor inhabitants to purchase essential medicines at higher prices.<sup>93</sup> Consequently, pharmaceutical companies choose to focus on the richer population segments of developing countries and thus charge prices that poor segments cannot afford to pay. These pricing strategies hence reduce the access to medicines in developing countries.

There are several measures developing country governments can take to improve access to medicines despite pharmaceutical companies' pricing policies. As afforded by the Doha Declaration governments can parallel import these drugs from cheaper sources or they can issue compulsory licenses for the domestic manufacture of drugs needed in a public health emergency.<sup>94</sup> Zambia and Zimbabwe have recently issued compulsory licenses.<sup>95</sup> Overall, however, very few governments have taken advantage of this provision.<sup>96</sup> Some countries, such as Brazil and South Africa, have threatened to use compulsory licenses in order to negotiate lower prices for certain medicines.<sup>97</sup> One handicap of compulsory licenses is that many countries do not have the capacity to produce generic drugs domestically. In August 2003, in recognition of this impediment, the WTO member states determined that governments may issue compulsory licenses to foreign pharmaceutical firms and that these foreign firms should not face export limitations.<sup>98</sup> This measure was adopted as a formal amendment to the TRIPS agreement in 2005. Since

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<sup>85</sup> Ibid.

<sup>86</sup> Ibid.

<sup>87</sup> Ibid.

<sup>88</sup> *Constitution of the World Health Organization*. World Health Organization. April 7, 1948.

<sup>89</sup> *Public Health, Innovation and Intellectual Property Rights*. Commission on Intellectual Property Rights, Innovation and Public Health. April 3, 2006.

<sup>90</sup> Ibid.

<sup>91</sup> Ibid.

<sup>92</sup> Ibid.

<sup>93</sup> Ibid.

<sup>94</sup> "Fact Sheet: TRIPS and Pharmaceutical Patents." World Trade Organization.

[http://www.wto.org/English/tratop\\_e/trips\\_e/factsheet\\_pharm02\\_e.htm#health](http://www.wto.org/English/tratop_e/trips_e/factsheet_pharm02_e.htm#health)

<sup>95</sup> *Public Health, Innovation and Intellectual Property Rights*. Commission on Intellectual Property Rights, Innovation and Public Health. April 3, 2006.

<sup>96</sup> Ibid.

<sup>97</sup> "Competition Commission Concludes an Agreement with Pharmaceutical Firm." Competition Commission South Africa. December 16, 2003. <http://www.compcom.co.za/resources/media2003.asp?level=1&child=3>

<sup>98</sup> *Public Health, Innovation and Intellectual Property Rights*. Commission on Intellectual Property Rights, Innovation and Public Health. April 3, 2006.

2003 some developed countries, such as Norway and Canada, have amended their domestic legislation to allow their pharmaceutical companies to fulfill compulsory licenses.<sup>99</sup> No country has yet made use of these provisions.<sup>100</sup> Although pharmaceutical companies argue that compulsory licenses may have a negative impact on their willingness to invest in research and development, there is no compelling evidence to suggest these claims are true.<sup>101</sup>

Apart from the problems associated with compulsory licenses, there are other challenges to ensuring access to essential medicines. Once patents expire, for example, it can be difficult for generic producers to immediately begin supplying essential drugs.<sup>102</sup> The TRIPS agreement does allow generic producers to obtain regulatory approval for their medicines while patents are still in force.<sup>103</sup> Although this law has been considerably successful for improving access in developed countries, developing country governments must ensure that their national legislations encourage competition among generic producers.<sup>104</sup>

### ***Conclusion***

Initiatives to make intellectual property rights compatible with access to essential medicines must also be accompanied by measures to improve other healthcare shortcomings. National healthcare systems, which consist of basic infrastructure and human resources among other things, in many countries are poorly developed.<sup>105</sup> An adequate healthcare system must be able to perform four functions. It must generate services and resources, which include human resources, physical capital and medicinal products.<sup>106</sup> There must also be financial backing for these endeavors. Finally, healthcare systems must be directed by effective stewardship in terms of setting health policies and regulating the system.<sup>107</sup> Because these functions are closely related to the prices of medicines, improving the health dilemmas intellectual property rights raise can improve the overall quality of national healthcare systems.

To this end, the Commission's report has provided an extensive summary and examination of the evidence pertaining to intellectual property rights and their impact on access to healthcare. In the report, the Commission also proposed various ways the current situation can be improved. Its recommendations are based on enhancing discovery mechanisms for new therapies, bettering the development process of new drugs, effectively delivering medicines and fostering innovation within developing countries.<sup>108</sup> The fulfillment of these objectives is directly related to the achievement of the Millennium Development Goals, a set of eight goals adopted in September 2000 and collectively known as the Millennium Declaration.<sup>109</sup> Endorsed by 189 countries, the agreement commits member states to reducing poverty and hunger, combating poor health, gender inequality, lack of education, improving access to clean water and limiting environmental degradation.<sup>110</sup> Goal 6, combating HIV/AIDS, tuberculosis, malaria and other diseases also remains particularly related to resolving the dilemma of protecting intellectual property rights while providing access to essential medicines. Even on a broader scale, as the late Director General of the WHO, Dr. Lee Jong Wook, remarked, "Improvements in health are essential if progress is to be made with the other Millennium Development Goals."<sup>111</sup>

### ***Committee Directive***

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<sup>99</sup> Ibid.

<sup>100</sup> Ibid.

<sup>101</sup> Ibid.

<sup>102</sup> Ibid.

<sup>103</sup> *Trade Related Aspects of Intellectual Property Rights*. World Trade Organization.

<sup>104</sup> *Public Health, Innovation and Intellectual Property Rights*. Commission on Intellectual Property Rights, Innovation and Public Health. April 3, 2006.

<sup>105</sup> Ibid.

<sup>106</sup> Ibid.

<sup>107</sup> Ibid.

<sup>108</sup> Ibid.

<sup>109</sup> "Health and the MDGs: background." World Health Organization.

<http://www.who.int/mdg/background/en/index.html>

<sup>110</sup> Ibid.

<sup>111</sup> Ibid.

The Commission's report is extensive, consisting of many recommendations. The focus of this committee is to determine which recommendations member states should actively pursue as the initial step to improve access to medicines while honoring international agreements to protect intellectual property rights. Furthermore, member states must determine appropriate and innovative ways to best implement the chosen recommendations. Each delegate must be familiar with the role his or her country plays in the international debate regarding intellectual property rights and access to essential medicines, paying particular attention to that country's intellectual property rights regime, its need for essential medicines, the quality of access to these and any measures already adopted to improve these conditions.

In addition, delegates should also examine the interaction of the private sector, national governments and the impact on global health. Aside from international trade law, which is not a capability of this body, the international community has very little influence over private corporations. Are there ways the international community can more effectively work with the international health system to positively impact the poor?

