

# Chagas Disease (American Human Trypanosomiasis)



## MSF FACT SHEET

### CHAGAS DISEASE American Human Trypanosomiasis

#### WHAT IS CHAGAS DISEASE?

Chagas disease, or American trypanosomiasis, is a parasitic disease endemic throughout 21 countries in Latin America. Primarily affecting poor populations, the disease is mainly transmitted by triatome bug bites, but may also be transmitted from pregnant mothers to their babies, through blood transfusions and organ transplantation, and rarely through oral transmission. Up to 30% of those infected develop serious cardiovascular, gastrointestinal, or neurological disease in their adult years. Without diagnosis and treatment in the early stage, one in every four Chagas patients develops a fatal symptom of the disease. As the largest parasitic killer in the Americas, there are up to 15 million cases worldwide, with about 14,000 deaths each year.



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#### TRANSMISSION AND DIAGNOSIS

The majority of people infected with *Trypanosoma cruzi*, the parasite which causes Chagas disease, show some sign or symptom at the time of infection. For many, the symptoms go unnoticed and for years these people live with the parasite without their health being affected. Nevertheless, in the chronic phase of the disease, 30 per cent will develop problems in their heart and/or gastrointestinal tract, causing irreversible damage. Since it is impossible to predict who will develop the disease, treatment should be offered to all sufferers, with assessment of their clinical status and age.

As the disease often does not present symptoms, active detection of cases should be a priority in programs to combat Chagas. Diagnosis currently requires confirmation through laboratory tests. In many cases, the endemic countries do not have the necessary facilities or staff available to carry out these tests. It is essential that communities living in endemic zones have access to diagnosis and can find out if they have been infected with *T. cruzi*. If not, thousands of people will die each year without knowing the cause.

#### TREATMENT

There are currently only two medicines to combat Chagas disease: benznidazole and nifurtimox. Both were developed over 35 years ago in investigations not specifically aimed at Chagas disease. Presently, neither of these drugs is adapted for paediatric use and cannot be used by pregnant women. The success rate reaches almost 100 per cent in newborns and infants. However, for older children, adolescents and adults this treatment is at best 60 or 70 per cent effective and can have multiple side effects, and therefore has to be taken under medical supervision.

Until a few years ago it was thought that the treatment was only effective in very young children and not in adults. However, recent studies demonstrate that it is possible to treat adults, even after the heart or the gastrointestinal tract are mildly affected (initial clinical forms of the chronic phase). As the side effects of the treatment are more common in older patients, doctors have been reluctant to administer the medicine out of fear of the consequences. We now know that the adverse effects are manageable.

## MSF AND CHAGAS DISEASE

Doctors Without Borders/Médecins Sans Frontières (MSF) has provided free diagnosis and treatment for Chagas disease since 1999 in countries including Honduras, Nicaragua, Guatemala, and Bolivia, which has the highest prevalence in the world. In Cochabamba, MSF runs free, urban and rural Chagas programs that are carried out in collaboration with the Bolivian Ministry of Health in an integrated way in five primary care centres, where children and adults up to the age of 50 are treated and diagnosed. Through 2008, MSF has tested over 60,000 people for Chagas and treated more than 3,000. This shows that, although current resources are not ideal, the diagnosis and treatment of Chagas disease is viable in environments with limited resources and remote areas if various coordinated activities are carried out.

## CHALLENGES

With the limited resources currently available to treat Chagas disease, medical teams have to deal with many shortfalls and sometimes they don't have any treatment options. Millions of sufferers, especially in rural areas, have neither the opportunity to find out that they are infected nor the possibility of being treated. New diagnostic tests, better medicines and a test for cure are urgently needed to diagnose and treat this illness.



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## MSF IS CALLING FOR:

- **Routine testing and diagnosis of Chagas disease at the primary care level in endemic areas and parts of the world with population movements from endemic areas:** The lack of resources at the primary health care level limits proactive and integrated approaches.
- **Increased access to treatment for children and adults in the primary care system:** Millions of people, especially in rural areas, have neither the opportunity to find out that they are infected nor the possibility of being treated.
- **Integration of vector control with treatment of patients:** Ineffective prevention efforts cause the insect and the disease to reappear and patients to become re-infected.
- **Better data collection to determine the prevalence of Chagas and real requirements for medicines:** The burden of Chagas disease is significantly underestimated in official statistics. Inadequate systems for surveillance and reporting of this disease translate into severe underreporting of new Chagas cases in endemic and non-endemic regions.
- **New diagnostics urgently needed:** Simple and affordable diagnostic tools are required to make diagnosis of patients in the field accessible. A test for cure is urgently required to be able to confirm success of treatment for the patient, and is essential in measuring efficacy for new drugs. This requires long-term investment and commitment to be made by laboratories, investigators and funders.
- **New treatments urgently needed:** Current treatments consist of two medicines developed more than 40 years ago that have limited efficacy in the chronic phase, side effects, and are not readily accessible to patients due to complicated supply, procurement and drug registration limitations. Paediatric formulations of current treatments are needed. New drugs with increased efficacy and safety are also needed.
- **Increased and sustainable public funding for treatment programs as well as research & development:** A recent study reveals that less than 0.5 per cent (\$10M) of all worldwide research and development (R&D) funds were spent on Chagas disease in 2007 and over half of this was spent on basic research.<sup>1</sup> Negligible funding has been provided nationally or internationally for diagnosis and treatment programs.

<sup>1</sup> Moran, Mary, Guzman, Javier et al., "Neglected Disease Research and Development: How Much are We Really Spending?". G-FINDER, 2008.