

## Ponencia

### New diagnostic strategies are required to increase coverage of treatment of patients affected by Chagas disease

### Se requieren nuevas estrategias de diagnóstico para aumentar la cobertura del tratamiento de los pacientes afectados por la enfermedad de Chagas

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**Palabras clave:** Pruebas rápidas de diagnóstico Chagas. Nuevas herramientas de diagnóstico.

#### Introduction

Chagas disease is one of the main Latin American public health problems. In the last decades, mainly due to population movements, *T. cruzi* infection has increasingly spread all over the world.

Many countries do not have either the necessary facilities or staff to carry out conventional serological tests or face structural problems to guaranty proper access to diagnostic to people infected with chronic Chagas disease. Since years rapid diagnostic tests are commercially available but lack of evaluation and definition of use have limited the extension of diagnostic coverage in endemic and non-endemic area. Since 2013 MSF launch a study aimed to evaluate the performance of commercialized rapid serological diagnostic tests (RDT) for *T. cruzi* infection: first in collaboration with ten national reference laboratories (NRL) representing different regions. According to the performance results from the phase 1, 4 of the best tests were selected and evaluated in a project conduct by MSF in Aiquile (Bolivia) focusing on its performance on whole blood under field condition.

#### Methodology

In the first phase, 11 commercialized RDTs for *T. cruzi* infection were evaluated, comparing their performances on over 500 samples obtained from the serum banks of NRLs. The sensitivity, specificity and concordance of each RDT were measured. Simultaneously, MSF evaluated potential cross reactions (i.e: Leishmaniasis, malaria, HIV) in collaboration with PNCQ. Test results were divided into positive, negative, and invalid/indeterminate, strictly following definition provided by manufacturers. The 11 commercialized RDTs could be classified in three categories: high, medium and low performance.

#### Results

Among the evaluated RDTs, the majority of them were classified in the medium performance category, 25% were classify as low performance and 20% as high performance.

In Bolivia, results of the 4 selected RDTs show performance data above 95%.

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## Conclusions

In line with the promotion of the access to diagnosis and treatment of the chronic phase of Chagas disease, the results found in this project showed that, alternative serological RDTs can be useful and reliable instruments to achieve this objective. Further investigations “under field condition” are still required in order to finalize the validation of new algorithms of diagnostic for Chagas chronic disease.

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