Malaria, Tuberculosis and Other Infectious Diseases

“Today's highly mobile, interdependent and interconnected world provides myriad opportunities for the rapid spread of infectious diseases; an outbreak or epidemic in any one part of the world is only a few hours away from becoming an imminent threat somewhere else…” — World Health Organization

Despite recent medical advances and improvements in sanitation, water supply and nutrition, infectious diseases continue to plague many countries worldwide, killing more than 15 million people each year, of which close to four million die from HIV/AIDS, malaria and tuberculosis alone. A disproportionate share of this suffering, close to 99 percent according to the World Health Organization (WHO), occurs in poorer, developing countries.

Infectious diseases are caused by tiny organisms, such as bacteria or viruses, which can be spread from one person to another. Infectious diseases are the second leading cause of death worldwide, after heart disease, and are responsible for more deaths annually than cancer. In recent decades, the threat of infectious diseases has received greater attention from the international community due to global pandemics, such as HIV/AIDS, SARS and swine flu.

In developing nations, infectious diseases cause as many as one in every three deaths. In fact, about 80 percent of all infectious disease deaths occur in sub-Saharan Africa, where one-third of the population lives on less than one dollar a day. Many diseases that can be easily cured in richer, more developed countries are significantly more life threatening to people in less-developed countries because access to basic medical care is either not readily available or, in many instances, too costly to afford. Low levels of development can oftentimes cause and/or exacerbate infectious disease outbreaks.

Malaria

Malaria is a parasitic disease spread by mosquitoes. Individuals who contract malaria show signs of severe exhaustion, high fever, sweating and chills. Malaria is most common where mosquitoes breed year-round, mainly in tropical and sub-tropical regions. Ninety percent of malaria cases occur in sub-Saharan Africa, where malaria is the leading cause of death among children. Other high-risk groups include pregnant women, travelers, and refugees. Malaria is a curable disease, especially when it is identified early; however, if left untreated, malaria can affect the kidneys and brain, and sometimes lead to death.

Communities that are at risk of malaria can reduce the likelihood of an outbreak by distributing chemically treated mosquito netting. This netting is placed over a person’s bed at night to protect against mosquito bites. Unfortunately, not enough nets are currently made and distributed to the areas that need them most. Some countries have adopted policies that are cheaper and more effective than nets. South Africa, for instance, has begun a

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1 HIV/AIDS, malaria and tuberculosis are commonly known as “the big three” infectious diseases.
2 Baylor College of Medicine
very effective anti-malaria campaign by providing communities with an **insecticide** to protect houses from mosquitoes. However, if overused, this insecticide may be damaging to the environment; consequently, the WHO advises against this method, even if it may be more effective and cheaper.

Malaria mortality rates have fallen by more than 25% globally since 2000. In 2013, the WHO reported approx. 216 million malaria cases resulting in 655,000 malaria deaths across 97 countries. An estimated $5.1 billion is needed between 2013 and 2020 to achieve universal access to malaria treatments; however, as of 2013, only $2.3 billion—less than half of what is needed—has been made available.

**Tuberculosis**

Tuberculosis (TB) is a disease that infects the lungs and is spread to others by coughing or sneezing. Although treatment for TB is available, some strains of the disease have become drug-resistant and no longer respond to regular medicines. If people develop TB, they can take a drug to combat the disease; but if they stop taking the drug too early—either because they begin to feel better or because they can no longer afford to pay for it—the disease can worsen and sometimes become immune to the drug itself.

In the mid-1990s, the WHO developed a strategy called DOTS, or “**directly observed treatment, short course**” to help fight TB outbreaks. Through DOTS, health officials actually observe patients taking their TB treatment for as long as is required. This ensures that people infected with the disease do not stop taking their medicine too soon. It is a simple strategy and relatively cheap. However, many countries still do not have enough TB medicine to go around. According to the Global TB Drug Facility, it will cost $14.3 million going forward to get drugs to all the TB patients who need them.

Countries need to make a stronger commitment to fighting TB and provide enough money to expand DOTS. Treatment for TB has saved some 20 million lives between 1995 and 2011, but more needs to be done. Because TB can only be spread by patients who have symptoms, it is very important to identify people who are sick with the disease. Quick treatment is the best way to prevent widespread outbreaks.