## II. Eliminating Malaria

Malaria proves a disease with an extensive international history. Documentation of its existence can be obtained for almost 4,000 years. However, due to a lack of control of the vector causing its transmission: the *Anopheles* mosquito, infection rates have soared to unprecedented levels in recent years. According to the World Health Organization, nearly one million people, mostly those living in sub-Saharan Africa, lose their lives annually to malaria.<sup>112</sup> Despite this staggering statistic, malaria is both preventable and completely curable. In 2000, the international community decided to include malaria as one of the leading threats to development by listing it within Goal 5 of the Millennium Development Goals.<sup>113</sup> Now six years later only small strides have been made in an attempt to control the impact of the disease.

### *History*

With malaria's rich history comes also a clear and widely accepted operational definition.<sup>114</sup> The current international definition began with the discovery of the transmission of the malaria parasite in 1880, during the construction of the Panama Canal.<sup>115</sup> After the discovery of the transmission of the disease, scientists began to study its biology more closely. The World Health Organization,<sup>116</sup> as well as several other respected international health organizations including the Centers for Disease Control and Prevention,<sup>117</sup> define malaria as:

“Transmitted from person to person through the bite of a female *Anopheles* mosquito, malaria is an infection of red blood cells in human populations caused by protozoa of the genus *Plasmodium*. Four species of *Plasmodium* infect humans: *Plasmodium falciparum*, *P. vivax*, *P. malariae* and *P. ovale*. Of these four species, *P. falciparum* infection is the main cause of mortality from malaria throughout the tropics and subtropics, especially in Africa, south of the Sahara (Snow & Gilles 2002).”<sup>118</sup>

Malaria is what is called a vector born disease, in that it is transmitted to humans via an organism that does not directly affect or cause the disease, but carries and passes on disease causing pathogens.<sup>119</sup> It can only be

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<sup>112</sup> “Malaria” The Global Malaria Programme. The World Health Organization. <http://malaria.who.int/>

<sup>113</sup> *General Assembly*.

A/RES/55/2, “United Nations Millennium Declaration.” September 18, 2000.

<sup>114</sup> “History.” The Centers for Diseases Control and Prevention. April 23, 2004.

<http://www.cdc.gov/malaria/history/index.htm#ancienthistory>

<sup>115</sup> “Malaria: The Panama Canal” Centers for Disease Control and Prevention.

[http://www.cdc.gov/malaria/history/panama\\_canal.htm](http://www.cdc.gov/malaria/history/panama_canal.htm)

<sup>116</sup> *Ibid.*

<sup>117</sup> “Malaria.” Centers for Disease Control and Prevention. April 23, 2004. [www.cdc.gov/malaria](http://www.cdc.gov/malaria)

<sup>118</sup> Singer, Burton H. and Teklehaimanot, Awash, ed. *Interim Report of the Task Force 5 Working Group on Malaria*. Section 2: The resurgence and burden of malaria. The UN Millennium Project. p 4. February 2004. [www.unmillenniumproject.org](http://www.unmillenniumproject.org)

<sup>119</sup> “vector.” *On-line Medical Dictionary*. Academic Medical Publishing & CancerWEB. 27 Sep. 2006. <Dictionary.com <http://dictionary.reference.com/browse/vector>>

transmitted through the bite of a malaria-carrying mosquito. It is neither an airborne, nor communicable disease and therefore, cannot be transmitted from person to person. Vector borne illnesses can be bacterial, viral or parasitic. Other examples include Dengue Fever, Yellow Fever, Plague, Japanese Encephalitis, Lyme Disease and West Nile Virus.<sup>120</sup>

When a malaria-carrying mosquito bites a human, mature *Plasmodium* parasites are transferred to the individual's bloodstream. The parasites then travel to the individual's liver where they multiply and continue to multiply in the bloodstream.<sup>121</sup> Multiplication of new parasites occurs very quickly, damaging red blood cells.<sup>122</sup> It is within this phase of the disease that a victim will begin to exhibit symptoms,<sup>123</sup> usually within 7-30 days of infection depending on the type of *Plasmodium*.<sup>124</sup>

In both children and adults, the most common symptoms of malaria infection include: "shivering, severe pain in the joints, headaches, vomiting, generalized convulsions and coma, but also coughing and diarrhea."<sup>125</sup> However, the most classic symptom and causes the most concern remains a very high fever. The individual strain of malaria and type of *Plasmodium* will impact the severity of these symptoms. In most cases, the symptoms of malaria are very mild and classified as "uncomplicated." In countries where malaria is not endemic, victims often feel like they merely have influenza.<sup>126</sup> The Centers for Disease Control and Prevention assert that "Conversely, in countries where malaria is frequent, residents often recognize the symptoms as malaria and treat themselves without seeking diagnostic confirmation ("presumptive treatment")."<sup>127</sup>

It is important to note that not all forms of malaria are deadly. The infection and resulting symptoms in most cases cause the victim to lose days of work and productivity due to the illness. Because there is insufficient data regarding the true incidence of the disease, it is difficult to accurately estimate the economic cost either of an individual or on a national level.<sup>128</sup> However, Global Health Reporting, a conglomerate of international public health sources asserts: "Overall, malaria accounts for 10 percent of Africa's disease burden, and it is estimated that malaria costs the continent more than \$12 billion annually. Although Africa is hardest hit, it is estimated that more than one-third of clinical malaria cases occur in Asia and 3 percent occur in the Americas. The estimated cost to effectively control malaria in the 82 countries with the highest burden is about \$3.2 billion annually."<sup>129</sup>

Although the entire population of a malaria endemic country is at risk, pregnant women and children under-five prove to be the most endangered populations. According to the United Nations Children's Fund (UNICEF), "A child is killed by malaria every 30 seconds, ...accounting for one in five childhood deaths [in Africa]."<sup>130</sup> Aside from the primary infection, severe anemia resulting from the disease can contribute to growth retardation and

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<sup>120</sup> Division of Vector-Born Infectious Diseases. Center for Disease Control and Prevention. <http://www.cdc.gov/ncidod/dvbid/>

<sup>121</sup> "Malaria: Biology" Centers for Disease Control and Prevention. <http://www.cdc.gov/malaria/biology/index.htm>

<sup>122</sup> "Malaria: The Scope of the Problem." The United Nations Children's Fund. May 2006. <http://childinfo.org/areas/malaria/>

<sup>123</sup> "Malaria: Biology" Centers for Disease Control and Prevention. <http://www.cdc.gov/malaria/biology/index.htm>

<sup>124</sup> "Malaria: Disease." Centers for Disease Control and Prevention. May 2006. <http://www.cdc.gov/malaria/disease.htm>

<sup>125</sup> "Malaria: The Scope of the Problem." The United Nations Children's Fund. May 2006. <http://childinfo.org/areas/malaria/>

<sup>126</sup> "Uncomplicated and Severe Malaria" Centers for Disease Control and Prevention. May 2006. <http://www.cdc.gov/malaria/disease.htm#uncomplicated>

<sup>127</sup> Ibid.

