

# Funding decisions

## Teachers' notes



### Overview of the activity

Students are given a hypothetical pot of money from which they can allocate funds to one or more malaria intervention projects. In groups they must discuss the pros and cons of the projects and decide which project(s) should receive funding. They should present back to the class on which projects they have chosen to fund and why.

**Estimated duration:** 60 - 90 minutes

If class time is limited students can be allocated to their groups before the lesson. They can then prepare for the activity as a homework task by accessing the *Malaria Challenge* resource online to gather information on different malaria interventions.

### To run the activity you will require:

- *Malaria Challenge* resource and internet access
- Funding cards (one set per group)
- Group instruction cards
- Teachers notes (one per teacher / facilitator)
- Group worksheet (one per group)
- Introductory PowerPoint presentation or video
- Group discussion guidelines

### How to prepare students for the discussion activity

To get the best from the activity it is recommended that students have time to familiarise themselves with the topic of malaria before commencing the discussion activity:

- 1. Introduce the topic of malaria:** It is recommended that students are familiar with malaria as a disease and some of the issues surrounding this. This information is provided in the introductory PowerPoint presentation or video. This should be presented before the discussion activity commences.
- 2. Allocate research roles prior to discussion:** It is also recommended that students have some preparation time before entering into the discussion phase of the activity. One suggested method is allocating members of the discussion group specific research tasks, e.g. student A researches the topics of bed nets, student B researches anti-malarial drugs. This will ensure that everyone in the group is familiar with at least one topic area and is able to contribute to the discussion. This can be introduced as a homework task prior to the activity.

Students are recommended to use the *Malaria Challenge* resource to source information, however if they wish to find out additional information recommended websites include:

- <http://www.nothingbutnets.net>
- [http://www.who.int/malaria/world\\_malaria\\_report\\_2010/en/index.html](http://www.who.int/malaria/world_malaria_report_2010/en/index.html)
- <http://www.rollbackmalaria.org/>
- <http://malarianomore.org.uk/malaria#>

# Funding decisions

## Teachers' notes



**3. Introduce students to the discussion guidelines:** Make students familiar with the following discussion guidelines, these are applicable throughout the activity:

- Speak for yourself and not for others.
- Allow others to finish before you speak. Listen well.
- Ask questions as well as making statements.
- Explain what you think and feel.
- Respect differences in opinion, the world would be a boring place if everyone thought the same.
- Share your life experiences and knowledge – it's valuable.

## Running the activity

### Step 1: Introduction to malaria

Using either the introductory PowerPoint presentation or video provided in the resource, introduce the students to the topic of malaria. Both resources provide information covering the key points of what malaria is, where it is a problem, who is affected and why. They also touch on issues such as how to diagnose and treat the disease and the problems of drug resistance.

After introducing the topic, introduce the activity to the students. Explain that their group is the advisory board for a UK malaria charity. Their role is to allocate funds from the charity to projects that aim to reduce malaria disease burden and mortality around the world.

### Step 2: Group discussion

Before starting the discussion the group should nominate the following roles:

- **Spokesperson(s):** the person or persons who will speak on behalf of the group during the feedback session.
- **Scribe:** the person responsible for taking notes on all the discussion and completing the group worksheet.
- **Financier:** the person responsible for doing the calculations and ensuring that the available funds are correctly allocated and the group doesn't overspend!

The first stage of the discussion process is to consider funding principles, a set of considerations or guidelines to help the group in their decision making. Ideas for funding principles include:

- Should you only fund projects in malaria endemic countries?
- Should the project have to use innovative technology?
- Will the project have a large scale impact?
- Should a project you fund further advances in the understanding of malaria?
- Should a project you fund further advances in the treatment of malaria?

As a group all of the students should discuss each funding application in turn, discussing the advantages and disadvantages for each application. Once a decision has been made, place the card in a yes, no or maybe pile.

# Funding decisions

## Teachers' notes



It is important to emphasise to the students that they do not have to spend all of the money. If they do not think all of the projects should receive funding, then they can leave surplus funds.

### Step 3: Feeding back the results

All groups should feed back on the projects that they have allocated funding to. Encourage the students to explain and discuss why they chose those projects over the others. You can prompt them with questions such as:

- What were your funding principles?
- What are the main benefits of choosing Project A over Project B?
- Why did you prioritise those particular projects?
- Of your projects which is likely to have the biggest impact?
- Of your projects which is likely to deliver results first?
- Were there any projects that you thought were unrealistic and therefore shouldn't receive funding?

Record the answers from all the groups on a flipchart or whiteboard using a table as shown below:

Projects funded	Group 1	Group 2	Group 3	Group 4	Group 5	Group 6
1						
2						
3						
4						
5						
Total spent £						

Are there similar ideas or is every group different? If there are differences in opinions, encourage the groups to explore these differences.

### Step 4: Summing up

The key message from this activity is that there is no correct answer to this activity as there are a number of methods which could be used to help eliminate malaria on a global scale. At present there is no single solution that on its own can eradicate malaria.

# Funding decisions

## Teachers' notes



### Supporting information for teachers

The following information can be used by teachers and group facilitators to encourage discussion either during the group discussions or the feedback sessions.

