

FINAL TECHNICAL REPORT / RAPPORT TECHNIQUE FINAL PROJECT ALLIANCES FOR CHAGAS DISEASES ELIMINATION IN CENTRAL AMERICA.

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Project Alliances for Chagas Diseases Elimination in Central America.

**FINAL Technical Report
DNDi 2017- 2021
Project number: 108651-002**

INDEX

Executive Summary 3

The research problem 3

 Objectives of the project:..... 5

Progress towards milestones: 6

Synthesis of research results and development outcomes 7

Methodology 7

Project outputs..... 8

Problems and challenges 17

Overall assessment and recommendations 17

8. List of de Annexes:..... 19

Executive Summary

The final technical report of the project "*Alliance Project - Contribute to the elimination of Chagas Disease in the endemic areas of Guatemala - Municipality of Jutiapa and Comapa*" is presented.

Institutions that are part of the Alliance Project: USAC¹, FMS², IDRC³ and DNDi⁴

This report describes the intervention between 2017 - 2020, which was carried out by DNDi, mainly responsible for secondary prevention actions, although with a comprehensive perspective, with inter-institutional coordination between the partners of the Alliances Project, the Ministry of Health of Guatemala, Jutiapa Health Area and PAHO⁵ Guatemala. This platform of Organizations / Institutions has been indispensable in their contribution in the fight against the Chagas Disease, a multicausal complex of conditions and causalities that must be addressed in their entirety.

The activities of the secondary prevention component were focused on the development of a Care Roadmap for people affected by Chagas Disease in the intervention area, with close coordination with primary prevention, supported by the institutions in the Alliances project, USAC, and FMS.

During the 3 years of intervention, the project contributed to improving access to comprehensive care for people by identifying the main barriers and acting on them. Strengthening the capacities of human resources and increasing the resolution capacity of the health system has been crucial in advancing access to both the diagnosis and treatment of Chagas Disease. The inter-institutional and integrated approach allowed a harmonized and articulated advance between the components of primary prevention and secondary prevention, ensuring a sustainable and integrated progress.

The research problem

Actions for vector control of the disease in the country have advanced ostensibly, becoming the first country to eliminate *Rhodnius prolixus* as the main vector of transmission by *T. cruzi* infection in the country. Receiving the certification of the interruption for the year 2008.

