Montana Model UN
High School Conference

General Assembly Third Committee

Topic 1: Controlling and Eliminating Malaria by 2015

28 September 2012

According to the Universal Declaration of Human Rights (UDHR), a General Assembly (GA) Resolution from 1948, “Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical care.” Similarly, according to the constitution of the World Health Organization (WHO), “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, economic or social condition.”

Despite these affirmations of the right of every person to health care, the access of people to such care varies widely both across and within countries, with much of the world’s disease burden disproportionately affecting the world’s poor. Many diseases that have been virtually eliminated from developed countries remain prevalent and debilitating in developing countries. Chief among such diseases is malaria. According to the WHO, malaria is caused by a parasite called Plasmodium, which is transmitted via the bites of infected mosquitoes. In the human body, the parasites multiply in the liver, and then infect red blood cells. Symptoms of malaria include fever, headache, and vomiting, and usually appear between 10 and 15 days after the mosquito bite. If not treated, malaria can quickly become life-threatening by disrupting the blood supply to vital organs.

Although malaria is preventable and treatable, it continues to kill about one million people per year because those most in need of treatment do not have the money to purchase either the equipment (such as mosquito nets) needed to prevent infection or the medicines needed to treat the disease.

In 2011, the GA called upon UN member states “to control and eliminate malaria in developing countries, particularly in Africa, by 2015.” With just three years left, what can the GA do to help states meet this target?

---

1 This background guide was written by Karen Ruth Adams, MMUN faculty advisor, Kathryn Gallagher (2010), and Kelsey Stamm (2012). Copyright 2012 by Karen Ruth Adams.


History and Current Events

Because mosquitoes transmit malaria to humans, the disease most often occurs in tropical and sub-tropical regions, where the weather is warm and humid and mosquitoes flourish. Tropical regions surround the equator and include: sub-Saharan Africa except South Africa; Central America except the northern half of Mexico; the northern half of South America; the southern half of the Saudi peninsula; southern India; southeast Asia; and the northern half of Australia. Subtropical regions extend north and south of the tropics and include: the southern US; most of the southern half of South America; the Mediterranean and North Africa; South Africa; the Middle East; northern India; and the southern parts of China, South Korea, Japan, and Australia.7

Whether people contract malaria in a particular region depends on its climate. According to the US Center for Disease Control (CDC):

Where malaria is found depends mainly on climatic factors such as temperature, humidity, and rainfall. …Temperature is particularly critical. For example, at temperatures below 20°C (68°F), *Plasmodium falciparum* (which causes severe malaria) cannot complete its growth cycle in the *Anopheles* mosquito, and thus cannot be transmitted.8

Thus, even countries in the tropics and sub-tropics do not have high rates of malaria transmission at high altitudes, during cold winters, in dry seasons, or in deserts.9

Other factors that affect malaria transmission include public policies to control and eliminate malaria, “drug resistance, insecticide resistance, [and] human activities such as deforestation, irrigation, swamp drainage, etc., and their impact on the local ecology.”10

Because climate is just one of many factors contributing to malaria transmission, some countries in temperate regions have historically had high rates of malaria. According to French entomologist Paul Reiter,

the most catastrophic epidemic on record anywhere in the world occurred in the Soviet Union in the 1920s, with a peak incidence of 13 million cases per year, and 600,000 deaths. Transmission was high in many parts of Siberia, and there were 30,000 cases and 10,000 deaths due to *falciparum* infection (the most deadly malaria parasite) in Archangel, close to the Arctic circle.11

When malaria outbreaks occur in temperate areas, they are usually less intense and of shorter duration than outbreaks in tropical and sub-tropical regions, where mosquitoes can infect people all year. Thus countries in temperate regions find it easier to stem the spread of malaria. Yet, even there, malaria has not been completely eradicated. According to the CDC, “In many temperate areas, such as western Europe and the United States, economic development and public health measures have succeeded in eliminating malaria. However, most of these areas have *Anopheles* mosquitoes that can transmit malaria, and reintroduction of the disease is a constant risk.”12

---

7 For a map of tropical and other climate regions see “Climate Introduction,” [http://www.meteorologyclimate.com/Climate.htm](http://www.meteorologyclimate.com/Climate.htm)

8 Center for Disease Control (CDC), “Where Malaria Occurs,” [http://www.cdc.gov/malaria/about/distribution.html](http://www.cdc.gov/malaria/about/distribution.html)

9 CDC, “Where Malaria Occurs.”


12 CDC, “Where Malaria Occurs.”
Currently, malaria is endemic to (prevalent in) 106 states, 43 of which are in Africa. In terms of population, 1.2 billion people, primarily in sub-Saharan Africa and Southeast Asia, are at high risk for malaria. Another 2.1 billion are at low risk for the disease. That means more than half of the world’s population has some risk of contracting malaria.

