

# UNIT 4: COMBATING MALARIA — BED NETS, A SIMPLE SOLUTION

## Unit Overview

### In this unit students will:

- Review the basic facts on malaria and its prevalence;
- Learn about the important role of insecticide-treated bed nets in preventing the spread of malaria;
- Consider bed-net distribution in Malawi and Congo as examples of community decisions about preventing malaria;
- Role-play a community meeting discussing the distribution of bed nets.

**Lesson 1:** Students will learn the basic facts about malaria and its prevention by viewing and discussing a short video, and reading and discussing a basic fact sheet. Students will also learn about how Malawi and Congo have distributed bed nets in order to prevent exposure to malaria-infected mosquitoes.

**Lesson 2:** Students will role-play a community meeting where important decisions affecting children’s health will be made. Through guided questions, students will discuss issues presented in the role-play. This lesson will conclude with a basic review of facts about malaria and its prevention.

 **Tip:** While this unit was designed to be taught over two to three consecutive days, feel free to customize it to fit your specific curriculum schedule.

# National Standards Unit 4

## ENGLISH/LANGUAGE ARTS — Grades K-12

**Standard 1:** Students read a wide range of print and non-print texts to build an understanding of texts, of themselves, and of the cultures of the United States and the world; to acquire new information; to respond to the needs and demands of society and the workplace; and for personal fulfillment.

**Standard 4:** Students adjust their use of spoken, written, and visual language (e.g., conventions, style, vocabulary) to communicate effectively with a variety of audiences and for different purposes.

**Standard 7:** Students conduct research on issues and interests by generating ideas and questions, and by posing problems. They gather, evaluate, and synthesize data from a variety of sources (e.g., print and non-print texts, artifacts, people) to communicate their discoveries in ways that suit their purpose and audience.

## HISTORY/SOCIAL STUDIES/GEOGRAPHY World History Standards — Grades 5-12

### Era 9: The 20th Century Since 1945 — Promises and Paradoxes

Students understand the search for community, stability, and peace in an interdependent world.

## Social Studies Standards — Grades K-12

### Strand III: People, Places, and Environments

### Strand X: Civic Practices and Ideals

## Geography Standards — Grades K-12

*The Geographically Informed Person knows and understands*

### The World in Spatial Terms

**Standard 1:** How to use maps and other geographic representations, tools, and technologies to acquire, process, and report information from a spatial perspective.

## SCIENCE

## Science Content Standards — Grades 5-8

### Content Standard F: Science in Personal and Social Perspectives

*Students should develop understanding of*

Populations, resources, and environments

Science and technology in society

## UNIT 4:

# Lesson 1: Malaria — What Is It? How Can It Be Prevented?

**Suggested Class Time: 45 Minutes**

### Objectives:

- Learn the basic facts about malaria and the preventive role of bed nets in halting its spread;
- Learn about UNICEF and its partners' role in malaria prevention;
- Explore ways in which communities make decisions affecting children's health, specifically decisions about the distribution of malaria-preventing bed nets;
- Develop strategies for teaching the proper use of bed nets.

### Session Plan:

- Learning by Viewing: "The Gift of Growing Up" (Malaria No More): 15 minutes
- Malaria Facts: 10 Minutes
- Case Studies: Combating Malaria in Malawi and Congo: 20 minutes

### Materials Needed:

- Computer with Internet access, connected to projector if possible
- Handout 4: Malaria Fact Sheet
- Handout 5: Malaria Prevention For Sale: Malawi
- Handout 6: Free Malaria Prevention: Congo
- *Child Survival: A Global Challenge* Chapter 2, page 13

**Tip:** To save time, distribute Handouts 5 and 6 to be read and summarized for a homework assignment prior to class discussion in the Case Studies segment of this unit.

### Vocabulary:

community health worker, community partnership, health system, insecticide-treated bed nets (ITNs), malaria

**Tip:** Definitions for these Vocabulary items are in the Glossary on page 38 of the *Youth Report*.

## Learning by Viewing

### Directions

1. Start by showing “The Gift of Growing Up,” a 10-minute video about malaria and its prevention, available online at Malaria No More:  
**<http://www.malarianomore.org/film/index.php>**.
2. Ask students to discuss their immediate reactions to the film.
  - What did you find most interesting?
  - What surprised you the most?
  - What further questions do you have about malaria’s cause and prevention?

## Malaria Facts

### Directions

1. Distribute Handout 4 and review more facts about malaria and its prevention.
2. Ask students to read page 13 in the *Youth Report* to further familiarize themselves with the use of anti-malaria bed nets.