**HIV/AIDS**

Presently, about 40 million people in the world are living with HIV/AIDS, a disease that affects one’s **immune system**. This estimate includes 37 million adults and 2.5 million children. In 2013, the World Bank reported that close to 69% of all people living with HIV/AIDS are in sub-Saharan Africa. HIV/AIDS is the world’s leading infectious killer, claiming more than 25 million lives over the past three decades. A cure has not been found, but with effective treatment, patients can control the virus and enjoy healthy and productive lives.

Of the 25.5 million Africans now living with the disease, it is estimated that eight million also carry TB. According to the World Health Organization, a person living with HIV/AIDS is about 20 or 30 times more likely to develop active TB. Without treatment, an HIV-positive person who contracts TB usually dies within a couple of months. Experts have concluded that half a million African lives could be saved each year if HIV/AIDS and TB were dealt with jointly. Ultimately, combating the infectious diseases that kill HIV-positive people is a vital part of the fight against HIV/AIDS.

**Going Forward**

Through the United Nations’ Millennium Development Goals (MDGs)—a set of achievements that all nations agreed to work toward in the 21st century—the international community acknowledged that infectious diseases hold back development. Goal six calls on countries to combat HIV/AIDS, malaria and other diseases. With the MDGs nearing their 2015 deadline, the international community must shape a new post-2015 agenda, including a dedicated focus to reversing the spread of infectious diseases. Delegates in this committee will draft a resolution that improves basic medical care and increases overall funding, public awareness and education on infectious diseases throughout the world.
Questions to Consider

1) How has your country been affected by malaria, tuberculosis, HIV/AIDS and/or other infectious diseases in recent years?

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2) Has your country developed or been involved with any major initiatives to halt the spread of infectious diseases? If so, what progress has been made?

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3) Which members of your country’s population are most affected by and/or most vulnerable to infectious disease outbreaks?

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4) What are the leading causes of infectious disease outbreaks in your country?

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5) From your country’s perspective, who should pay for infectious disease-prevention programs?

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6) What short- and long-term goals can you identify to halt the spread of infectious diseases within your country? Worldwide?

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7) Are there any international organizations or alliances from which you can seek support in achieving your goals?

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8) How would you measure your country’s progress in achieving these goals?

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Quick Facts

- Infectious diseases kill more than 15 million people each year, of which close to four million die from HIV/AIDS, malaria and tuberculosis (typically known as “the big three”) alone.
- About 80 percent of all infectious-disease deaths occur in sub-Saharan Africa, where one-third of the population lives on less than one dollar a day.
- Communities at risk of malaria can reduce the likelihood of an outbreak by distributing chemically treated netting; however, not enough nets are made and distributed to the areas that need them most.
- According to the Global TB Drug Facility, it will cost $14.3 million going forward to get drugs to all the TB patients who need them.
- Of the 25.5 million Africans now living with HIV/AIDS, it is estimated that eight million also carry TB. According to the WHO, a person living with HIV/AIDS is about 20 or 30 times more likely to develop active TB. Experts have concluded that half a million African lives could be saved each year if HIV/AIDS and TB were dealt with jointly.

Glossary

- **Developed Country**: a sovereign state that has a highly developed economy and advanced technological infrastructure. Developed countries typically have post-industrial economies, meaning the service sector provides more wealth than the industrial sector.
- **Developing Country**: a poorer agricultural country that is seeking to become more advanced economically and socially.
- **Development**: the complex process of making services, technology, education and healthcare available to a population of people.
- **Exacerbate**: to make (a problem, bad situation, or negative feeling) worse.
- **Immune System**: the body’s defense against diseases and infections.
- **Insecticide**: chemicals or materials that are used to kill insects.
- **Pandemic**: an occurrence in which a disease spreads very quickly and affects a large number of people over a wide area or throughout the world.
- **Sanitation**: the process of keeping communities free of dirt, infection and disease by providing access to clean water, sewage treatment and trash collection, among other things.
- **World Health Organization**: the authority for health within the United Nations system. It is responsible for providing leadership on global health matters.

Resources

- UNA-USA (2010): Background Guide: Malaria, Tuberculosis, and Other Infectious Diseases
- Varmus, Dr. Harold (2008): Dr. Harold Varmus - Malaria & Tuberculosis Pandemics
- WHO (2014): Health Topics: Infectious Diseases

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1 This briefing paper is widely excerpted from UNA-USA’s Background Guide: Malaria, Tuberculosis, and Other Infectious Diseases, 2010