Because malaria is a relapsing disease, once a person has contracted malaria, he or she may have “periodic attacks of chills and fever, anemia, splenomegaly (enlargement of the spleen), and often fatal complications.” As a result, “[i]n many parts of sub-Saharan Africa, entire populations are infected more or less constantly.”

Because climate is so important in malaria transmission, it is possible that global warming will increase the spread of malaria. But because public policies, medical advances, and human activities could curb its spread, it is not certain that it will do so.

Who Contracts and Dies from Malaria?

Each year, 10 percent of the world’s population suffers from malaria, and about one million people die. Although this is considerably less than the 50 percent of the world’s population that has some risk of contracting malaria, these figures are worrisome, for two reasons. First, as explained below, malaria is preventable and curable, if treated promptly and correctly. Second, the people who contract and die from the disease are overwhelmingly poor and weak.

More than 98 percent of global malaria deaths occur in just 35 countries (30 in sub-Saharan Africa and five in Asia). Of those, the vast majority (91 percent of all deaths) occur in the WHO African region. These are generally poor countries, as indicated by their low scores on the UN Development Programme’s Human Development Index, which measures mortality rates, literacy, and GDP per capita.

In addition, 86 percent of malaria deaths are among children under the age of five. Malaria kills more than 3,000 children per day in Africa and is responsible for five percent of all deaths among African children. After children, pregnant women are the population most vulnerable to malaria.

---

15 “Malaria,” Encyclopedia Britannica.
16 On the relationship between malaria and climate change, see Reiter, “Memorandum” and Fernando, et al., “Climate Change and Malaria.”
20 WHO, World Malaria Report 2011, p. xiii,
22 WHO, World Malaria Report 2011, p. xiii,
23 Johns Hopkins Malaria Research Institute, “About Malaria.”
According to the CDC, malaria is so common in sub-Saharan Africa because the variety of mosquito found there “transmits malaria very efficiently,” and the variety of the mosquito parasite found there “causes severe, potentially fatal disease.” Moreover, “[l]ack of resources and political instability can prevent the building of solid malaria control programs.25

Poverty makes it difficult to avoid malaria and to recover from it. For example, although mosquito nets are inexpensive (about $5 apiece), they are beyond the reach of the 1.29 billion people (about 19% of the world’s population) who live on less than $1.25 per day.26 Similarly, although it is easy for developed countries to spray insecticide to kill mosquitos and operate clinics to diagnose and dispense medications, without international assistance it is difficult for developing countries to do so to the extent that would be necessary to significantly reduce, much less eliminate, malaria transmission.

People who contract malaria are less able to work; thus their countries are less likely to develop. According to researchers, the agricultural production of families with malaria is 60 percent less than that of their healthy counterparts. In addition, the presence of malaria reduces tourism and foreign investment.27 Overall, $12 billion is lost each year due to the direct and indirect consequences of malaria. This represents a loss of 1.3 percent of GDP in affected states.28 Thus there is a “vicious cycle” in which poverty leads to malaria, and malaria leads to deeper poverty.29

Prevention and Treatment
It is possible to prevent people from getting malaria and to treat and cure them when they are infected. The WHO’s preferred strategy, which has been endorsed by the GA, has two aspects: prevention and cases management. Prevention involves:

- Malaria vector control – protecting individuals against infective malaria mosquito bites and reducing the intensity of local malaria transmission at the community level; and
- Dealing with insecticide resistance.30

Case management includes:
- Diagnosis and treatment of malaria – reducing morbidity and mortality, reducing frequency and duration of infection, and curtailing the transmission of malaria;
- Intermittent preventative treatment – administration of a full course of antimalarial treatment at specified time points to populations at risk of malaria, regardless of whether they have the parasite; and


Montana Model UN
High School Conference

- Resistance to antimalarial drugs – requiring continuous monitoring of efficacy of and resistance to antimalarial drugs to ensure early detection of changing patterns of resistance.31