¹ USAC: San Carlos National University

² FMS: Mundo Sano Foundation

³ IDRC: International Development Research Centre

⁴ Drugs for Neglected Disease Initiative

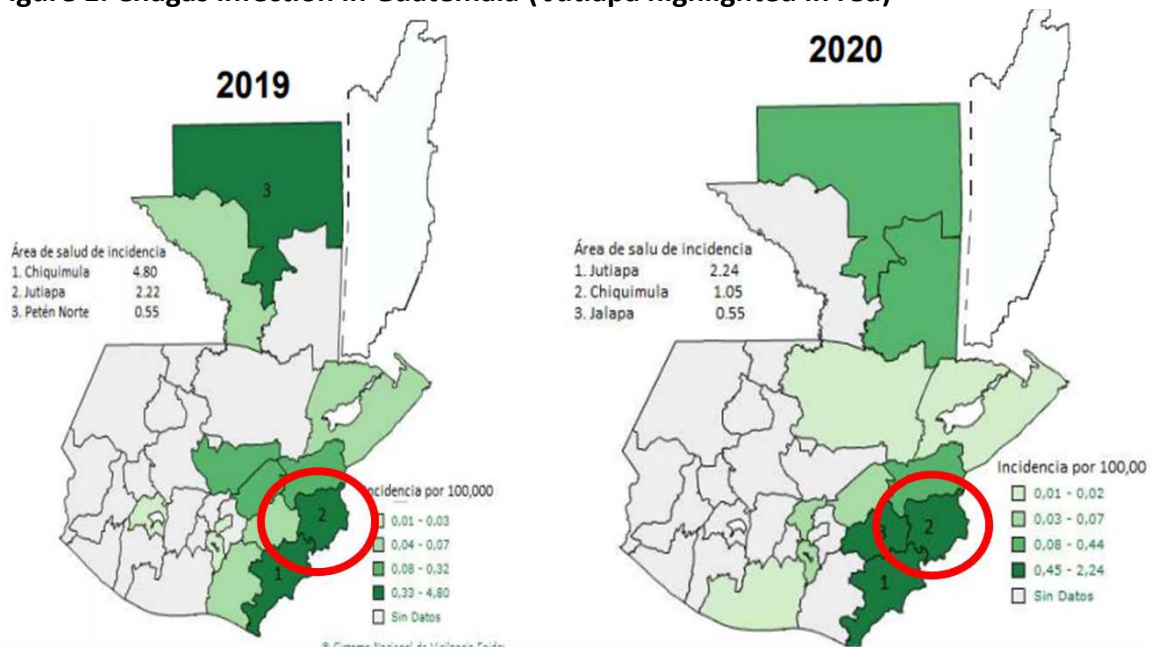
⁵ Pan American Health Organization

Comprehensive care actions, including secondary prevention (care integral part of the people) have not evolved in the same way, there is no clear model of care, diagnosis and treatment of populations at risk.

The IDRC & DNDi Alliance project proposes a joint comprehensive action to contribute to eliminate Chagas disease as a public health problem in Central America and Mexico together with key local partners and actors. The leadership of the project has been thought for the affected countries, as well as the ownership of the initiative.

Although the Alliance Project was conceived as a regional action, Central America - Mexico, the initial intervention is focused on Guatemala (Department of Jutiapa), for budgetary reasons and also as a methodology of approach based on pilot test, which once validated the same, could be addressed and expanded on a larger scale (replication of the project) extending the intervention in other areas already identified as priorities in the framework of the Project. It is with this justification that the actions begin in Guatemala, in the hotspot of the department of Jutiapa, Comapa Municipality.

Figure 1: Chagas infection in Guatemala (Jutiapa highlighted in red)



Sources: MoH- SIGSA⁶

Table 1: Estimated data of Chagas disease in Guatemala. WHO 2015

Estimate of No. of infected people	166.667
Estimate of new annual cases by vector transmission	1275
Estimate of No. of women of	32759

⁶ Guatemala's Official data registration system

age fertile (15-44 years) infected	
Estimate of new annual cases by congenital transmission	164
Estimated prevalence of infection by 100 inhabitants	1230
Estimated prevalence in BS	1.3 %
Estimation of population at risk	1.400.000

Search : Report WHO/ OMS, 2015. (Last official update available)

Given the Chagas situation in Guatemala, a comprehensive intervention was defined with the following objectives:

Objectives of the project:

- i. **General objective:** To eliminate Chagas disease as a public health problem through community and intersectoral-based interventions, emphasizing the reduction of risk factors for transmission (**primary prevention**) and timely diagnosis and treatment of infected individuals (**secondary prevention**), in three geographically defined hotspots in four Central American countries and Mexico, over a three-year period.
- ii. **Specific Objectives⁷:**
 - a. Reduce *Triatoma dimidiata* intra-domiciliary infestation risk factors in prioritized areas by improving housing with local materials.
 - b. Implement a sustainable program of integral care⁸ for infected individuals in the current health system, at Primary Health Care level, focused on access to diagnosis and treatment.
 - c. Monitor and evaluate primary and secondary prevention actions, through process and impact indicators, considering initial and final conditions.
 - d. Reinforce the entomo-epidemiological surveillance system, through notification of domiciliary infestation, positive cases, and systematic reporting of data on screening, diagnosis and treatment of infected individuals.
 - e. Reinforce collaboration among several international and local institutions to strengthen the sustainability and replication of the interventions.

Observation: This report is focused on describing the secondary prevention actions contemplated in the specific objectives number 2. Although there will be a brief review of the actions developed within the framework of the Alliances project, necessary to demonstrate the integral dimension of the intervention.

⁷ Objectives extracted from the document "Alliance for the COMPREHENSIVE CONTROL and elimination of Chagas disease as a public health problem in CENTRAL AMERICA AND MEXICO" 25/07/2017.

⁸ Comprehensive Care: Comprehensive care is defined as the care where primary and secondary prevention is integrated.