#### Project 1: Mobile rapid diagnostic test kit development

This project is requesting £280,000 over a two year period to develop a fast, handheld malaria diagnostic kit. It is an innovation project that, if successful, could save the lives of thousands of people around the world by quickly diagnosing cases of malaria.



#### Possible discussions points:

Advantages	Disadvantages
The new prototype will be faster and cheaper than existing rapid diagnostic tests.	The project may take a few years to start seeing the impact of the initiative.
The device could be used all over the world to diagnose malaria.	What happens if the prototype doesn't work?
The device could be used to diagnose malaria in remote communities with limited access to healthcare services.	With a rapid diagnostic test already on the market is there a need for another one, albeit a faster, cheaper model?
For an innovation/research and development (R&D) project £280,000 is relatively inexpensive.	Will it diagnose all species of <i>Plasmodium</i> ?
The device will enable early diagnosis of malaria which will improve the chances of successful treatment of the disease and reduce the risk of drug resistance developing.	

#### Project 2: Affordable medicines initiative

This project is requesting £10 million over a two year period to fund a scheme that will enable malaria endemic countries to provide affordable artemisinin combination therapies (ACTs) to those who need them. It is a financing project that negotiates set reduced prices with drug companies for the most effective anti-malarial drugs on the market. This enables countries to provide ACTs at affordable prices which will help to save the lives of thousands of people with malaria.



# Funding decisions

## Teachers' notes



### Possible discussions points:

Advantages	Disadvantages
The scheme will help to provide drugs at an affordable price to thousands of people in malaria affected countries. This will have a big impact on people with low incomes.	Is it morally right to subsidise expensive treatments rather than funding projects to develop new, potentially more affordable, drugs?
The first phase of the project will have an impact in several different malaria endemic countries around the world.	How many countries will be covered? Would other interventions have a broader impact?

### Project 3: Indoor residual spraying (IRS) scale up programme

This project is requesting £9 million over a one year period to fund a scheme that will provide indoor residual spraying (IRS) of insecticides in high risk malaria regions in Rwanda, Africa. The project is funding a direct intervention to reduce the burden of malaria in these high risk areas.



### Possible discussions points:

Advantages	Disadvantages
The scheme will provide protection for 13% of the population of Rwanda (275,000 households and 1.25 million people).	The scheme is focusing on just one malaria endemic country.
The programme includes training and capacity building with local cities to ensure that the project is sustainable and self sufficient. This should ensure that the initiative can be continued in the future, without relying on technical assistance from other organisations.	87% of the population of Rwanda are not part of the project.
The project is using long lasting insecticides that do not have toxic impact on the environment.	Will it have an impact on other insect populations, such as pollinating insects? Will this affect the growth of agriculture and the economy?
The project will have an immediate impact on mosquito populations and malaria transmission in Rwanda.	

# Funding decisions

## Teachers' notes



### Project 4: Artemisinin drug resistance tracking programme

This project is requesting £13.75 million over a three year period to fund a scheme that aims to monitor and, where possible, eliminate artemisinin-resistant parasites from the Thai-Cambodia region of South East Asia.



The project is funding a direct intervention to reduce and eliminate the risk of drug resistant parasites in South East Asia, to stop the parasites from spreading further around the world.

#### Possible discussions points:

Advantages	Disadvantages
The project has the potential to have a huge impact on a global scale. If successful it could prolong the effectiveness of artemisinin combination therapies (ACTs) for many years to come across the world.	The project will not deliver immediate results. It will take time to evaluate the impact of the project.
This project involves established national and international organisations with experience of malaria research and management.	There is no guarantee that this project will prevent drug resistant parasites from spreading further.
ACTs are the last line of defence against malaria so it is vital to ensure their effectiveness for as long as possible or until alternative drugs are developed and available.	This project may need to be continued for a long time unless malaria can be completely eliminated from Cambodia and Thailand to guarantee elimination of all drug resistant parasites.
The programme utilises a combination of techniques to reduce malaria in this region rather than relying on just a single strategy.	

### Project 5: Rural community bed net distribution

This project is requesting £250,000 over a two year period to fund a scheme that will distribute over 150,000 nets to remote rural communities in Nepal, South East Asia. The project is funding a direct intervention which will provide immediate protection from mosquito bites for thousands of people most at risk from malaria in this region.



#### Possible discussions points:

Advantages	Disadvantages
The project will have an immediate impact protecting thousands of children and adults from mosquito bites.	The scheme is focusing on just one malaria endemic country; it will not have a global impact.

continued on next page

# Funding decisions

## Teachers' notes



continued from previous page

Advantages	Disadvantages
The project is supported by education initiatives to ensure that the bed nets are used correctly and therefore resources are not wasted.	Compliance with using bed nets is not always high. Just because communities are given bed nets it does not mean that they will always use them.
The project trains members of the community on best practice so the project can be sustainable after the initial 2 year period.	

### Project 6: Live attenuated vaccine

This project is requesting £5 million over an 18 month period to run clinical trials of a live attenuated vaccine. This is a research and innovation project pushing scientific boundaries by developing and testing a brand new vaccine against malaria.