<sup>128</sup> "Estimates In the Burden Of Malaria In Africa In Children Under the Age of Five Years." The World Health Organization: Child Health Epidemiology Reference Group White Paper. April 2005. [http://www.who.int/child-adolescent-health/New\\_Publications/CHILD\\_HEALTH/EPI/CHERG\\_Malaria\\_Morbidity.pdf](http://www.who.int/child-adolescent-health/New_Publications/CHILD_HEALTH/EPI/CHERG_Malaria_Morbidity.pdf)

<sup>129</sup> "Malaria: State of the Pandemic." <http://www.globalhealthreporting.org/malaria.asp>

<sup>130</sup> "Malaria." The United Nations Children's Fund. [http://www.unicef.org/health/index\\_malaria.html](http://www.unicef.org/health/index_malaria.html)

development. In some children malaria can cause lasting neurological defects.<sup>131</sup> Yet, to truly understand the impact of the disease, it is important to examine it in context of a particular society.

### *Current Situation*

#### *Case Study – Kenya*

While once ranked 134<sup>th</sup> on the United Nations Human Development Report's Human Development Index (HDI) in 2002,<sup>132</sup> Kenya has now slipped to 154<sup>th</sup> of 177 just three years later.<sup>133</sup> Of the 34 million people living within its borders, around 58 percent live below the international poverty line of \$1 per day.<sup>134</sup> Low income and food deficiency prove as key barriers to Kenya's development. But without adequate health, an individual's ability to work in order to provide food and income for his/her family is greatly diminished.

Although multiple actors in Kenya have put forth an effort to meet its Millennium Development Goals by 2015, the country as a whole is slipping backward in a few key areas. Infant and maternal mortality have seen increasing trends since the MDGs were adopted in 2000. Currently 111 of every 1,000 children under five years old die annually.<sup>135</sup> Maternal mortality soars at 1,000 deaths per 100,000 pregnancies.<sup>136</sup> The average overall life expectancy is a grim 47.2 years. Although acute respiratory infections, malnutrition, diarrhoeal diseases, HIV and tuberculosis remain leading causes of both morbidity<sup>137</sup> and mortality, the leading cause surfaces as malaria.<sup>138</sup> This disease particularly affects pregnant women and children under five.<sup>139</sup> Noting these linkages, malaria cannot be discussed apart from the problems of maternal and under-five mortality.

In Kenya, the risk for infections of the *P. falciparum* strain of malaria remains equally dangerous year round. Approximately 20-25 percent of all deaths in Kenya can be attributed to malaria.<sup>140</sup> According to the United Kingdom's Department for International Development: "Up to 28 million Kenyans (70 percent of the population) are at risk and at any one time 1.5 million pregnant women are susceptible. A reduction in under-five mortality is a reliable indicator of the impact of a malaria intervention."<sup>141</sup>

Some of the leading causes of infant mortality, anemia and low birth weight, can be attributed to maternal infection of malaria.<sup>142</sup> In addition, much like HIV, the mother can pass the parasite on to her child as the two share blood.<sup>143</sup> Even in times where traditional symptoms are not manifested, the presence of the parasite in the bloodstream causes suppression in the immune system and may later cause neurological after effects and impaired learning ability.<sup>144</sup>

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<sup>131</sup> Ibid.

<sup>132</sup> Deepening Democracy in a Fragmented World: The 2002 Human Development Report. The United Nations Development Programme: Geneva, Switzerland: 2002.

<sup>133</sup> International Cooperation at a Crossroads: Aid, Trade and Security in an Unequal World: The 2005 Human Development Report. The United Nations Development Programme: Geneva, Switzerland: 2005.

<sup>134</sup> "Kenya: Health Action in Crisis." The World Health Organization Website. The World Health Organization: Geneva, Switzerland, 2006. <http://www.who.int/hac/crises/ken/en/>

<sup>135</sup> "Country Profile: Kenya." The World Health Organization, Geneva, Switzerland: May, 2006. [http://www.who.int/hac/crises/ken/Kenya\\_may06.pdf](http://www.who.int/hac/crises/ken/Kenya_may06.pdf)

<sup>136</sup> Ibid.

<sup>137</sup> Note: In epidemiology, the morbidity rate is a ratio that measures the incidence and prevalence of a specific disease. Within the framework of a given time period (typically, but not necessarily, one year) it gives the number of people who are afflicted with that disease per unit of population. It is usually expressed as a number of people afflicted per 1,000, 10,000, or 100,000 people.

<sup>138</sup> "Country Profile: Kenya." The World Health Organization, Geneva, Switzerland: May, 2006. [http://www.who.int/hac/crises/ken/Kenya\\_may06.pdf](http://www.who.int/hac/crises/ken/Kenya_may06.pdf)

<sup>139</sup> Ibid.

<sup>140</sup> "The Fight Against Malaria in Kenya." The Department for International Development (DFID): London, England: August 3, 2005. <http://www.dfid.gov.uk/news/files/pressreleases/bednets-info.asp>

<sup>141</sup> Ibid.

<sup>142</sup> "Malaria." The United Nations Children's Fund. [http://www.unicef.org/health/index\\_malaria.html](http://www.unicef.org/health/index_malaria.html)

<sup>143</sup> "Malaria in Pregnancy Factsheet." Roll Back Malaria Campaign. The World Health Organization. [http://www.rbm.who.int/cmc\\_upload/0/000/015/369/RBMInfosheet\\_4.htm](http://www.rbm.who.int/cmc_upload/0/000/015/369/RBMInfosheet_4.htm)

<sup>144</sup> "MSF Fact Sheet on Malaria." Medicins Sans Frontieres. April 22, 2004. <http://www.accessmed-msf.org/prod/publications.asp?scentid=22420041140423&contenttype=PARA&>

With the highest incidence of malaria occurring in the developing world where many other infectious diseases are also prevalent, possessing the malaria parasite surfaces as a compounding factor contributing to increased morbidity, co-morbidity and/or mortality.<sup>145</sup>

### ***The Kenyan Plan to Address Malaria***

In a joint effort with the World Health Organization, the Kenyan Ministry of Health launched an extensive ‘Malaria Control Programme’ aimed to “reduce the level of malaria infection and consequent death in Kenya by 30 percent by the year 2006 and to sustain that improved level of control to 2010.”<sup>146</sup> The program is aimed at the following for strategic approaches: 1) access to quick and effective treatment, 2) provision of prevention measures to pregnant women, 3) ensure the use of insecticide treated bed nets (ITNs) to at-risk populations, and 4) improving preparedness and response.

Relying primarily on education and increased data collection and surveillance, the Kenyan Ministry of Health is attempting to increase the capacity of it’s infrastructure to more readily adapt to the potential of a resurfacing and continued malaria epidemic. Data collection methods are already in place, but will need to continue to be strengthened throughout the course of the programme. Currently there are a mere 26 officers working across the country to implement these objectives. Additional resources will need to be mobilized in order to deliver both preventative measures and treatments to vulnerable populations across the country.