Progress towards milestones:

Table 2: Milestone progression achieved per project year

	Milestones	2018				2019				2020			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
First year	1. Situational Assessment	■											
	2. Barrers Seminar		■										
	3. Medical focal point (from Jutiapa Area) training about Chagas Disease in Bolivia			■									
	4. Assessment Diagnostic component			■									
	5. First meeting for comprehensive Chagas Chagas Care Roadmap building			■									
Second year	6. First Chagas clinical management training in Jutiapa					■							
	7. Protocol for the validation of serological tests for the diagnosis of Chagas Disease								■				
	8. Formalization of an interinstitutional agreement (DNDi – MoH ⁹) signed in October 2019.								■				
Third year	9. The LNR ¹⁰ has a toolbox necessary to carry out the diagnostic validation study											■	
	10. Donation of equipment to Comapa Chagas Clinic to improve and expand the Chagas Care Roadmap care												■
	11. Alliance Project Webinar												■

⁹ Ministry of Health¹⁰ LNR: Laboratorio Nacional de Referencia de Guatemala (Guatemala National Reference Laboratory)

Synthesis of research results and development outcomes

The project contributed to improving access to the diagnosis and treatment of Chagas disease, by supporting the implementation of an integrated program in the Guatemalan health system, at the first level of care.

The main results achieved were:

- 1.** Contribute to the identification of barriers to the diagnosis, treatment and comprehensive care of Chagas disease, discuss its causes and propose solutions. The seminar to identify access barriers, through an inter-institutional discussion, with the presence of health system personnel, authorities, researchers, and affected patients, provided systematized and strategic information for the Chagas Program in particular and the health system in general. This information was an input to address and mark the first steps of a comprehensive care program for Chagas Disease.
- 2.** Preparation support of protocol for the evaluation of the performance of the serological diagnostic tests for Chagas disease. The diagnostic evaluation protocol will allow the National Reference Laboratory to know the performance of the serological tests currently used in the diagnostic algorithm, perform quality control on commercial kits, define a third test to resolve discrepancies and guarantee the diagnostic quality at the level of country. This process consolidates the National Reference Laboratory in its normative and quality control function with regard to the diagnosis of Chagas.
- 3.** Contribute to the process of building a comprehensive Chagas Care Roadmap. The care Care Roadmap is a key tool in guaranteeing quality care, integrated into the health system, putting the patient at the center of care¹¹.
- 4.** Strengthening of local capacity to diagnose and treat Chagas disease. This strengthening was focused on improving the knowledge of health personnel in the Jutiapa area, training two people in the Chagas Platform in Bolivia, of two professionals as focal points in the clinical management of the Disease, as well as the provision of medical equipment and laboratory that allow increasing resolution in the first level of care in the department of Jutiapa

Methodology

The general methodology of intervention on secondary prevention actions was based on the 4D Model. Model created by DNDi to improve access to the diagnosis and treatment of Chagas disease¹².

The 4D model as a methodology is implemented in 4 steps: Diagnose, Design, Develop and Demonstrate the impact. The initial phase of Diagnosis implies knowing the general

¹¹ Colombia, Ministerio de Salud y Protección Social. (2016, April). MANUAL METODOLÓGICO PARA LA ELABORACIÓN E IMPLEMENTACIÓN DE LAS RIAs. Retrieved October 12, 2020, from <https://www.minsalud.gov.co/sites/rid/Lists/BibliotecaDigital/RIDE/VS/Manual-metodologico-rias.pdf>

¹² Batista C, Forsyth CJ, Herazo R, Certo M, Marchiol A. A four-step process for building sustainable access to diagnosis and treatment of Chagas disease. *Rev Panam Salud Publica*. 2019;43:e74. <https://doi.org/10.26633/RPSP.2019.74>

situation of the intervention area, identifying needs and access barriers, knowing their causes and proposing solutions according to the context. The next Design step creates a specific plan to act on the needs and conclusions that were identified through consensus. The Development step involves implementing the action plan through a pilot, while at the same time strengthening the capacity of the health system for CD testing and treatment. Finally, the Demonstration of Impact step compares the baseline data with the annual post-implementation data to measure progress.

Table 3: Activities developed by the project according to the methodology and stage of the 4D Model

4D Model	Priority strategic actions by stage according to 4D Methodology
1D	- Initial situational diagnosis - Barrier Seminar
2D	- Design of a protocol for the evaluation of serological diagnostic tests - Construction of a comprehensive Chagas Care Roadmap
3D	- Strengthening of local and decision-making capacities of the health system (training and donations)
4D	- For various reasons, 4D could not be developed within the framework of this project.