#### Possible discussions points:

Advantages	Disadvantages
This vaccine project if successful has the potential to have a global impact, protecting millions from malaria.	The results of the project will not be known immediately. There will be a period of several months or even years before researchers can determine whether the vaccine has been effective.
There is currently no vaccine for malaria. Even a partially effective vaccine may help to reduce the numbers of severe cases and deaths from the disease.	What happens if the vaccine doesn't work? This is a big investment into a product that it is not guaranteed to be effective or safe. Other programmes have a more certain outcome, such as distributing medicines or interventions that are known to work.
Ideally, a vaccine will protect someone for life and therefore will reduce the need to spend money on bed nets, drugs, insecticides etc.	A vaccine may only protect against a specific species of <i>Plasmodium</i> .

# Funding decisions

## Teachers' notes



### Project 7: International malaria conference

This project is requesting £375,000 over a five year period to run an annual international malaria conference hosted in the UK. The conference allows researchers from all over the world to come together to discuss malaria research and share results, knowledge and expertise.



#### Possible discussions points:

Advantages	Disadvantages
The conference will provide opportunities for new collaborations to further malaria research and potentially speed up the transfer of knowledge and experience.	The immediate impact of this scheme is limited to the conference participants and not people directly affected by malaria.
Funding would ensure a conference could run every year for five years.	It is hard to directly measure the impact of a conference.
The conference funds free places for researchers from malaria endemic countries in Africa, South East Asia and South America. This provides opportunities for researchers to gain new skills and knowledge which can be put into practice in their regions.	

### Project 8: Ugandan travelling clinics

This project is requesting £2.5 million over a two year period to establish travelling health clinics that will provide regular access to health care services for remote communities in a high malaria risk region of Uganda, Africa.



#### Possible discussions points:

Advantages	Disadvantages
The project will have an immediate impact on the participating communities.	The project is focusing on just one malaria endemic region.
The project will have a beneficial impact on over 800,000 people in Northern Uganda. The project will save lives by providing medical services that previously would have been inaccessible.	This project is focused on only the Northern region of Uganda. What about other areas of the country affected by malaria?

continued on next page



# Funding decisions

## Teachers' notes



continued from previous page

Advantages	Disadvantages
The project provides training for community members so that knowledge can be passed on within the community for better malaria prevention practices.	
If successful this may serve as a model for travelling clinics in other remote areas affected by malaria.	

### Project 9: Insecticide development programme

This project is requesting £15 million over a three year period to develop new insecticides for improved control of mosquitoes. This is a research and innovation project developing new resources that could help prevent the transmission of malaria.



#### Possible discussions points:

Advantages	Disadvantages
If successful, the project has the potential to have a global impact providing a new alternative to existing insecticides to which some species have developed resistance.	The project will not deliver results immediately for regions affected by malaria.
This project will not only impact on malaria but may also help several other insect-borne tropical diseases.	Very expensive.
Insecticides are not specific to particular species of <i>Plasmodium</i> .	What happens if the programme is not successful and no insecticides are developed? Other programmes have a more certain outcome, such as distributing medicines or interventions that are known to work.

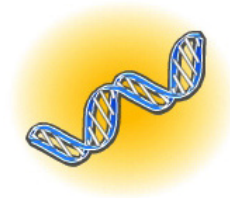
# Funding decisions

## Teachers' notes



### Project 10: Parasite genome sequencing project

This project is requesting £10 million over a four year period to identify molecules involved in the parasites life cycle using genome sequencing technology. This is a research and innovation project using cutting edge technology to identify new drug or vaccine targets.



#### Possible discussions points:

Advantages	Disadvantages
If successful the project could identify new targets for drugs and vaccine development. The development of new interventions would have a global impact, particularly if a vaccine is developed, as there is currently no effective malaria vaccine.	The project will not deliver immediate results. Once a potential target is identified it can take years to develop a drug or vaccine that is effective. It takes several years beyond that for it to pass clinical trials and be used in clinics. This project is just the start of the process.
With resistance to artemisinin already developing in some areas of Asia it is vital that new alternative drugs are developed to novel parasite targets. Genome sequencing could play a major role in this.	There are other ways to develop drugs and vaccines that do not rely on genome sequencing.

### Further reading

World Health Organization. World Malaria Report 2010.

Available online at: [http://www.who.int/malaria/world\\_malaria\\_report\\_2010/en/index.html](http://www.who.int/malaria/world_malaria_report_2010/en/index.html)

Barat LM. Four Malaria Success Stories: How Malaria burden was successfully reduced in Brazil, Eritrea, India and Vietnam. American Journal of Tropical Medicine. 2006; 74 (1): 12-16.

Available online at: <http://www.ajtmh.org/cgi/reprint/74/1/12.pdf>

Kappe SHI, Vaughan AM, Boddey JA and Cowman AF. That was then but this is now: malaria research in the time of an eradication agenda. Science. 2010; 320 (5980): 862-866.

Available online at: <http://www.sciencemag.org/content/328/5980/862.full>