Although the Kenyan Ministry of Health has excellent beginnings regarding the shape and the scope of it’s programme, it also asserts the following:

“The capacity to forecast malaria epidemics is not yet established in the country. The Ministry of Health will have to rely on monitoring malaria trends in the epidemic prone districts using the weekly data collected from facilities. With the extension of data collection peripheral health units using the threshold charts it has become possible to detect early upsurge in malaria cases and based on the prevailing climatic conditions the last two months it is possible to predict a serious upsurge breaking through to epidemic proportions. This makes it easier for the Division of Malaria Control to inform districts and partners with a degree of certainty of a pending possible emergency.”<sup>147</sup>

### ***Understanding Life in Kenya: the Key to Lasting Success***

It is also important to note that Kenya remains a tribe-based society. While some travel to urban centers to work, they regard their homes as the villages where they were born or that of their spouse. The vast majority of these villages are located in rural areas, lacking electricity, clean water and sanitation or paved roads. Most are subsistence farmers or nomadic herdsman whose food security is at the mercy of the weather patterns. This way of life generates little income, thus making health care an unreachable goal.

In order to fully implement the Malaria Control Programme, the Kenyan Ministry of Health needs not only additional human capital, but also great resources such as vehicles to ensure the delivery of bed nets, adequate malaria education and drugs to those that need it most: the rural poor. Although the program focuses primarily on pregnant women and children under five, the death of a patriarch could prove far more devastating. For example, in the Luo tribe women do not often remarry if their husband dies; yet they are left to support both themselves and their children without economic means.

Professionals in international development, regard health education as one of the most difficult components of development as a shift in human behavior is needed for success. It is not enough to simply deliver vector-controlling elements such as insecticide treated bed nets. The population must understand how to properly use these items and why it is important. Follow up must be done to ensure behavioral change and that the items of vector-

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<sup>145</sup> Ibid.

<sup>146</sup> “Malaria Control Programme.” The Kenyan Ministry of Health Website: Nairobi, Kenya: 2006.  
<http://www.health.go.ke/>

<sup>147</sup> Ibid.

control are being used properly. It remains difficult to prove to a population that a preventative measure is indeed working because the results prove intangible and are not immediate. While the Kenyan Ministry of Health understands these factors it lacks the resources to fully implement this type of program. Greater cooperation between multi-lateral health organizations, international health NGOs and the Kenyan government could garner greater success to this country-initiated program.

### ***Actions of the United Nations***

In addition to its mention amongst the Millennium Development Goals, there are many international initiatives that have already been set into place to combat malaria. Among the most notable are the Roll Back Malaria Campaign and the Global Fund to Fight AIDS, TB and Malaria.

The Roll Back Malaria Campaign began in 1998 as a cooperative partnership between the World Health Organization, United Nations Children's Fund, the World Bank and the United Nations Development Programme.<sup>148</sup> Its goal is to achieve the malaria portion of the Millennium Development Goals, by halving the world's population infected with malaria. Yet, because the Campaign began in 1998, its completion target is 2010, instead of the 2015 date asserted for the rest of the MDGs. The Campaign brings together multiple stakeholders including: nations affected with malaria as well as those where it is not endemic, civil society organizations and private corporations.<sup>149</sup> The partnership seen in the Roll Back Malaria Campaign asserts that its key role remains: "to lead continuing advocacy campaigns to raise awareness of malaria at the global, regional, national and community levels, thus keeping malaria high on the development agenda, mobilizing resources for malaria control and for research into new and more effective tools (including a vaccine), and ensuring that vulnerable individuals are key participants in rolling back malaria."<sup>150</sup>

Much like the Roll Back Malaria Campaign, the Global Fund to Fight AIDS, TB and Malaria partners national governments, civil society organizations and those in the private sector.<sup>151</sup> However, it acts solely as a "financial instrument, not an implementation entity."<sup>152</sup> The Global Fund represents a unique method of galvanizing international funding initiatives without going through other previously existing mechanisms that may be perceived as politically undesirable or ineffective.

### ***Conclusion and Committee Directive***

Although recent international attention has created greater awareness and financial resources for combating malaria, much is still needed in order to truly tackle the problem. Winning the fight against malaria resides within capacity building and the development and execution of programs. The technology is available, yet it is getting this technology to the population in need that remains the chief barrier. Understanding these points, what are some innovative ways malaria programs can be implemented toward populations at risk? How can the international community help build state capacity and health delivery systems? Can this be done without infringing on sovereignty? How? How does malaria impact your nation? What is your nation doing to combat malaria? Could it be doing more? If so, what and how? What's stopping this from happening? Are there any international or state programs to combat malaria that should be scaled up? How should the international community go about doing this? What is the World Health Organization's role in combating malaria? Should this role be strengthened? How?

In your research you should attempt to answer these questions from your nation's unique vantage point. Take into account the many factors that may pull attention away from making the fight against malaria high amongst national and/or international priorities. In your position papers, you should assert not only your nation's perspective, but also creative ideas for solving this problem.

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<sup>148</sup> "About Us" The Roll Back Malaria Campaign. <http://www.rollbackmalaria.org/>

<sup>149</sup> Ibid.

<sup>150</sup> Ibid.

<sup>151</sup> "How the Fund Works." The Global Fund to Fight AIDS, TB and Malaria.

<http://www.theglobalfund.org/en/about/how/>

<sup>152</sup> Ibid.

### III. Responding to Avian Influenza and Other Deadly Diseases

#### *Introduction*

On May 8, 2006, Indonesian health officials confirmed their country's 33rd case of human infection with the H5N1 avian influenza virus.<sup>153</sup> The victim's case was fatal, bringing the total number of Indonesian deaths from avian influenza to 25.<sup>154</sup> On May 12, 2006, on the heels of Indonesia's announcement, Djibouti confirmed its first incidence of human infection with the H5N1 virus.<sup>155</sup> The patient, a two-year-old girl, was tested after a small number of chicken deaths prompted the Djibouti government to initiate a surveillance program.<sup>156</sup> She is the first reported case in the Horn of Africa.<sup>157</sup> On a global scale however, she is the sixty-fourth reported case in 2006 alone.<sup>158</sup> The number of reported cases for this year is already over two-thirds of the 95 reported cases in 2005.<sup>159</sup> The cases are geographically dispersed and have affected ten countries: Azerbaijan, Cambodia, China, Djibouti, Egypt, Indonesia, Iraq, Thailand, Turkey and Vietnam.<sup>160</sup> Where the avian flu will strike next and whether local officials will be prepared to respond is uncertain.

