The WHO Global Network for Chagas Elimination was launched in July, 2007, to coordinate global efforts to eliminate this neglected disease in the next 3 years. Jean Jannin, coordinator of the initiative at WHO’s neglected tropical diseases unit (Geneva, Switzerland) told T LJ D that the target date of 2010 is “perhaps optimistic” but he hopes the project will substantially reduce the global burden of Chagas disease.

The disease is caused by infection with the protozoan parasite Trypanosoma cruzi, which passes to human beings via insects of the Triatominae subfamily of predatory assassin bugs. These “kissing bugs” live in cracks in poor housing and emerge at night, biting people near the mouth or eyes. The faeces of triatomites, which can be heavily infected with parasites, are easily ingested or taken in through mucosal surfaces. T cruzi can also be transmitted in blood and organs from infected donors, and may pass across the placenta of infected mothers to the fetus.

Vector-borne transmission is confined to the Americas, mainly rural areas in parts of Mexico, Central America, and South America. During the 1980s, an estimated 25 million people were infected, but control programmes in the past 15 years, including three multinational campaigns, have had impressive results. “Uruguay, Chile, and Brazil have certified the interruption of vector transmission and disease prevalence generally has been reduced,” commented Janis Lazdins-Helds (WHO Special Programme for Research and Training in Tropical Diseases [TDR], Geneva, Switzerland). “Estimated case incidence has declined from more than half a million new cases every year to around 50 000 and will probably reduce further”, agreed Chris Schofield (London School of Hygiene and Tropical Medicine, London, UK). About 8 million people in Latin America are carriers of the disease.

“Chagas disease cannot be eradicated: a reservoir of infection will always exist in the wild irrespective of human infection, but it is feasible to eliminate if we understand elimination as the interruption of disease transmission”, said Roberto Salvatella (Pan American Health Organization, Montevideo, Uruguay). Continuing objectives of the WHO programme will be improving case detection and treatment, and keeping tighter control of insect vectors. “Periodic serological screening of schoolchildren is necessary in all endemic areas so that vector control can be targeted effectively”, said Schofield.

Better serological tests are also needed. Lazdins-Helds told T LJ D: “We still lack adequate confirmatory tests and diagnostics to establish a cure for Chagas disease”. This is a major hurdle because the disease is largely “silent”. Early symptoms can include fever, fatigue, swollen glands, and heart pain, but in many cases there may only be a minor swelling around the insect bite. Years, sometimes decades later, chronic disease with severe cardiopathy can occur, sometimes associated with swelling and disruption in the oesophagus and colon. Around 14 000 people die from complications of Chagas disease every year.

According to Lazdins-Helds, “eliminating Chagas disease presents considerable challenges”. Early treatment by one of the two drugs currently available—benznidazole or nifurtimox—can be successful but both have 30–60-day treatment regimens with associated compliance issues. The drugs can also have severe side-effects and might not help with advanced disease. However, he added, “if today’s estimated 8 million Chagas disease carriers are not diagnosed, treated, and cured, not only will they continue to suffer, but they can infect others through blood transfusion or by perpetuating congenital transmission”.

New treatments are being actively sought and TDR, with the Canadian Institutes of Health Research, is supporting BENEFIT, a multinational clinical study to investigate whether benznidazole treatment in the chronic phase of Chagas disease can halt or reverse disease progression or eliminate parasitic infection, or both. Results are due in December, 2010.

“The acknowledgment of the globalisation of Chagas disease in non-endemic countries in Europe (Spain, France, UK, Belgium) and North America (USA and Canada) was another major achievement of our meeting in July”, commented Jannin. Conservative estimates suggest that about 14 million people from Chagas disease endemic countries are living in non-endemic areas.

“Non-endemic Chagas disease is emerging as an important issue”, commented James Diaz (Louisiana State University School of Public Health, New Orleans, LA, USA). Since 2001, five cases of acute Chagas disease following solid organ transplantation have been reported in the USA, of which four were fatal. “More deaths are likely”, predicts Diaz, who says there may now be more than 100 000 T cruzi-seropositive people living legally or illegally in the USA having acquired infections as children in Latin America, some of whom will be blood and organ donors. In January, 2007, the US government implemented a programme to screen all blood donors for T cruzi infection.

“Other non-endemic countries may need to follow suit”, said Diaz.