Project outputs

The main outputs and outcomes developed with the support of DNDi, with the perspective of improving and expanding actions on caring for people (secondary prevention) were:

1. About the diagnosis of situation as a key document in the process of improvement and extension of the attention of the person and design of a comprehensive model focused on secondary prevention. Main conclusions (**For more information see Annex N^o 1**):

Table 5: Initial SWOT evaluation

	Internal Factors	External Factors
Positive Points	<p>Strenghts</p> <p>Existence of a Chagas Platform with good representation</p> <p>Historical interinstitutional work in primary prevention</p>	<p>Oportunities</p> <p>Submission of Guatemala in the ETMCP plus Initiative Interinstitutional alliances</p> <p>PAHO Guatemala -</p>

	<p>Elimination of Chagas transmission by <i>R. prolixus</i></p> <p>Existence of Regulations</p> <p>Ministerial interest to work in Chagas</p>	<p>IPCAM</p> <p>history of other endemic disease initiatives in the country</p>
Negative Point	<p style="text-align: center;">Weakneses</p> <p>No existence of guides or care Chagas Care Roadmap</p> <p>Centralized diagnosis, does not reach APS level</p> <p>Inconsistent information/ notification and surveillance system</p> <p>No existence of the two trypanocides (missing BZN)</p> <p>No chronic notification</p>	<p style="text-align: center;">Threats</p> <p>Linked to lack of budget</p> <p>Political Changes</p> <p>HR</p>

2. Seminar to Identify Access Barriers to Comprehensive Care of Chagas Disease, the findings are (For more information see Annex N° 2 and 3):

Table 6: Summary of access barriers identified for comprehensive care for people

Categories / component	Diagnosis	Treatment	Surveillance	Congenital transmission
	Diagnosis Centralization	Outdated Clinical Protocols and Guides	Chagas disease is not a priority for decision makers	Lack of information and notification system
Policy and Procedures	<p>Lack of socialization of national official guidelines</p> <p>Lack of information and notification system</p> <p>Lack of quality control</p>	Weakness in the information and notification system (epidemiological surveillance)	Lack of inter-institutional coordination and management	Excess bureaucracy
Services / Health System	Lack of training of health staff	Lack of trained health staff	Lack of training of health staff	Lack of trained health teams

	Lack of follow-up of positive cases	Delayed diagnoses		Prenatal screening during pregnancy is limited
	Limited resolution capacity of laboratories in endemic areas	Lack of active search for detection of acute infection	Centralization of medical care	Centralization of medical care
Supplies / Infrastructure	Lack of validation of a third test for discordant diagnoses Limited human resources	Lack of equipment and kits to start and follow up etiological treatments	Lack of strategic inputs	Lack of strategic supplies in Health Centers
Individual / community / society	Lack of awareness and information to the community about the diagnosis of Chagas disease	Lack of information about Chagas disease in the community	Lack of comprehensive information in the community (deforestation, hygiene, environmental management, housing, etc.)	Lack of risk perception and education in the community

3. Medical focal point (from Jutiapa Area) training about Chagas Disease in Bolivia

Two health referents, a doctor and a nursing graduate, were trained in clinical management of Chagas Disease in the Chagas Platform in Bolivia. The terms of reference (ToR) for this training were:

- Generate a theoretical and practical learning space in Chagas disease, for a human resource with training in medicine and nursing, in a recognized care position.
- Upon their return, the trained health personnel will be a reference for Chagas disease at the Jutiapa Health Area level for the different municipalities and medical centers where they will train their peers at the healthcare level.
- Generate relationships and strengthen inter-academic, inter-institutional ties, with the aim of fostering and promoting the teaching of Chagas disease in different areas.

4. Assessment of Chagas diagnosis component

The Alliances project carried out an evaluation of the aspects of the serological diagnosis of Chagas disease, with the objective of knowing the current situation of the diagnostic component in Guatemala and proposing support to the LNR in improving the quality of diagnosis and decentralizing it. The main conclusions are the following (For more information see annex N° 4):

Considerations on administrative aspects:

- The technical processing of the tests is delayed, causing gaps in the sending of results.

