STOP THE OUTBREAK

GOAL: The object of the game is to stop the outbreak of malaria as quickly as possible by selecting tools in the Pelican case in the most effective sequence.

GAME SEQUENCE:

Player selects pre-printed card from fan deck
Player scans selected card in barcode scanner
Barcode scanner provides read-out and triggers fiber optic map setting.
Map has 2 fiberoptic light modes: drug vs insecticide resistant outbreaks
Player touches buttons/items in pelican case to slow/stop the outbreak(s)
Player receives feedback on efficacy of choices on flat panel display
Lights on the map increase/decrease based on choices (see LEGEND)

Key hardware components:

Barcode scanner
Small flat panel display with prompts, results of scan, and outcomes
Fiber optic lights (3 colors) with dimmer
Dimensional landform map of area near DRC
Pelican case with 5 malaria-fighting tools
Interface for pelican case switches and fiber optic lights

Step 1: SCAN THE SAMPLE

A dozen or so pre-printed sample collection cards are in a fan deck. They are barcoded. Half indicate that the parasite causing the outbreak is drug-resistant. The other half indicate that the mosquitoes spreading it are insecticide-resistant.

When the visitor places the pre-printed barcode into the scanner, a brief message appears on the flat panel display:

1) This malaria outbreak is caused by a parasite that is drug-resistant. Learn how to stop the outbreak without relying on traditional antimalarial drugs.

2) This malaria outbreak is being spread by mosquitoes that are insecticide-resistant. Discover what you can do to treat people with the infection and prevent the outbreak from spreading.

Step 2: MAP THE HOTSPOTS

A dimensional landform model of the DRC region (w/o geo-political boundaries) has embedded fiber optic lights. The lights can be dimmed (or flash a deeper color) when needed.

1) One path correlates with areas where the malaria-causing parasite (plasmodium) is drug-resistant. These outcomes will correlate with choices that bias MOSQUITO CONTROL.

2) The second path correlates with areas where the mosquito spreading malaria is insecticide-resistant. These outcomes will correlate with choices that bias PATIENT TREATMENT.

The color-coded lights dim/grow brighter or more numerous based on object selections made in Step 3.

Throughout the game, helpful hints are provided based on selections made by the guest. (i.e.: "Good choice; when malaria medications aren't effective, it makes sense to target the mosquitoes instead.")

Step 3: STOP THE OUTBREAK

A custom foam-fitted pelican case with small display screen on the inside lid has five objects inset into foam pockets.

Instructions appear on the flat panel display to guide visitors through the process of making selections. The best path is to select four responses in the correct sequence. Not all six options are applicable for each scenario -- pick the best four.

-- Bug repellent [only works on adults, not larvae etc.]
-- Insecticide [works on larvae, but not where mosquitoes are resistant]
-- Bed netting [insecticide treated; remains the main form of prevention]
-- Anti-malarial medication [treats individual, doesn't stop transmission]
-- Genetically modified mosquitoes [i.e. sterile males]
-- Vaccine trial (RTS,S) [only works on Plasmodium and supplies are limited]

Onscreen prompts will convey the message that if you pay attention to the on-screen messages and respond quickly enough you can prevent the spread of the disease.

LED PROGRAMMING NOTES

- The lights are color-coded for type of outbreak. (see MAP LEGEND below)
- Outbreaks spread downstream along waterways and major bodies of water.
- An outbreak expands in 10-second increments once the first object in pelican case is selected. If either no object or the incorrect object is selected within a 10-second cycle, the number of lights visibly increase to indicate that the outbreak is not being controlled.
- A game cycle = approx. 60 to 90 seconds.

MAP LEGEND for LED LIGHT COLORS

- **Red** lights = the outbreak is caused by a parasite that is resistant to standard anti-malaria medications. What can you do to slow its spread?
- Yellow lights = the outbreak is being spread by mosquitoes that are resistant to pesticides. What can you do to help as many people as quickly possible?
- **Green** lights = people are out of danger; the outbreak has stopped.

OUTCOMES

Each selection triggers an on-screen message and associated LED light state on the map.
1) MOSQUITO CONTROL path outcomes:
If the visitor is combatting a drug-resistant outbreak, the most beneficial choices, in the following order, are:

1) Distribute bed netting
2) Spray inside homes against larvae
3) Release genetically modified mosquitoes so that next gen. is sterile
4) Sign people up for a trial vaccine

2) PATIENT TREATMENT path outcomes:
If the visitor is combatting an insecticide-resistant outbreak, the most beneficial choices, in the following order, are:

1) Treat active patient cases with antimalarial meds
2) Distribute bed netting
3) Release genetically modified mosquitoes so that next gen. is sterile
4) Sign people up for a trial vaccine