

## Chagas disease: successes and challenges

In June 2006, PAHO/WHO certified Brazil as having eliminated Chagas disease transmission by both the principal vector (*Triatoma infestans*) and transfusion of blood and blood products. Carlos Chagas' greatest dream was thus achieved, as the result of determination by scientists and thousands of anonymous "health guards" in a saga launched by Emmanuel Dias more than 60 years ago. In the 1970s there were still more than five million Brazilians infected with *Trypanosoma cruzi*, with an estimated 100 thousand-plus new cases per year and more than 10 thousand deaths. Only 5% of the blood banks screened their donors, and more than 700 municipalities in the country had households infested with *T. infestans*. Death occurred early, among young adults, and there was no effective treatment. It was a huge social problem, with thousands of orphans and widows and patients incapacitated by severe cardiopathy. The only vulnerable links in the disease were the insect vector, lodged in destitute rural shacks, and the blood banks, where 5 to 7% of donors were infected. In the 1980s, major pressure from Brazilian scientists led to the prioritization of a national program against the disease, covering the endemic area with insecticide and implementing screening in the blood banks. In 1991, the Southern Cone countries joined ranks in the common struggle, achieving extraordinary results in Uruguay, Chile, and parts of Argentina and Paraguay. In order to be certified, Brazil had millions of human dwellings purged and inspected, and the number of captured *T. infestans* dropped from more than 80 thousand in 1979 to fewer than 40 specimens in 2005. There were no more children or youth infected, blood bank control reached 100%, and infection prevalence in donor candidates decreased to 0.65%. Fewer Chagas patients are dying today, and the remaining infected individuals are living longer due to advances in medicine and greater coverage of medical care. All these are good reasons to celebrate.

Nevertheless, the subject is not finished, and much remains to be done. The greatest danger in such good news lies in inconsequential triumphalism and slackening of control measures. It is unlikely that *T. infestans* will return, but secondary triatomines persist in nature and could occupy the niche left by the species that has been eliminated. The elimination of *T. infestans* itself must be consolidated in order to detect and destroy residual foci. *Epidemiological surveillance* is the key word. Beginning in 2000, the Brazilian Health Reform decentralized control measures, transferring them to the States and Municipalities. The surveillance approach is the same, but the continuity of actions must not be undone. Municipal and State health departments have to prepare themselves technically, allocate resources, and conduct supervisions. They must increase their capacity to deal with rare situations such as outbreaks of oral transmission of the disease in the Amazon and the States of Santa Catarina and Ceará, as well as to monitor possible triatomine resistance to insecticides. They must treat the occasional acute and congenital cases and provide adequate care for individuals infected in the past. Blood banks must still control the blood supply. Research must continue to find more effective drugs and better peridomestic vector control. The question is how long this will be done, and by whom. Two to three decades of surveillance will certainly be needed, and the Unified National Health System will be the main agency in charge of guaranteeing continuity in the actions. Brazil played a central role in discovering the disease and in the research and services leading to its elimination. The country can and should continue to be a benchmark. The final struggle will involve a new logic, with other protagonists in addition to the valiant "health guards" of the now-defunct Superintendency for Public Health Campaigns (SUCAM). Managers, educators, politicians, and researchers are needed to achieve success in this new phase.

*João Carlos Pinto Dias*

*Centro de Pesquisas René Rachou, Fundação Oswaldo Cruz, Belo Horizonte, Brasil.  
Membro do Comitê de Doenças Parasitárias da Organização Mundial da Saúde.  
jcpdias@cpqrr.fiocruz.br*