## Case Studies: Combating Malaria in Malawi and Congo

1. Divide the class into two groups.
2. Distribute Handout 5 to one group and Handout 6 to the other group.
3. Invite one student from each group to locate Malawi and Congo on a world map or globe.
4. Ask students in each group to read the case study or, if it was assigned as homework, to review it. Facilitate group discussions by posing the following questions to each group:

### Malawi Group

- Why is there always a charge for bed nets in Malawi? (*It is believed that people will value the nets more if they have to pay for them.*)
- How do the poorest people in Malawi afford bed nets? (*Donations of nets from organizations like UNICEF make low prices possible; low-cost bed nets are also subsidized by sales at full price.*)

## Congo Group

- How did Congo obtain the bed nets that are distributed free of charge? (*In part from UNICEF, the United Nations Foundation, and the Government of Japan.*)
  - How did Congo's national "Mother and Child Week" promote bed-net use? (*As part of a nationwide distribution of free vaccines and bed nets as well as treatment for pregnant women.*)
6. After each group responds, ask: In your opinion, which is the better distribution strategy: selling bed nets (for a token amount) or distributing them free of charge? Why? (*Many students may think distributing free bed nets is the better strategy because it protects more people; others may argue that people value what they have to pay for, so selling bed nets ensures people will value them.*)
7. Explain that students will be using Handouts 5 and 6 as resources in the role-play activity that follows.

# Malaria Fact Sheet

## What is Malaria?

Malaria is a serious disease spread through the bite of a malaria-infected mosquito. Each year, there are 300 million to 500 million cases of malaria throughout the world and about 1 million child deaths. In areas where malaria is common, it can be the leading cause of death and poor growth among young children. Malaria is also particularly dangerous for pregnant women.

## Where in the World is Malaria a Problem?

- Sub-Saharan Africa is the region hardest hit by malaria. Approximately 90 percent of all malaria-related deaths occur there.
- Malaria is also a threat to people in other tropical and subtropical regions of the world. More than 40 percent of the world's population is at risk.
- Malaria has been eliminated from many developed countries with temperate climates.

## How Does Malaria Affect Children?

- Every 30 seconds a child dies of malaria; 3,000 children die daily from the disease. Malaria ranks as the leading cause of death in children under five in Africa.
- Even children who survive are at risk. Malaria can slow a child's growth and brain development and is likely to cause anemia, a blood disease.
- Early treatment with anti-malaria medicine can protect infected children.

## How Can Malaria be Prevented?

Sleeping under a mosquito net treated with insecticide is the best prevention against the mosquitoes whose bites transmit malaria. Protection is especially important at night, when mosquitoes are most active. Insecticide-treated bed nets (ITNs) kill the mosquitoes that land on them.

- Insecticide-treated bed nets (ITNs) provide a protective barrier against mosquitoes for up to five years.
- Widespread use of insecticide-treated nets could prevent almost 500,000 deaths a year in Sub-Saharan Africa.

Source: UNICEF Facts for Life <http://www.unicef.org/ffl/10/> and Malaria No More, [www.malarianomore.org](http://www.malarianomore.org/); UNICEF in Action: Malaria [http://www.unicef.org/health/index\\_malaria.html](http://www.unicef.org/health/index_malaria.html)

### **Malaria Prevention For Sale: Malawi**

*In a small district hospital of Kasungu, central Malawi, Kate is wrapping her three-day-old son in a yellow blanket. She smiles at her baby, not noticing the green mosquito net that hangs above her bed, a colorful detail in the white room. This detail could save her son's life.*

#### **Malaria kills an African child every 30 seconds....**

"I have had malaria and everybody I know has had malaria," says Kate. "During my pregnancy I came several times to the hospital for...checkups and the staff told me about mosquito nets. I will buy a net from the hospital when I go home. I want to protect my baby." Kate is one of the 2,500 women who delivered their infants at the Kasungu hospital in 2002 and bought a mosquito net for 50 kwacha (less than 20 US cents). (The price of the mosquito net, which is sold with an insecticide treatment kit, is heavily subsidized by UNICEF.) Kate lives in Malawi, one of the poorest countries in the world. During the rainy season, when the risk of malaria is the highest, the Kasungu Hospital sells up to 450 nets a day.

#### **UNICEF supports anti-malaria programs.**

UNICEF and its partners focus on children under the age of five and pregnant women in all Sub-Saharan countries. In 2002 alone, UNICEF provided over 4.4 million mosquito nets to 25 African countries, for a total value of \$9.5 million, making it the largest mosquito net buyer in the world. This represents a 175 per cent increase since 2001. In addition, UNICEF purchased \$3 million worth of insecticide used to treat the mosquito nets.