To prevent the spread of malaria, insecticides can be sprayed either outside in populated areas or inside homes to reduce mosquito populations. One insecticide in particular, dichlorodiphenyltrichloroethane (DDT), was heavily used by North American and European governments to reduce malaria.32 Today, however, Western environmental groups criticize the use of DDT as a preventative measure due to its negative effects on human health and the environment. Historically, the WHO also rejected the use of DDT as it has been shown to cause genetic problems in animals and is linked to cancer in humans.33

Currently, the WHO champions the use of DDT as indoor residual spray (IRS) because it is so effective in stemming the spread of malaria. In 2006, Dr. Arata Kochi, director of the WHO’s Global Malaria Program, called on environmental groups to, “join the WHO and help save lives in Africa in the same way that they strive to save the environment.” An example of DDT’s effectiveness is provided by the small rural Senegalese village of Keur Aly Samba, which in 2006 lost seven children from malaria in a single rainy season. The next year, all of the houses in the village were sprayed, and no children died.34

Insecticidal nets are less controversial. Nets protect people at night, when the mosquitos are most active. Moreover, nets are inexpensive compared to many other public health measures. Project Mosquito Net is able to obtain and distribute nets to children in Kenya for just $5 apiece.35 Nets are most effective, however, when they are sprayed with insecticides. According to the 2011 World Malaria Report, household ownership of mosquito nets for the at-risk population (especially children under five and pregnant women) is 73%, well below the target of universal coverage. According to household surveys, from 2000 to 2011, the percentage of sub-Saharan African households using insecticide-treated nets (ITNs) increased from 3% to 50%, and 96% of the households with nets used them.36

According to WHO, providing pregnant women with a course of anti-malarial medicine is vital. This not only keeps the mother well but also increases the odds that her child will be born healthy enough to survive.37

A comprehensive plan for reducing the incidence and effects of malaria also requires that people who have contracted malaria be treated. In the past, treatment focused on the use of one drug in particular, chloroquine (quinine). Today, the WHO case management strategy calls for a combination of anti-malarial medicines (in particular, ACT) and urges patients to continue to take the prescription even when symptoms disappear, until the full dose has been used, to prevent the development of drug-resistant strains of the disease. According to WHO,

Early and effective treatment of malaria can shorten the duration of the infection and prevent further complications including the great majority of deaths. Access to disease management should be seen not only as a component of malaria control but a fundamental right of all populations at risk.38

32 CDC, “The History of Malaria, an Ancient Disease,” http://www.cdc.gov/malaria/about/history/index.html#eliminationus
Zanzibar provides an example of benefits of these methods. From 2005 to 2007, a number of international donors targeted the most at-risk members of Zanzibar’s population, increasing the distribution of ITNs, ACT, and IRS. By 2007, pediatric wards registered a 95% reduction in malaria infections throughout Zanzibar for children under two years old, and a survey found no malaria cases among pregnant or recently pregnant Zanzibari women.39

Despite the promise of this approach, malaria remains a difficult disease to fight, for two reasons. First, due to the misuse of monotherapies such as quinine and oral artemisinin, malaria has become more resistant to treatment.40 As noted by the GA in its most recent resolution on malaria, contemporary “prevention and control efforts … rely heavily on medicines and insecticides whose utility is continuously threatened by the development of resistance in humans to antimalarial agents, as well as resistance of mosquitoes to insecticides.”41

Second, although more appropriate and effective drug combinations (such as ACT) have been developed, putting them into use and monitoring their effectiveness is challenging and costly.42 Cost is relative, however. According to the Affordable Medicines Facility for Malaria (AMFm), a group of international organizations and European governments, the challenge is to reduce the cost from $8 per treatment to 20 cents. While this change would make little difference in developed countries, it would substantially reduce malaria-related suffering and death in the developing world.43

To achieve this cost reduction, AMFm negotiates ACTs price reductions with manufacturers and subsidizes the drugs so public, private, and non-profit organizations can buy them at cost. The goal is to make ACTs available at a retail price of US 20-50 cents and thereby increase usage by vulnerable populations.44

According to advocacy groups, such as the Malaria Taxes and Tariffs Advocacy Project (M-TAP) and the African Leaders Malaria Alliance (ALMA), some countries have import policies (such as taxes and tariffs) that make it expensive to get ACTs to the people who need them.45 ALMA publishes “scorecards” that rank developing countries according to their progress in reducing such barriers. According to ALMA, Cameroon, Sierra Leone, and The Gambia are “not on track.” By contrast, Angola, Mozambique, and Uganda have removed taxes and tariffs on anti-malaria commodities.46

To avoid the problems of cost and drug resistance, some health experts have begun to call for greater use of native plants, such as the South American Cinchona tree, which has been used to treat malaria since ancient times.47

---

38 WHO, “Ten Facts about Malaria: Read More about Malaria.”


40 CDC, “About Malaria: Frequently Asked Questions.”

41 UN General Assembly, “Consolidating gains and accelerating efforts to control and eliminate malaria in developing countries, particularly in Africa, by 2015.”