- The diagnostic process of Chagas disease is only internally adapted by LNS.
- The technical activities that are carried out to achieve the validation processes must be endorsed by the general direction of regulation, monitoring and control of the MSPAS.

Considerations on technical aspects:

- The technical processing of the test cannot be guaranteed because the volumetric measurement equipment does not have metrological interventions. The temperature and relative humidity conditions of the processing areas are not controlled or monitored.

Considerations on quality control aspects:

- The LNS doesn't implement a quality control program for health areas, nor do execute it as participants with international entities.

Considerations on diagnostic algorithm implementation:

- The official diagnostic algorithm has a limitation regarding diagnostic confirmation when it comes to discordant results.

Considerations in the articulation of reference levels

- There is no articulation in the diagnostic processes, therefore, not all patients have the same probability of being captured and not all are entitled to the same processes of diagnostic quality.

2. First meeting for comprehensive Chagas Care Roadmap building

In order to mitigate the impact of access barriers on the care of people with Chagas disease, the construction of the Care Roadmap began in 2018 in conjunction with the main actors of the health system and based on current regulations to allow improving access in terms of early detection, diagnosis, treatment, rehabilitation and primary prevention.

Regarding the contribution of the development of the Chagas Care Roadmap, nine steps were adjusted according to consensus. Step 1: creation of a working group (health areas and central level of the MSPAS), and the scenarios to which the RIA¹³ had to respond were determined (acute Chagas, blood bank, chronic Chagas and Chagas in the mother / child binomial); step 2: identification of intervention taking into account the barriers identified in the seminar; step 3: review of the interventions currently carried out; Step 4: revision of the current standard of care; step 5: preliminary layout of the interventions according to the scenario; step 6: construction of a matrix of interventions; step 7: graphical construction of the RIA; step 8: validation and feedback and step 9: implementation .

¹³ RIA: in Spanish: Ruta Integral de Atención. In English: Comprehensive Care Roadmap

Unfortunately, this activity could not be fully developed for various reasons, where it is necessary to highlight the constant changes of the management personnel of the Ministry of Health at the central level and also due to the pandemic that affected the last year of the project. Within the framework of the Alliance project, it was possible to advance to step 4, achieving a critical review of current standards of care

We highlight the progress that has been made with regard to the Blood Bank Service Roadmap, where it was possible to comply with all the steps mentioned above and which is currently being reviewed by the MoH.

3. Chagas clinical management training in Jutiapa

In the second year of the project, comprehensive training was developed for the management of diagnosis and treatment of Chagas disease. Some relevant conclusions

✓ The training session held in Jutiapa had an important representation: all the health districts of the department (17), two others Health Areas (Chiquimula and Zacapa), the Jutiapa Hospital, the central level and the Jutiapa DAS¹⁴. In total 68 people participated.

✓ The organization of the event highlights the work coordinated between the central level, the Jutiapa Health Area and DNDi to achieve the implementation activities of the pilot project.

✓ The participation and leadership of the Health Area projects acceptance and sustainability of the processes that are implemented in the framework of the barrier reduction pilot.

✓ During the workshop, it was possible to socialize and train all attendees on the new Chagas Guideline, and the training was complemented with the updated guidelines recently issued by the Pan American Health Organization.

✓ According to the approximations that allow us to do the basic knowledge test, the data reveal that the workshop participants acquired and clarified clinical concepts of practical importance in clinical care, however, updating workshops should continue and establish various methodologies (mini-manuals, app, etc.) that allow the health personnel in charge of treating Chagas cases to be trained. (For more information see Annex N° 5)

4. Ensure the availability of the necessary tools to carry out the validation study of serological tests for the diagnosis of Chagas disease (Protocol for the validation of serological tests for the diagnosis of Chagas Disease, equipment, diagnostic kits and references standards for Chagas Infection) (For more information see Annex N° 6).

The preparation of the study protocol for the validation of serological diagnostic tests was a key action that contributes to making essential tools available so that the National Reference Laboratory of Guatemala (LNR) can lead the process.