#### *Influenza and Pandemic Influenza*

According to the World Health Organization:

“influenza is caused by a virus that primarily targets the upper respiratory tract, consisting of the nose, throat and bronchi. The infection usually lasts for about a week. It is characterized by sudden onset of high fever, myalgia, headache and severe malaise, non-productive cough, sore throat, and rhinitis. Most people recover within one to two weeks without requiring any medical treatment. In the very young, the elderly and people suffering from medical conditions such as lung diseases, diabetes, cancer, kidney or heart problems, influenza poses a serious risk. In these people, the infection may lead to severe complications of underlying diseases, pneumonia and death.”<sup>161</sup>

For many, especially those in the developed world where medicines are readily available to treat and suppress these symptoms, contracting influenza is not considered life threatening or serious. However, in some parts of the world, particularly those stricken by poverty, influenza is not as readily treatable. Although influenza viruses come in varieties A, B and C, it is the A virus that is of primary concern.<sup>162</sup> The influenza viruses that cause the most deaths, A(H1N1) and A(H3N2), are highly contagious and thus spread rapidly around the world in seasonal epidemics.<sup>163</sup> Although it is difficult to precisely measure the impact of influenza, particularly in developing countries, estimates suggest that the virus kills between 250,000 and 500,000 people annually.<sup>164</sup> Because the virus has the capacity to marginally change its genetic composition influenza vaccines, the principal method of reducing outbreaks, have to be adapted annually.<sup>165</sup>

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<sup>153</sup> “Avian Influenza-Situation in Indonesia- Update 11.” World Health Organization. May 8, 2006.  
[http://www.who.int/csr/don/2006\\_05\\_08/en/index.html](http://www.who.int/csr/don/2006_05_08/en/index.html)

<sup>154</sup> Ibid.

<sup>155</sup> “Avian Influenza- Situation in Djibouti.” World Health Organization. May 12, 2006.  
[http://www.who.int/csr/don/2006\\_05\\_12/en/index.html](http://www.who.int/csr/don/2006_05_12/en/index.html)

<sup>156</sup> Ibid.

<sup>157</sup> Ibid.

<sup>158</sup> “Cumulative Number of Confirmed Human Cases of Avian Influenza A/(H5N1).” World Health Organization. May 12, 2006.  
[http://www.who.int/csr/disease/avian\\_influenza/country/cases\\_table\\_2006\\_05\\_12/en/index.html](http://www.who.int/csr/disease/avian_influenza/country/cases_table_2006_05_12/en/index.html)

<sup>159</sup> Ibid.

<sup>160</sup> Ibid.

<sup>161</sup> “Influenza.” World Health Organization. <http://www.who.int/mediacentre/factsheets/fs211/en/>

<sup>162</sup> *Avian Influenza: Assessing the Pandemic Threat*. World Health Organization. 2005.

<sup>163</sup> “Influenza.” World Health Organization. <http://www.who.int/mediacentre/factsheets/fs211/en/>

<sup>164</sup> Ibid.

<sup>165</sup> Ibid.



Although minor genetic changes in the virus are commonplace, the influenza A virus has only drastically modified its genetic composition three times in the last century.<sup>166</sup> In each instance, the results have been catastrophic and the outbreaks are hence classified as influenza pandemics. Pandemics are caused by highly contagious viruses, to which humans lack almost all immunity.<sup>167</sup> This enables pandemics to distinguish themselves from other disease outbreaks by two attributes: they spread rapidly on a global scale and they infect more than one quarter of the entire population.<sup>168</sup>

Over the course of the 20<sup>th</sup> century there have been three influenza pandemics that have wreaked havoc on the earth's population. During this century's first influenza pandemic of 1918-1919, the modified virus killed 40-50 million people in what became known as the "Spanish Influenza."<sup>169</sup> This pandemic, which occurred shortly after the horrors of World War I, is considered the most fatal disease outbreak in history.<sup>170</sup> An estimated 675,000 Americans died from the pandemic, which is ten times the number that perished during the war.<sup>171</sup> Indeed, the average lifespan in America decreased by 10 years during that period.<sup>172</sup> Once a person contracted the virus, it was possible for him or her to die within hours.<sup>173</sup> Due to the large volume of casualties funerals were limited to fifteen minutes per service.<sup>174</sup> Although the pandemic only lasted one year, the virus contaminated all regions of the earth, following trade and shipping routes. By the time scientists developed treatments for prevention and cure, the death toll had reached astronomical proportions.

Between 1957 and 1958 the second pandemic, the "Asian Influenza," claimed two million lives.<sup>175</sup> It originated in China in early 1957, although the first case was only reported in May of that year.<sup>176</sup> By the end of the month the virus had spread to Japan, Malaysia, and Indonesia.<sup>177</sup> Shortly thereafter the infection spread to the western hemisphere. The highest rates of contamination were among school-aged children, primarily because they interact in crowded environments.<sup>178</sup> In 1957 an estimated 50 percent of British schoolchildren had contracted the virus.<sup>179</sup> In residential areas this figure was as high as 90 percent.<sup>180</sup> It was after this pandemic that global health officials recognized the importance of establishing a warning and detection mechanism for future pandemics.<sup>181</sup> The third instance of pandemic influenza, the "Hong Kong Influenza" of 1968, killed 1 million people, although it was the smallest recorded influenza pandemic.<sup>182</sup> Persons over the age of 65 suffered the brunt of the outbreak.<sup>183</sup> These pandemics have affected the world like natural disasters. They started without warning, spread through different nations with remarkable speed, and damaged anything susceptible in their paths.<sup>184</sup> Oftentimes, pandemics sweep through the global population in second or third rounds, thereby intensifying their impact.<sup>185</sup> Indeed, both the "Spanish Influenza" and the "Asian Influenza" occurred in waves.<sup>186</sup>

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<sup>166</sup> Ibid.

<sup>167</sup> *Avian Influenza: Assessing the Pandemic Threat*. World Health Organization. 2005.

<sup>168</sup> Ibid.

<sup>169</sup> "Ten Things You Need to Know About Pandemic Influenza." World Health Organization. October 14, 2005.  
<http://www.who.int/csr/disease/influenza/pandemic10things/en/>

<sup>170</sup> *Avian Influenza: Assessing the Pandemic Threat*. World Health Organization. 2005.

<sup>171</sup> "The 1918 Influenza Pandemic." Stanford University. <http://www.stanford.edu/group/virus/uda/>

<sup>172</sup> Ibid.

<sup>173</sup> Ibid.

<sup>174</sup> Ibid.

<sup>175</sup> *Avian Influenza: Assessing the Pandemic Threat*. World Health Organization. 2005.

<sup>176</sup> "Influenza." Medical Ecology.  
<http://www.medicalecology.org/diseases/influenza/influenza.htm#sect2.5>

<sup>177</sup> Ibid.

<sup>178</sup> "Pandemic Influenza." Global Security.  
[http://www.globalsecurity.org/security/ops/hsc-scen-3\\_pandemic-influenza.htm](http://www.globalsecurity.org/security/ops/hsc-scen-3_pandemic-influenza.htm)

<sup>179</sup> Ibid.

<sup>180</sup> Ibid.

<sup>181</sup> "Influenza." Medical Ecology.  
<http://www.medicalecology.org/diseases/influenza/influenza.htm#sect2.5>

<sup>182</sup> *Avian Influenza: Assessing the Pandemic Threat*. World Health Organization. 2005.