#### **In Malawi, nets are not given away for free.**

Even the poorest families have to pay to ensure that they consider the net a valuable item. Communities themselves were consulted on the cost of the mosquito nets and agreed on the price of 50 kwacha. However small, this money contributes to the recovery of cost.

#### **Village health committees sell mosquito nets and receive 20 percent of the price to use for health-related activities in the village.**

In a village near Kasungu, the community sold enough nets to be able to afford electricity for the local health facility. "We bought 120 mosquito nets.... We sold all of them, and tomorrow I'll buy another 70 nets," says the chairman of the Kanin'ga village health committee in Kasungu district. "People have already paid for them. Some of our committee members were trained on the use and treatment of nets with insecticide, so that they can inform families who buy them."

Source: UNICEF: Malawi, Real Lives [http://www.unicef.org/infobycountry/malawi\\_2430.html](http://www.unicef.org/infobycountry/malawi_2430.html)

# Free Malaria Prevention: Congo

## Free treatment to save lives

In the Republic of Congo, 21,000 children die from malaria every year. It is the main cause of death among children under five. To improve this situation, the Government of the Republic of Congo is now funding a new policy authorizing free malaria treatment for children under the age of 15 and women who are pregnant.

In 2007, 545,000 children here received free mosquito nets produced by UNICEF and financed by the Government of Japan and the United Nations Foundation. Pregnant women also received free intermittent preventive treatment of malaria.

## “Mother and Child Week”

To promote awareness of the new policy, a “Mother and Child Week” was held across the country, providing children with free vaccines and mosquito nets. Malaria treatment for pregnant women was available as well. “[This new policy] has the potential to save the lives of 14,000 Congolese children under five every year,” said Dr. Koenraad Vanormelingen, the UNICEF Representative in Congo-Brazzaville.

# UNICEF and Malaria Prevention

## How Does UNICEF Help Prevent Malaria?

UNICEF is a founding partner, with the World Health Organization (WHO), the United Nations Development Program (UNDP), and the World Bank of the Roll Back Malaria (RBM) initiative, whose goal is to halve the world’s malaria burden by 2010. UNICEF has recently entered into partnership with Malaria No More, an umbrella organization with the goal of providing an insecticide-treated bed net (ITN) to every family that needs one in Sub-Saharan Africa. Together with its partners, UNICEF distributes ITNs, working with Ministries of Health and non-governmental organizations (NGOs) as well as community and village health workers.

## How many bed nets has UNICEF distributed?

UNICEF is the single largest purchaser of insecticide-treated bed nets in the world, having bought more than 25 million in 2006 alone.

## Does UNICEF charge for bed nets?

No, UNICEF does not charge for the bed nets it supplies to governments or partner organizations. UNICEF is a prominent and consistent advocate for free bed nets for all children under the age of five and pregnant women.

Sources:

UNICEF: Malawi, Real Lives [http://www.unicef.org/infobycountry/malawi\\_2430.html](http://www.unicef.org/infobycountry/malawi_2430.html); Spread the Net: Frequently Asked Questions [cms.spreadthenet.org/cmsdocs/FinalFAQ.doc](http://cms.spreadthenet.org/cmsdocs/FinalFAQ.doc); UNICEF At a Glance: Congo [http://www.unicef.org/doublepublish/congo\\_44876.html](http://www.unicef.org/doublepublish/congo_44876.html)

## UNIT 4:

# Lesson 2: Role-Play — A Community Makes Decisions about Bed Nets

Suggested Class Time: 90 Minutes

### Objectives:

- To understand how bed net distribution decisions are made at the community level;
- To write and present a role-play about a community meeting in which important decisions about distributing bed nets are made.

### Session Plan:

- Creating a Script: 45 Minutes
- Role-play Presentation and Discussion: 30 Minutes
- Wrapping Up: 15 Minutes

### Materials Needed:

- Handout 5: Malaria Prevention For Sale: Malawi (*distributed previously*)
- Handout 6: Free Malaria Prevention: Congo (*distributed previously*)
- Handout 7: Role-play — Community Health Meeting

### Creating a Script:

#### Directions

1. Distribute Handout 7 and review it with the class. Note on a chalkboard or white board students' responses to the question: What will each member of the community listed on page 1 of Handout 7 bring to the meeting about malaria prevention?
2. Divide students into two groups to develop a role-play. Work closely with each group as students assign roles and work collaboratively on a script for the meeting. Both groups should present responses to the **Analyze** and **Assess** sections of Handout 7, but assign one group **Action 1** and the other group **Action 2**.