With the aim of improving the resolution capacity of the national reference laboratory and developing the diagnostic validation study, the Alliances Project donated serological diagnostic equipment for Chagas, as well as serological kits and reference standards, according to the necessary requirements of the Ministry of Health. (For more information see Annex N° 7)

¹⁴ Health Area Department

Unfortunately, internal bureaucratic delays by the Guatemalan Ministry of Health and the epidemiological situation of the COVID 19 pandemic have delayed the completion of the study within the framework of the current Alliances project. DNDi during 2021 will monitor and provide technical support to the national reference laboratory to achieve the development goal of the validation study.

5. Donation of equipment to Comapa Chagas Clinic to improve and expand the Chagas Chagas Care Roadmap care

The Chagas Clinic in Comapa has been created in the second year of the project (march 2019), as an initiative that emerged after the training in Bolivia of the two health referents in the Jutiapa area. Given the importance of the initiative, the Alliance project supports the improvement of its installed capacity and the follow-up of the training processes for health personnel.

It was decided to also improve the resolution capacity of the Clinic laboratory, to facilitate the diagnosis, the start of treatment and its subsequent follow-up. (For more information see Annex N° 8)

Regarding the healthcare data of the Comapa Clinic during its two years of operation, a consolidation of the same is seen, although the year 2020 has been a particular year due to the epidemiological context of the COVID 2019 pandemic.

Table 7: Data on patient care at the Chagas Clinic in Comapa since its opening in March 2019

Patient records	2019	2020
Nº of Patients with treatment started	72	55
Nº of patients with follow up	88	no data
Nº of patients with drugs adverse reaction	45	39
Nº of patients with complete treatment	68	52
Nº of patients with an electrocardiogram performed	328	111

During the first year of the 2018 project, the primary prevention actions with an intervention focus in 11 villages of the Municipality of Comapa, contemplated the realization of a serological survey in two villages (Almolonga and Anonito), mainly to know the baseline data on the seroprevalence situation of Chagas disease infection. Although this survey does not reflect the current reality in terms of vector transmission, it was important to identify and know the burden of infection. We have also done a follow-up of these infected people, promoting a comprehensive timely care, including if necessary, access to etiological treatment.

Table 8: Results of the serological survey carried out in the context of primary prevention activities and their subsequent referral and care by the health area.

Indicators	Comapa Municipality	
	Almolonga	Anonito
% infestation (<i>T.dimidiata</i>)	52%	36.5%
General population	615	893
Screened population	451	612
# Chagas infection cases	65	45
Proportion (%) seropositives	14.4%	7.35%
# of people who started the etiological treatment	43	36
% of people who started treatment	66.15%	80%

The data show a high proportion of positivity in the chronic phase of the disease, coinciding with high infestation rates by *T. dimidiata*, although this data is not totally related to the current infestation situation. In Almolonga, where *R. prolixus* has not been registered (officially) previously, 6 positive cases were identified in children under 10 years of age out of 65 total positive cases. In Anonito a different context is presented since in the past the presence of *R. prolixus* was recorded and only 1 positive case was identified out of 43 total positive cases, in children under 10 years. The effort to start treatment is also highlighted, since the % of treatment initiation exceeds 60%

Table 9: Evolution of positive cases for *T. cruzi* identified before and during the Alliance project

Years (2018 project star)	# of cases identified
2015	86
2016	96
2017	104
2018	133
2019	144
2020	115

There has been a progressive increase in the identification of positive cases since 2015 in the Jutiapa Health Area, although it becomes much more evident in the years of implementation of the project, past an increase of around 10% in the first years, passes

at a 27% increase. The year 2020 has been a special year due to the COVID 19 pandemic, but it should also be noted that the data presented is from January to October 2020.

Table 10: Comparison of data between Jutiapa and other endemic areas of Guatemala (Number of reported cases per year, and % epidemiological burden by Health Area)

Health Area	Year 2018	Year 2019	Year 2020	Total	%
Jutiapa	133	144	115	392	46,17
Chiquimula	97	214	46	357	42,05
Zacapa	19	7	3	29	3,42
Jalapa	4	1	22	27	3,18
Others	28	0	16	44	5,18
Total	281	366	202	849	100,00

Jutiapa is the health area that most identifies Chagas cases in Guatemala.

