

### What is Buruli ulcer?

Buruli ulcer is a disease caused by *Mycobacterium ulcerans*, a bacterium belonging to the same family of organisms that cause tuberculosis and leprosy. Its incubation period is between two months and several years. The disease often starts as a painless nodule in the skin which, if left untreated, leads to massive ulceration with debilitating deformities. The bacterium produces a toxin that destroys skin and bone, and suppresses the immune system.

### What are the facts about Buruli ulcer?

Buruli ulcer has rapidly emerged as an important cause of human illness worldwide. To date, the following countries/areas from Africa, the Americas, Asia and the Western Pacific have reported cases or suspected cases:

**Africa:** Angola, Benin,\* Burkina Faso, Cameroon, Congo, Côte d'Ivoire,\* Democratic Republic of the Congo, Equatorial Guinea, Gabon, Ghana,\* Guinea,\* Liberia, Nigeria, Sierra Leone, Sudan, Togo,\* Uganda.

\* Priority African countries

**Americas:** Bolivia, French Guiana, Mexico, Peru, Suriname.

**Asia:** China, India, Indonesia, Japon, Malaysia, Sri Lanka.

**Western Pacific:** Australia, Kiribati, Papua New Guinea.

### Some specific facts:

- The mode of transmission is not entirely known.

- Changes in the environment, such as the construction of irrigation systems and dams, seem to have played a role in the re-emergence of the disease.



*Farmers cultivating rice in Benin*

- The majority of victims are children under the age of 15 who live in poor rural areas near rivers, wetlands and stagnant bodies of water.
- There are no simple diagnostic tools for detecting infection yet.
- To date, antibiotic treatment has been unsuccessful.
- Treatment is surgical and expensive.
- In Africa, about 90% of Buruli ulcer patients already present with extreme ulceration by the time they seek medical care.



*A nodule*



*An oedema*

### What is the burden of disease?

There are not enough precise data at global and national levels to evaluate the burden of Buruli ulcer in all endemic countries. However:

- In Côte d'Ivoire, over 15 000 cases have been recorded between 1978 and 1999.
- In Benin, over 4 000 cases have been reported between 1989 and 1999.
- In Ghana, a nationwide survey identified over 6 000 old and new cases during 1999.

**"There is a huge underreporting of the incidence<sup>1</sup> of Buruli ulcer."**

*WHO, Communicable Diseases Cluster*

### What impact does Buruli ulcer have?

Buruli ulcer creates an enormous long-term demand on resources for health care and rehabilitation. Patients are in hospital for an average of three months. Materials and expenses for surgical treatment are huge and some patients end up with deformities.

### Buruli ulcer affects:

- Health services.
- Family life:
  - absenteeism among schoolchildren;
  - loss of capacity as caregivers among women.
- Community life.

### What are the objectives for control of Buruli ulcer?

One of the main objectives of Buruli ulcer control is to strengthen health services in general and to make surgical services available to patients.

<sup>1</sup> The number of new cases of disease during a given period.

### What about control strategies?

The current strategy promoted by the Global Buruli Ulcer Initiative consists of the following:

- **Intensifying information**, education and communication for the general public, especially in priority African countries.
- **Training health care providers** in the containment and management of Buruli ulcer.
- **Ensuring early detection** and early surgical treatment.
- **Strengthening health services** in the affected areas.
- **Rehabilitating people** already deformed by the disease.



*Village education*

### What are the ongoing actions against Buruli ulcer?

- **Addressing advocacy** at global, regional and country levels to raise awareness about Buruli ulcer in endemic countries.
- **Carrying out further situational analysis** in endemic countries.
- **Implementing pilot projects** to ensure early detection of the disease and treat those affected in Côte d'Ivoire and Ghana.
- **Promoting research** in:
  - mode(s) of transmission;
  - environmental factors that favour emergence of the disease;
  - rapid and accurate methods of diagnosis;
  - effectiveness of existing antimicrobial drugs;
  - vaccine development.



*Buruli ulcer in a young girl from Ghana*

*"The challenge for WHO is to develop simple, inexpensive and reliable diagnostic tools that can detect the presence of infection before the disease sets in."*

WHO, Communicable Diseases Cluster

#### What are the future actions planned against Buruli ulcer?

WHO is taking and will keep taking action in the following priority areas:

- Initiating drug trials to find medical treatment for the disease.
- Mapping the distribution of the disease, initially in West Africa.
- Training health care providers in the affected countries.
- Implementing surveys to determine the burden of the disease.



*A girl from Ghana with deformities due to Buruli ulcer*

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#### PROGRESS MADE SO FAR

##### Major highlights of the Global Buruli Ulcer Initiative

**February 1998:** The first meeting of the Buruli ulcer Advisory Group was held in Geneva.

As a result of its recommendations, a situational analysis was carried out between March and June 1998 in Benin, Côte d'Ivoire, Ghana and Togo. The findings mainly showed an increasing number of cases and inadequate resources to deal with the problem.

**July 1998:** The First International Conference on Buruli ulcer was held in Yamoussoukro, Côte d'Ivoire and led to the adoption of the Yamoussoukro Declaration on Buruli ulcer

by the WHO Director-General together with the presidents of Benin, Côte d'Ivoire and Ghana. This conference marked the first step towards recognizing the personal and socioeconomic consequences of Buruli ulcer, emphasizing the link between ill-health and poverty.

Through the Declaration, the participants committed to:

- Establishing a surveillance system to determine the burden of Buruli ulcer.
- Providing simple surgical facilities for treatment.
- Providing treatment to patients free of charge.
- Collaborating in research on prevention and transmission.
- Mobilizing financial and technical support to assist endemic countries.

**March 2000:** First monograph on Buruli ulcer by WHO, "Buruli ulcer, *Mycobacterium ulcerans* infection".

(WHO/CDS/CPE/GBUI/2000.1)

#### FLASH TIPS

Did you know that after tuberculosis and leprosy, Buruli ulcer is the third most common mycobacterial disease in humans?

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# Buruli ulcer