<sup>183</sup> "Influenza." Medical Ecology.  
<http://www.medicalecology.org/diseases/influenza/influenza.htm#sect2.5>

<sup>184</sup> *Avian Influenza: Assessing the Pandemic Threat*. World Health Organization. 2005.

<sup>185</sup> Ibid.

<sup>186</sup> Ibid.

From analyzing the three pandemic outbreaks of the last century and other historical cases, the WHO has identified some important aspects about pandemics. First, pandemics behave very unpredictably in terms of fatalities, seriousness of the illness and patterns of global transmission.<sup>187</sup> The seriousness of the pandemic is often judged by its ability to cause severe infection in young children and the elderly. Milder pandemics generally affect these age groups disproportionately.<sup>188</sup> Although pandemics differ from one another, they do share one important attribute: the number of cases increases exponentially in very short periods of time.<sup>189</sup> These exponential increases occur in waves. Regions and age groups that avoided the first wave prove more susceptible to infection during the second wave.<sup>190</sup> Studies of pandemic influenza indicate that pandemics tend to originate in the densely populated regions of Asia where humans live close to livestock such as ducks and pigs.<sup>191</sup>

The WHO has also compiled key facts about pandemics once they have erupted. Preventing the international spread of pandemics is impossible, however, delaying it through public health measures is beneficial. Some methods that have proved effective are banning public congregations and closing places of education. By delaying the spread of a pandemic, the outbreak persists over a longer period, with fewer cases at any given moment. In these circumstances, health facilities can treat patient more effectively because they are not overcrowded and understaffed.<sup>192</sup>

### ***Avian Influenza: A Future Pandemic?***

Avian influenza, which occurs in various genetic subtypes, is an infectious disease in birds that occurs worldwide.<sup>193</sup> Although scientists believe that all birds are vulnerable to becoming infected, some wild birds carry the virus without displaying any harmful effects. Other infected birds, including domestic poultry, develop symptoms of the infection. These symptoms come in two forms: one is widespread and mild and the other is uncommon and mortal. The symptoms of the first form include disheveled feathers, lower egg production and minor effects on the respiratory system. The second, highly pathogenic form infects various organs of the bird; spreads rapidly to other animals, and can reach a death rate of 100 percent within two days.<sup>194</sup> These severe effects have earned the second form of the disease the name “chicken Ebola.”<sup>195</sup> The virus circulates easily between different farms, primarily by roaming live birds and humans. The virus can also attach itself to human clothing and vehicles. Due to genetic evidence, scientists are almost certain that migrant birds, particularly waterfowl, are responsible for transmitting the virus on a global scale. As they travel, they infect local poultry farms on their course.<sup>196</sup> This mode of transmission renders all countries susceptible to infected poultry, especially considering the vast range of migratory birds’ traveling patterns. Outbreaks in poultry of the severe H5N1 virus, which is of current concern to the international community, have been reported in many different countries. The most recent, and largest to date, bird outbreaks of the H5N1 virus originated in southeast Asia in 2003 and have since occurred in nine other countries on the Asian continent. Thereafter the virus spread to poultry in parts of Europe, and Africa.<sup>197</sup> Prior to the 2003 infections, major outbreaks of severe avian influenza were considered rare. Excluding the most recent strain of the avian influenza virus, of the 24 outbreaks reported since 1959, 14 occurred in the last decade.<sup>198</sup> This total includes the most recent outbreak, which began in 2003.<sup>199</sup> The frequency with which avian influenza is occurring in the global community seems to be rising.

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<sup>187</sup> Ibid.

<sup>188</sup> Ibid.

<sup>189</sup> Ibid.

<sup>190</sup> Ibid.

<sup>191</sup> Ibid.

<sup>192</sup> Ibid.

<sup>193</sup> “Avian Influenza-Fact Sheet.” World Health Organization. February 2006.

[http://www.who.int/mediacentre/factsheets/avian\\_influenza/en/](http://www.who.int/mediacentre/factsheets/avian_influenza/en/)

<sup>194</sup> “Key Facts About Avian Influenza.” Center for Disease Control.

<http://www.cdc.gov/flu/avian/gen-info/facts.htm>

<sup>195</sup> “Avian Influenza-Fact Sheet.” World Health Organization. February 2006.

[http://www.who.int/mediacentre/factsheets/avian\\_influenza/en/](http://www.who.int/mediacentre/factsheets/avian_influenza/en/)

<sup>196</sup> Ibid.

<sup>197</sup> Ibid.

<sup>198</sup> Ibid.

<sup>199</sup> Ibid.

Although the influenza virus usually limits itself to one species, of the hundreds of strains of avian influenza four developed the capacity to infect humans: H5N1, H7N3, H7N7, and H9N2.<sup>200</sup> Most of these viruses only caused mild symptoms and few cases of severe illness in humans. The H5N1 virus, however, is greatly disconcerting because it has triggered by far the most cases of serious disease and death.<sup>201</sup> The disease in humans is difficult to detect initially because symptoms include those of human influenza, such as fever, coughing and a sore throat.<sup>202</sup> The symptoms can, however, range in severity. Some patients have developed eye infections and severe respiratory disease.<sup>203</sup> Because these symptoms are not specific to the H5N1 virus, infection must be confirmed with a laboratory test.<sup>204</sup>

While the current prevalence of avian influenza has caused international concern, it is more alarming that the virus has the potential to cause another influenza pandemic. There is only one condition that the H5N1 virus must meet before it can be classified as a pandemic: it must develop the capacity to spread efficiently and sustainably among humans.<sup>205</sup> Currently, all evidence suggests that the recent human infections with the H5N1 virus occurred through direct contact with diseased birds.<sup>206</sup> Studies do, however, indicate that human infection is theoretically possible upon contact with infected bodies of water, particularly if the infected migratory birds frequent the area.<sup>207</sup> There are no instances of such infections to date and the H5N1 virus's potential to cause a pandemic through the efficient spread among humans is still of greatest concern to the international community.<sup>208</sup> There are two ways the virus can develop the ability to spread efficiently from human to human. On the one hand, it can achieve this through a "reassortment" mechanism, whereby it exchanges genetic material with humans.<sup>209</sup> Alternatively, the virus could gradually mutate, developing the ability to bind to human cells. As this process continues, it would become more able to spread sustainably.<sup>210</sup>

Considering the health crisis pandemic influenza could cause, monitoring the evolution of the H5N1 is crucial, especially since the virus has indeed undergone genetic changes.<sup>211</sup> Studies indicate that, over time, the virus has become more lethal in infected animals, although it has not yet fully adapted to birds.<sup>212</sup> Scientists have also detected genetic adaptations of the virus in humans. Although these mutations are not yet completely understood, they have not altered the nature of the disease in humans, nor are they considered permanent.<sup>213</sup>

### ***The Response of the WHO: The Epidemic and Pandemic Alert and Response System***

The WHO has assumed primary responsibility for orchestrating the response to all reported cases of human infection with regards to the H5N1 virus and to the threat of a future pandemic.<sup>214</sup> This Committee will conduct its activities to fulfill this mission within the scope of the Epidemic and Pandemic Alert and Response (EPR) system.<sup>215</sup> EPR was created based on a vision for an "integrated global alert and response system for epidemics and other health

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<sup>200</sup> Ibid.