47 Alisha Ryu, “Pan-African Malaria Conference Ends on a Hopeful Note.”
To date, little research has been done to establish whether such remedies are effective in treating malaria symptoms and to determine whether other natural remedies exist could stem its spread. But natural remedies (like the current pharmaceutical approach) will only be effective if people know when and how to use them and if governments and pharmaceutical companies are willing to allow them to be traded at an affordable price.  

In recent years, the international community has debated whether pharmaceutical companies, which mostly operate in wealthy developed countries, should be able to develop and patent drugs using plants and traditional knowledge from developing countries. Doing so often raises the prices of medicinal plants for local people, and little of the resulting profit is returned to the country of origin. According to pharmaceutical companies, it is expensive to develop drugs, and if they are not able to recover their costs, there will have little incentive to invest in research and development of traditional medicines.

**Previous Committee Work on This Topic**

In the past 15 years, the GA has established two goals related to malaria. The first goal was to halve the number of people in the world affected by malaria by 2010; this goal was part of the Global Malaria Partnership’s (GMP) Roll Back Malaria Campaign (RBM), which began in 1998. The second, more modest goal was to halt and reverse the incidence of malaria by 2015, reaching near-zero malaria deaths by 2015 and eliminating malaria in an additional 10 countries, which is part of the Millennium Development Goals (MDGs). Today, the world is quite far from achieving either goal.

**Roll Back Malaria Campaign**

Founded in 1998 by the UN Development Program (UNDP), UN Children’s Fund (UNICEF), the World Bank, and the WHO, the Roll Back Malaria Campaign (RBM) brought together non-governmental organizations (NGOs), governments, research institutions, the private sector, media, civil society, faith-based organizations (FBOs), and international agencies to halve the number of people in the world affected by malaria by the end of 2010. Thanks to the RBM, since 1998, over 5 billion USD has been raised over the past decade to prevent and treat malaria, and the two-pronged approach recommended by the WHO has been used in many countries.

In 2002, the Global Fund to Fight AIDS, Tuberculosis, and Malaria (Global Fund) was created to fund the RBM. The Global Fund works with UN agencies such as WHO and UNICEF, as well as UN member states and non-governmental organizations, to eradicate malaria and other infectious diseases in the most high-risk states and regions in the world. The Global Fund is used both to fund anti-malarial drug research and to pay for treatment and prevention efforts. The Global Fund provides two-thirds of all international funding for malaria programs and sponsors over 175 different programs world-wide.

In 2009, the Global Fund and a number of European governments launched the Affordable Medicines Facility for Malaria (AMFm), whose purpose (as mentioned above) is to reduce the cost of malaria medicine from

---

48 WHO, “WHO and UNICEF call for urgent increased effort to roll back malaria.”


51 WHO, “WHO and UNICEF call for urgent increased effort to roll back malaria.”

52 UN News Centre, “Efforts of UN-led global anti-malaria partnership save a million lives in a decade.”

Montana Model UN
High School Conference

$8 per dose to 20 cents. According to the Global Fund, companies are eager to participate because the AMFm will purchase ACT drugs in large quantities, thus reducing the companies’ marketing costs.\(^{54}\)

Despite these advances, funding remains the main obstacle to malaria eradication. In October 2010, after meeting with 40 donor states, the Global Fund announced that it been able to raise just $11.7 billion to treat HIV/AIDs, malaria, and tuberculosis for the next three years. This was less than the $13 billion needed “just to keep putting patients on treatment at current rates.” To make progress towards reducing the incidence of these diseases, the Fund had hoped to raise $20 billion.