### Role-play Presentation and Discussion:

#### Directions

1. Ask each group to present its role-play.

2. Use the following questions to facilitate a discussion following each group's role-play:
  - What impressed you most about this role-play?
  - How was community participation illustrated in the role-play?
  - Was the information presented about malaria correct?
  - What challenges do you think each community will have in carrying out its distribution and education plans?
  - Why is it important for each community to assess its bed-net distribution program?

### **Wrapping Up:**

1. Ask students to summarize the value of insecticide-treated bed nets in preventing the spread of malaria.
2. Discuss how the role-plays showed the importance of involving community members in decisions that affect their lives.

### **Extension Activity: Take It on the Road**

Have interested students combine the best aspects of the two role-play scripts and create a short play they and their classmates can present to the school and to parents. Consider adding a Narrator part to explain some of the facts about malaria in asides to the audience. Students can create fliers to hand out at the performance explaining the importance of insecticide-treated bed nets (ITNs) and how, through UNICEF's partner, Malaria No More, audience members can make contributions.

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## HANDOUT 6

### Free Malaria Prevention: Congo

#### Free treatment to save lives

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## HANDOUT 7

### Role-Play — Community Health Meeting: Defending Our Children Against Malaria!

**Directions:** Follow your teacher’s directions for role-playing the different points of view in this urgent community health meeting.

**Place:** Rural Village in Sub-Saharan Africa

**Setting:** Community Health Meeting

**Situation:** A community meeting is being held to discuss the increasing cases of malaria in the village. Young children and pregnant women are the most vulnerable. The rainy season is coming and there is a concern that malaria cases will increase even more. The good news is that insecticide-treated bed nets (ITNs) will now be made available to the community with support from UNICEF. However, before the bed nets can be distributed, the community has been asked to decide the best way to distribute the nets to villagers.

**Participants:**

Leaders	Members of the Village Health Committee
Village Leader	Women’s Group Representative
UNICEF Representative	Religious Leader
Doctor	Primary School Education Officer
Community Health Workers	Representative of Local Shopkeepers Parent/Family Representatives

**Background:**

The following are facts about the imaginary Sub-Saharan African country where your rural village is located. (The facts are consistent with other countries in the region.) Keep these facts in mind as you prepare for the role play.

- 86% of the population lives in areas at risk for malaria.
- 28% of households have at least one bed net.
- 12% of households have at least one insecticide treated net (ITN).
- 10% of children under five sleep under ITNs.
- 6% of pregnant women sleep under ITNs.

**Meeting Agenda:**

Refer to Handouts 4, 5, and 6 to help you develop responses to the Meeting Agenda questions.

- Why is malaria such a big problem in the village?
- How should a shipment of anti-malaria bed nets from national health authorities and UNICEF be distributed in the village?
- How can people be educated to use bed nets?
- How can we determine if the program is working?

### Role-Play Procedure

#### **Analyze: Why is malaria a problem in our village?**

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**The doctor and community health workers** will lead a discussion trying to help villagers understand how malaria spreads and how sleeping under treated bed nets can help to prevent its spread.

**Things to consider:** Villagers hold traditional beliefs about diseases such as malaria and some resist change. Poor communication can lead to misunderstanding.

#### **Action 1: Determine the best way to distribute the bed nets.**

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**The UNICEF Representative** will raise questions about bed-net usage, such as: Who will educate villagers in bed net use? Are families that already have bed nets using them?

**Other villagers** will raise questions and contribute answers: Who should receive bed nets? Should people pay for them or will they be free? How should they be distributed? Who will coordinate and manage the program?

**Things to consider:** Possible distribution points: homes, market, health center. Poorly maintained roads and lack of transportation could make distribution of bed nets harder to accomplish. Bed-net distribution could be combined with other programs (such as immunization).

#### **Action 2: Decide on a way to educate the community to ensure that bed nets are used.**

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**Members of the Village Health Committee** can raise and answer the following questions: Do we need to develop an educational campaign to increase our villagers' use of bed nets? What's the best way to educate people? How will we develop the materials? Who will present the educational campaign?

**Things to consider:** What is the level of literacy among villagers? Do villagers have access to TV? Radio? Can most villagers read?

#### **Assess: How will we evaluate progress?**

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**UNICEF Representative and Members of the Village Health Committee** discuss: How will we assess and monitor our efforts? What data do we need to collect? Who will collect it and send it on?

**Things to consider:** Who will pay for the assessment? Will people be honest about bed net use? Collect data on community members who get malaria.