<sup>201</sup> *Avian Influenza: Assessing the Pandemic Threat*. World Health Organization. 2005.

<sup>202</sup> "Questions and Answers about Avian Influenza." Center for Disease Control.

<http://www.cdc.gov/flu/avian/gen-info/qa.htm>

<sup>203</sup> Ibid.

<sup>204</sup> Ibid.

<sup>205</sup> *Avian Influenza: Assessing the Pandemic Threat*. World Health Organization. 2005.

<sup>206</sup> "Avian Influenza-Fact Sheet." World Health Organization. February 2006.

[http://www.who.int/mediacentre/factsheets/avian\\_influenza/en/](http://www.who.int/mediacentre/factsheets/avian_influenza/en/)

<sup>207</sup> *Review of Latest Available Evidence on Risks to Human Health Through Potential Transmission of Avian Influenza (H5N1) through Water and Sewage*. World Health Organization. March 24, 2006.

<sup>208</sup> Ibid.

<sup>209</sup> "Questions and Answers about Avian Influenza." Center for Disease Control.

<http://www.cdc.gov/flu/avian/gen-info/qa.htm>

<sup>210</sup> Ibid.

<sup>211</sup> "Avian Influenza: Significance of Mutations in the H5N1 Virus." World Health Organization.

[http://www.who.int/csr/2006\\_02\\_20/en/index.html](http://www.who.int/csr/2006_02_20/en/index.html)

<sup>212</sup> Ibid.

<sup>213</sup> Ibid.

<sup>214</sup> "Epidemic and Pandemic Alert and Response." World Health Organization.

<http://www.who.int/csr/en/>

<sup>215</sup> Ibid.

emergencies based on strong national public health systems and capacity and an effective international system for coordinated response.”<sup>216</sup> The sixteen diseases that EPR tackles are very diverse, yet all have the potential to cause severe public health disasters. They include anthrax, avian influenza, Crimean-Congo hemorrhagic fever, Dengue/dengue hemorrhagic fever, Ebola hemorrhagic fever, Hepatitis, influenza, Lassa Fever, Marburg hemorrhagic fever, Meningococcal disease, plague, Rift Valley fever, Severe Acute Respiratory Syndrome, Smallpox, Tularemia and yellow fever.<sup>217</sup>

To battle these diseases the EPR system performs six primary tasks. First, it assists member states for the establishment of national capabilities for epidemic preparedness and reaction in the context of the International Health Regulations, which is a legal system designed to protect against the risks posed by cholera, plague and yellow fever.<sup>218</sup> Second, the EPR provides backing to national and international training programs for epidemic awareness and reaction.<sup>219</sup> As a separate function, EPR also supports national and international training programmes aimed at pandemic and seasonal influenza awareness and reaction.<sup>220</sup> Fourth, for each epidemic-prone disease EPR covers, it develops a standardized approach for awareness and reaction.<sup>221</sup> Another core role is to improve biosafety, biosecurity and preparedness for outbreaks of pathogens, which are agents that cause disease and include bacteria and viruses.<sup>222</sup> Finally, EPR assists the regional operations aimed at improving epidemic preparedness and response tactics.<sup>223</sup>

In order to complete these six functions EPR gathers epidemic intelligence, a process known as systemic event detection.<sup>224</sup> The WHO gathers official and unofficial reports from a wide range of sources, including ministries of health, national institutes of public health, WHO Regional and Country Offices, WHO collaborating centers, civilian and military laboratories, academic institutes and nongovernmental organizations (NGOs).<sup>225</sup> WHO also gathers information from informal sources, such as electronic discussion groups.<sup>226</sup> These sources account for over 60 percent of initial outbreak information.<sup>227</sup> Of particular importance in finding these sources is the Global Public Health Intelligence Network (GPHIN), a tool developed by the WHO and Health Canada to continuously search electronic media sources for information concerning infectious outbreaks.<sup>228</sup>

Once EPR has received epidemic data it must verify the information received and convert it to meaningful intelligence.<sup>229</sup> This is done by evaluating the information according to six criteria: whether the disease is known, its potential to transcend national borders, the severity of its health impact or the rate of death it causes, its potential to affect international travel and trade, the strength of national capabilities to enclose the outbreak within national borders and whether the disease was released intentionally or unintentionally.<sup>230</sup> To manage and disseminate the information it collects EPR includes all reports with global ramifications, whether verified or under verification, in its weekly WHO Outbreak Verification List.<sup>231</sup> The Outbreak Verification is electronically transmitted to all 192

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<sup>216</sup> Ibid.

<sup>217</sup> “Diseases Covered by EPR.” World Health Organization.

<http://www.who.int/csr/disease/en/>

<sup>218</sup> “Frequently Asked Questions about the International Health Regulations.” World Health Organization.

<http://www.who.int/csr/ihr/howtheywork/faq/en/index.html>

<sup>219</sup> “Epidemic and Pandemic Alert and Response.” World Health Organization.

<http://www.who.int/csr/en/>

<sup>220</sup> Ibid.

<sup>221</sup> Ibid.

<sup>222</sup> Ibid.

<sup>223</sup> Ibid.

<sup>224</sup> “Epidemic Intelligence- systemic event detection.” World Health Organization.

<http://www.who.int/csr/alertresponse/epidemicintelligence/en/index.html>

<sup>225</sup> Ibid.

<sup>226</sup> Ibid.

<sup>227</sup> Ibid.

<sup>228</sup> Ibid.

<sup>229</sup> “Event Verification.” World Health Organization.

<http://www.who.int/csr/alertresponse/verification/en/index.html>

<sup>230</sup> Ibid.

<sup>231</sup> “Information Management and Verification.” World Health Organization.