6. Alliance Project Webinar (For more information see Annex N° 9)

Taking into account that many of the strategic training, visibility and inter-institutional activities planned throughout the project have not been carried out for reasons already detailed previously, it was necessary to look for alternatives. Consequently, a webinar was organized with the aim of:

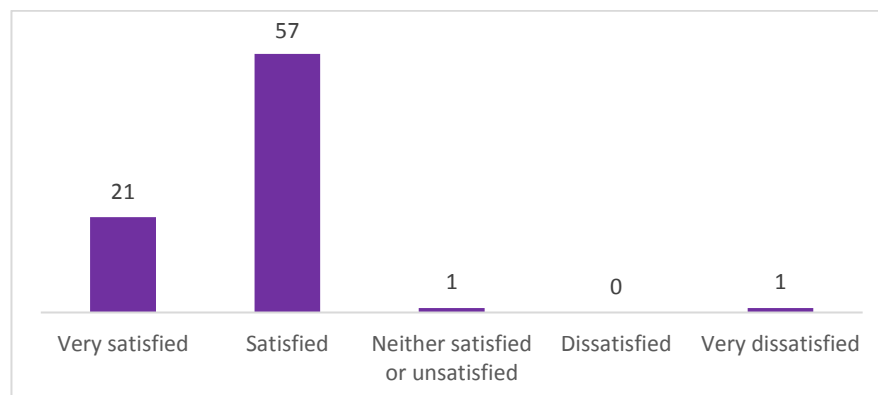
- Promote awareness of Chagas disease in the framework of the COVID 19 pandemic.
- Make the Alliances project visible, as an initiative of Multilateral Cooperation
- Substitute and adapt the planned training activities to a new methodology and an emerging epidemiological situation
- Strengthen the relationship and interest of the funder (IDRC) in DNDI projects and initiatives.

Table 11: People who participated in the event:

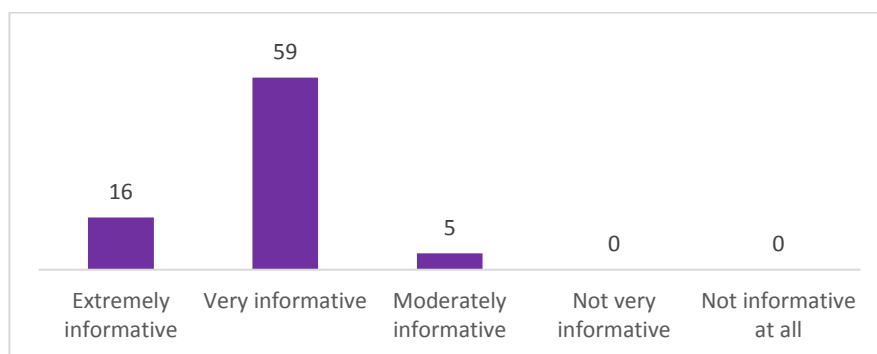
Region	N° of countries	N° of attendees
INCOSUR Countries	6	96
IPA Countries	2	10
IPCAM Countries and USA	6	97
Europe	6	16
Others	3	6
Total of Countries	23	225

At the end of the webinar, a satisfaction survey was conducted for its participants, the results are described below.

Graphic 1: Satisfaction of the webinar:



Graphic 2: Informative nature of the webinar:



7. Project implementation and management:

The strategy and general management of the project has been based on a permanent consensus between the health authorities, PAHO and the Alliance project, where DNDi acts as a facilitator of procedures and guarantees an inter-institutional consensus. This assembly is slow but tends to guarantee the continuity and sustainability of the actions.

DNDi and other organizations of the Alliance Project have had to sign a MoU (Memorandum of Understanding) with the International Cooperation of the Ministry of Health, a process that took more than 9 months and delayed the execution of the development of the action plan, since it was not possible to carry out activities without prior subject of the agreement.

Context: Since the last months of 2018, Guatemala has been going through great problems, which have been expressed with tensions with International Agencies, internal corruption problems, rotations and constant changes of hierarchical authorities (including the Ministry of Health) and intermediate technical level, producing great instability for the development of the project.

At the departmental level of Jutiapa, changes in authorities were also evident, although greater stability could be experienced, since the technical team (Epidemiological team of Jutiapa Health Area), the direct counterpart of the actions, remained stable during the 3 years of intervention.

Problems and challenges

During the 3 years of intervention, there were large structural and functional problems in Guatemala that affected the evolution of the project, which due to its design and schedule, the expected results could not be fully achieved.