Millennium Development Goals

In 2000, the GA identified malaria as a hindrance to equitable and sustainable economic development and included the reduction of malaria in MDG 6, whose aim is to “combat HIV/AIDS, malaria, and other diseases.” Specifically, the malaria target is to “halt and reverse the incidence of malaria by 2015.”\(^{55}\)

In the Millennium Declaration (2000), UN member states called on developed countries “to grant more generous development assistance, especially to countries that are genuinely making an effort to apply their resources to poverty reduction.” At the 2002 Monterrey Conference on Financing for Development and the 2005 World Summit on Sustainable Development, a target of 0.7 percent of gross domestic product (GDP) was established.\(^{56}\)

According to the UN Development Programme (UNDP), if all developed countries spent this amount on official development assistance (ODA), there would be sufficient funds to achieve all of the MDGs by the target date of 2015.\(^{57}\)

Over the past decade, malaria deaths have fallen by about 38%, saving about one million lives, mostly children. But if the 2015 target of halving malaria deaths is to be reached, more must be done. According to UN Secretary-General Ban Ki-moon, “Although the successes of recent years are remarkable, they need to be sustained and expanded, to prevent the disease from resurfacing.”\(^{58}\)

Fighting malaria is not only a necessary step towards achieving MDG 6. It is also crucial to accelerate progress towards achieving other MDG targets by 2015. According to RBM Executive Director Awa Marie Coll-Seck, “Malaria control improves child survival and maternal health and preserves both lives and livelihoods. It keeps parents at work, children and teachers at school and lifts barriers to reaching the vision of the Millennium Declaration.”\(^{59}\)

Conclusion

Although malaria is preventable and curable, it continues to threaten the lives of half the world’s population and to kill one million people per year. In addition, the debilitating effects of malaria limit the economic growth of less-developed states.


\(^{58}\) UN News Centre, “Efforts of UN-led global anti-malaria partnership save a million lives in a decade.”

What can and should the GA-3 do to press UN member states to do more to address this development and human rights problem? As you research and write your country’s position on this issue, consider the following questions:

- How does malaria directly or indirectly affect your country? Be specific about the number of people affected and the severity of effects on individual life spans, health, poverty, and rights, as well as national economic development.
- Does your country see infectious diseases such as malaria as threats to human rights, development, and/or national security? Why or why not?
- What has your country done to address the problem of malaria? Is it on the way to meeting the malaria targets in MDG 6 or helping other countries do so by meeting the foreign aid goals of MDG 8? Why or why not?
- What remains to be done in addressing the problem of malaria? Could and should your country do more? What would inspire it to do so, and what specifically could it do?
- Should the goal be to treat malaria symptoms, reduce its prevalence, or eradicate the disease altogether? Which countries and regions should be prioritized?

**Recommended Reading**


This article explains the complex relationship between climate change and malaria, which will be important in coming years if, as most scientists expect, global temperatures continue to rise.


This is an excellent source for understanding the manufacture, proper administration, and cost of antimalarial drugs. It also explains the effort by the Global Fund and several European countries to reduce the cost by persuading companies to reduce their prices by 25% and by using donor funds and airline fees to achieve an additional 95% reduction. For information about endemic countries participating in a pilot program under this plan, see the Global Fund’s AMFm site at [http://www.theglobalfund.org/en/amfm/](http://www.theglobalfund.org/en/amfm/)


This publication provides information on the development assistance granted by each of the 24 developed-country members of the OECD in 2011.


The website supplies information on the RBM and the partnership and information on individual states and regions. The ‘toolbox’ section provides creative ideas that could be incorporated in resolutions. See also RBM’s site for “World Malaria Day 2012,” [http://www.worldmalariaaday.org/home_en.cfm](http://www.worldmalariaaday.org/home_en.cfm)


This article discusses recent scientific discoveries that suggest it will be impossible to eradicate malaria and, therefore, that the goal should be to control it. The author also explains why malaria control requires attention to the places where most people suffer.

This report provides an overview of progress towards MDG 6 (on malaria) and MDG 8 (on development aid from developed countries). See also the national progress reports at http://www.undp.org/content/undp/en/home/librarypage/mdg/mdg-reports/


This document makes the case that malaria and other infectious diseases are human rights issues.


To find the text of the GA’s most recent resolution on malaria, as well as a press release summarizing country positions during the debate, go to this site and search on “malaria.”

World Health Organization. “Malaria.” Available at http://www.who.int/topics/malaria/en/

This is the main WHO website on malaria. There are links to specific countries and topics, including the latest World Malaria Report, which has global, regional, and country statistics.


This document provides information on the leading causes of death in particular countries. It is a good way to find out how much malaria affects your country compared to other diseases.