<http://www.who.int/csr/alertresponse/infomanagement/en/index.html>

WHO member states, disease experts and a variety of health-related institutions.<sup>232</sup> Once an outbreak has been verified, WHO Disease Outbreak News, a section of the WHO website, releases official information about the report.<sup>233</sup>

Once an outbreak has been verified, EPR initiates a coordinated, swift outbreak response.<sup>234</sup> The WHO offers support in the form on-the-spot investigations, confirmation of diagnosis, handling of harmful pathogens, case detection, patient care, containment and provision of staff and supplies.<sup>235</sup> The resources for these operations stem both from the WHO and the Global Outbreak Alert and Response Network (GOARN).<sup>236</sup> GOARN is a collaboration of scientific institutions in member states, medical and surveillance initiatives, networks of laboratories, UN organs, such as the United Nations Children’s Fund (UNICEF) and the United Nations High Commission for Refugees (UNHCR), the Red Cross and various NGOs. GOARN sends a group to investigate disease outbreaks within 24 hours of a report’s verification.<sup>237</sup>

### ***WHO Global Influenza Program***

As part of the EPR program the WHO pays particular attention to influenza through its Global Influenza Program. The program’s mission is to reduce death and disease caused by annual influenza outbreaks and to prepare for the next influenza pandemic.<sup>238</sup> In order to achieve this mission the WHO relies extensively on its Influenza Surveillance and Control measures, which include efficient and timely influenza monitoring in all regions, matching currently circulating viruses to available vaccines, supporting national influenza management programs and ensuring the availability of vaccines during pandemics and epidemics.<sup>239</sup> The Global Influenza Program operates under several key objectives. The WHO is continuously striving to enhance the quality and range of its surveillance techniques as well as the speed of communication between key partners and stakeholders.<sup>240</sup> The WHO also conducts research to understand the health and financial impact of influenza and the benefits from epidemic control and preparedness.<sup>241</sup> With respect to improving the supply of vaccines and other pharmaceutical products the WHO focuses on improving developing countries access to these medicines.

Currently one of the Global Influenza Program’s core activities is to address the threat of avian influenza.<sup>242</sup> Its surveillance extends not just to human but also to animal infections.<sup>243</sup> The WHO gathers and publishes evidence pertaining to the diagnosis and treatment of the virus, the safety of food, controlling the spread of the infection, vaccines and antivirals.<sup>244</sup> This information is particularly useful to health-care facilities and medical laboratories.<sup>245</sup>

The WHO has also devised a Pandemic Influenza Draft Protocol for Rapid Response and Containment, which is designed to slow the contagion of pandemic influenza within its zone of emergence.<sup>246</sup> The protocol is designed to

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<sup>232</sup> “Real Time Alert.” World Health Organization.

<http://www.who.int/csr/alertresponse/realtimetype/en/index.html>

<sup>233</sup> “Information Management and Verification.” World Health Organization.

<http://www.who.int/csr/alertresponse/infomanagement/en/index.html>

<sup>234</sup> “Coordinated Rapid Outbreak Response.” World Health Organization.

<http://www.who.int/csr/alertresponse/rapidresponse/en/index.html>

<sup>235</sup> Ibid.

<sup>236</sup> Ibid.

<sup>237</sup> Ibid.

<sup>238</sup> “WHO Global Influenza Program.” World Health Organization.

<http://www.who.int/csr/disease/influenza/mission/en/>

<sup>239</sup> Ibid.

<sup>240</sup> Ibid.

<sup>241</sup> Ibid.

<sup>242</sup> “Influenza.” World Health Organization.

<http://www.who.int/csr/disease/influenza/en/index.html>

<sup>243</sup> “Surveillance.” World Health Organization.

[http://www.who.int/csr/disease/avian\\_influenza/guidelinetopics/en/index4.html](http://www.who.int/csr/disease/avian_influenza/guidelinetopics/en/index4.html)

<sup>244</sup> “Avian Influenza.” World Health Organization.

[http://www.who.int/csr/disease/avian\\_influenza/en/](http://www.who.int/csr/disease/avian_influenza/en/)

<sup>245</sup> “Infection Control.” World Health Organization.

[http://www.who.int/csr/disease/avian\\_influenza/guidelinetopics/en/index3.html](http://www.who.int/csr/disease/avian_influenza/guidelinetopics/en/index3.html)

<sup>246</sup> *Pandemic Influenza Draft Protocol for Rapid Response and Containment.* World Health Organization.

limit the spread of an H5N1 outbreak in several steps. First, the outbreak must be recognized and investigated.<sup>247</sup> Investigation is warranted if three or more persons in close proximity to one another exhibit moderate-to-severe acute respiratory illness, which signifies that the virus has developed the capacity for human-to-human transmission.<sup>248</sup> Furthermore, one of these persons must have a history of exposure to the H5N1 virus.<sup>249</sup> Should evidence of human-to-human transmission be detected, officials in the outbreak area must notify the WHO within 24 hours.<sup>250</sup> The WHO will then assist to verify the outbreak by employing international field teams and to impose immediate control measures, such as isolating the infected persons and those that have had close contact with them.<sup>251</sup> Next, a two-phase containment response will ensue. Antiviral drugs will first be administered to persons that have been at greatest risk of contracting the disease.<sup>252</sup> Thereafter antiviral drugs will be introduced on a wider scale, potential carriers of the disease will be quarantined and social separation measures will be implemented in order to limit further infections.<sup>253</sup>

### ***Conclusion***

The WHO has certainly played a leading role in preventing the H5N1 avian influenza virus from evolving into a global pandemic. Nevertheless, human cases continue to surface in various parts of the world. Studies indicate that the heaviest caseloads occurred during the winter and spring period in the northern hemisphere.<sup>254</sup> Should this pattern persist, the number of new cases will most likely increase in late 2006 and early 2007.<sup>255</sup> Whether the virus will still lack the capacity for human-to-human infection remains to be seen. If, however, the virus does undergo significant genetic adaptations the world may be on the brink of another influenza pandemic.

### ***Committee Directive***

As history has shown, influenza pandemics are catastrophic. Consequently, it is essential for the international community to try and avoid such an event. If however, all measures prove futile, all stakeholders must be prepared to respond efficiently and rapidly in order to minimize the consequences. This committee will thus focus both on improving the WHO methods of prevent avian influenza infections from reaching pandemic heights and the response system if a pandemic becomes unavoidable. Delegates are expected to know how avian influenza impacts their countries and what measures their countries have adopted to guard their citizens and the global community against the H5N1 virus.

Delegates should propose improvements to the WHO's current pandemic influenza prevention approach, the Global Influenza Program. In particular, delegates must recommend improvements to current surveillance techniques. They should also consider which direction WHO research concerning the impact of pandemic influenza should take in terms of research focus and information gathering. In the event of another pandemic, developed countries will be able to respond more effectively than developing countries. Delegates should thus propose measures to bridge this gap, paying particular attention to improving developing countries' access to vaccines. With regards to improving the WHO response strategy, delegates should propose measures that enable member states to follow the initial steps outlined in the Pandemic Influenza Draft Protocol for Rapid Response and Containment. Local officials must be prepared to recognize the symptoms of severe acute respiratory disease and determine whether an infected individual has had contact with the H5N1 virus. Local officials should also be able to identify which groups is at most risk of contracting the disease so that they can administer antiviral drugs. It is thus important to develop solutions that target the pandemic influenza response at the local level.

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<sup>247</sup> Ibid.

<sup>248</sup> Ibid.

<sup>249</sup> Ibid.

<sup>250</sup> Ibid.

<sup>251</sup> Ibid.

<sup>252</sup> Ibid.

<sup>253</sup> Ibid.

<sup>254</sup> *Avian influenza- epidemiology of human H5N1 cases reported to WHO*. World Health Organization. June 30, 2006

<sup>255</sup> Ibid.