Among the structural problems was the continuous replacement of the technical human resources of the Ministry of Health, mainly at the central level, in addition to a complex political, bureaucratic context, with serious corruption problems.

Another structural problem to highlight is the difficulty in the sustainability of some actions, due to the limited financial resources of the system and lack of leadership of human resources with decision-making capacity.

From the project, the leadership of the Ministry of Health was promoted, involving the Chagas program in each proposal and work plan, as well as an activity to be developed, however the actual duration of the project is too short to be able to achieve substantive changes.

Guatemala has a very powerful history of international cooperation that, in a certain way, can create certain opposite effects in terms of leadership and sustainability of interventions.

Among the functional and emerging problems that arose in the course of the project, there was the need to sign an inter-institutional agreement to continue with the activities started, a situation unknown to DNDi but which meant a significant delay in the evolution of the action plan. Also, the emergence of the COVID 19 pandemic not only meant a further delay in activities, but also the need to readapt the project to a new situation that meant not being able to develop presential training and monitoring activities, in addition to not having the operational counterparts from MoH as direct interlocutors due to their prioritization in the pandemic.

In Guatemala, as in many other countries in the world, during the pandemic the rest of the current programs have been overlooked to give a forceful response to the emergency. The health system has been significantly affected, and even more neglected diseases as Chagas Disease, that have become even more invisible. Even after the pandemic has passed, it will be possible to see the substantial effect on Chagas populations in these highly endemic areas.

Overall assessment and recommendations

The intervention is considered positive, although with difficulties in achieving the expected results in terms of the care of the people, increase in the people diagnosed and treated, implementation of a simplified care Care Roadmap and a change in national guidelines.

The Alliances project arises from the need to create a work network with a decentralized strategy, promoting the first level of care in its ability to respond to the care needs of Chagas Disease. Although work was done to maintain integrated levels of care, highlighting primary care as a gateway to motorization of care activities with a perspective on primary prevention, diagnosis, treatment, and health promotion through the IEC¹⁵ program and permanent surveillance.

The alliances project in its intervention on secondary prevention has contributed to the identification of access barriers to diagnostic and treatment of Chagas Disease, has contributed to outlining an integrated care system for caring for people, has contributed to strengthening local capacities for care of Chagas disease, as well as the resolution capacity of Jutiapa and the National Reference Laboratory

The capacity of the alliances project and its institutions to adapt to emerging problems is highlighted.

The comprehensive and inter-institutional approach was a successful strategy for Chagas Disease, which has made it possible to mitigate the structural problems that have arisen.

The lessons learned from the project are focused on anticipating more time available for the execution of a project in a country like Guatemala. It should be considered in addition to the real time of execution of activities, time of incidents, negotiation and administrative time.

Although great advances have been made regarding the recognition of the need for a comprehensive approach between primary and secondary prevention. It is necessary to continue influencing so that the favorable situation in the department of Jutiapa in terms of comprehensive care and specifically the healthcare of people affected with Chagas Disease, can be replicated at the national level, thus validating a national care Care Roadmap. This scale-up approach at the national level still needs a simplification of the diagnostic procedures, so that care is feasible at the first level of care throughout the country.

¹⁵ Information, Education And Communication (IEC)

8. List of de Annexes:

Annex Nº 1

GUATEMALA. Characteristics and processes in Patient care with Chagas. Initial Situational Assessment Report. (document in Spanish)

Annex Nº 2

Summary of the main access barriers (document in English)

Annex Nº 3

Report Access seminar. TOWARDS THE ELIMINATION OF BARRIERS IN ACCESS TO THE DIAGNOSIS AND TREATMENT OF DISEASE OF CHAGAS IN GUATEMALA (document in Spanish).

Annex Nº4

Executive Summary of the Consultancy for the Strengthening of the Diagnosis of Chagas Disease in Guatemala (document in Spanish)

Annex Nº 5

Report of the Workshop to update the clinical management and comprehensive care of the patient with Chagas disease (document in Spanish)

Annex Nº 6

Diagnostic evaluation protocol for Chagas disease – Guatemala (document in Spanish)

Annex Nº 7

Donation Letter for Reference National Laboratory (LNR)

Annex Nº 8

Donation Letter for Chagas Clinic- Comapa

Annex Nº 9

Webinar Report