Monitoring Report of the data and indicators through the request to the Supranational Laboratories (SRL), National Reference Laboratories (NRL) and the National Tuberculosis Programs (NTP) that independently report information to carry out the triangulation of the data between SLR/NRL/NLN and NTP

Program “Strengthening of the laboratory diagnosis of Tuberculosis in the Region of the Americas” – Global Fund

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I. Introduction

The Program “Strengthening Tuberculosis Laboratory Diagnosis in the Region of the Americas” has the general objective of contributing to improving the quality of TB diagnosis in laboratory networks in the Americas by strengthening installed capacity in the region; being its specific objectives: i) Consolidate the commitment of the countries with the sustainability of the Supranational Reference Laboratories (SRL) and the National Reference Laboratories (NRL) through the monitoring of activities and the development of management and promotion capacity. ii) Promote the adoption of international recommendations regarding the diagnosis of TB in national health policies and their implementation. iii) Contribute to the development, harmonization and implementation of information systems, connectivity and multiple platforms in national and regional TB laboratory networks, with an inter-programmatic approach.

To achieve the third objective, despite the fact that the laboratories have their information systems in place and generate their own data, it is proposed to have tools to analyze and achieve a better visualization at the regional, national and subnational levels with centralized and standardized information. through the monitoring and evaluation of indicators of productivity, management, processes, results and impact that are independently reported by the SRL, NRL and the National Tuberculosis Programs (NTP).

Taking into account objective 3 aimed at strengthening the monitoring and evaluation system and the articulation of the NTP and SRL/NRL information systems with the information of each country, which contributes to the monitoring of indicators and compliance with goals with quality information, the following activities were proposed:

Develop and deliver the work plan and the development of the methodology to be carried out to achieve the objective of the activity, the methodology document is attached together with the work plan.

In order to carry out the review and cross-checking of the data with the nominal databases of the NTPs, SRL/NRL/NRN and epidemiological surveillance and to generate feedback on it, virtual meetings were scheduled with the 17 countries to carry out this activity, resulting in 17 countries with video conferences held (100% of the grant countries, México, Colombia, Honduras, República Dominicana, Guatemala, Paraguay, Nicaragua, Venezuela, Surinam, Bolivia, Perú, El Salvador, Chile, Argentina, Guyana, Haiti y Ecuador), 6 countries with two video conferences (Guatemala, Nicaragua, Venezuela, Ecuador, México y Colombia) and 1 country (El Salvador) with three video conferences held.

Management of virtual meetings in the 17 countries.

Country	Email sent	Email sent - reminder	Mail reply	Video conference done 1	Video conference done 2	Video conference done 3
Mexíco	OK		OK	OK	OK	
Colombia	OK		OK	OK	OK	
Perú	OK		OK	OK		
Chile	OK	OK	OK	OK		
Honduras	OK		OK	OK		
Ecuador	OK		OK	OK		
Paraguay	OK		OK	OK		
Guatemala	OK		OK	OK	OK	
Bolivia	OK	OK	OK	OK		
El Salvador	OK		OK	OK	OK	OK
Guyana	OK	OK	OK	OK		
Argentina	OK		OK	OK		
Venezuela	OK	OK	OK	OK	OK	
Republica Dominicana	OK		OK	OK		
Nicaragua	OK	OK	OK	OK	OK	
Haiti	OK	OK	OK	OK		
Surinam	OK		OK	OK		

II. Management for conducting virtual meetings

Meetings were coordinated with the countries to review and cross-reference information between the available databases of the NTPs, NRL/SRL and epidemiological surveillance of the grant countries (information delivered by the grant countries on a nominal basis), provide feedback to the countries on the quality of the data and the calculation of the indicators specific to each country. However, due to data protection policy, the databases are not shared in their entirety, so an activity was carried out to cross-check the data between the different sources of information with their own data in a virtual meeting, allowing gaps to be identified. in information to be corrected by the country.

The virtual meetings allowed knowing the advances in the information systems of the NTP and the NRL of each country, in the same way the follow-up was carried out on the review and implementation of the instruments to measure the quality of the data in the NTP and the NRL, and of the dashboard delivered by the project on the indicators that are reported to WHO.

From the virtual meetings held with the countries, feedback was obtained taking into account the opportunities for improvement and the progress of the information systems in each country.

Within the activity carried out in all the countries, it is proposed to cross-check information from the national tuberculosis program (NTP), the national reference laboratory (NRL) and the national laboratory network (NLN).

The activities carried out in the virtual meetings are described below:

Monitoring of activities 29 and 31 of the project.

The presentation of the instruments for the revision of the quality of the data was carried out, taking into account the indicators of the NTP and the NRL, the demonstration of the exercise to be carried out in the technical assistance was carried out in each one of the levels of the flow of the data.

The dashboard developed with the NTP and NRL indicators was demonstrated to review the viability of implementation in the country based on the information generated from the country's information system.

III. Socialization of the methodology and activity 30 for the information crosschecks that can be carried out with the different information systems, taking into account the data from the Tuberculosis program and the NRL.

During the presentation of the methodology of activity 30, the different information crosschecks that are carried out were socialized, taking into account information from the NTP, the NRL, Public Health Surveillance, the HIV Program, among other variables to carry out the crosscheck the data.

The demonstration was carried out with a database of the NTP, the NRL and other public health programs to crosscheck the data, with the results obtained in the crosschecks and the management to address the gaps in the information system.

In each of the virtual meetings, the review and implementation of the instruments delivered by the project is recommended since they contribute to improving the quality of the data and the analysis of the information in an automated manner.

IV. Feedback on the results of the virtual meetings for each country:

4.1 Paraguay

Virtual meeting with the coordinators of the NRL and the NTP of Paraguay.

The country has made progress in implementing an integrated system that makes it possible to have NTP and NRL information centralized and online, taking into account the variables that make it possible to cross-check information in an integrated manner.

The information on the diagnosis and bacteriological follow-up of the NTP is updated when the laboratory information is updated in the laboratory module.

The information is registered online, however, where there is no connectivity, the registration is carried out on a monthly basis in places with connectivity.

The NTP has implemented data verification processes in the different stages of the data flow by the monitoring and evaluation team, with which progress is made towards better data quality at the national level.

The NTP and NRL information is nominally in a database.

The information system generates consolidated output reports that are updated as data enters and can be exported to an Excel database.

Nowadays, Both the paper registry and the implemented information system are handled.

It is reported that 98% of the NTP and NRL data is uploaded to the online information system.

Needs

Carry out the management to abandon the paper registry and only manage the implemented information system.

Advance in the development of functionalities of the information system that allow the analysis of the NTP and NRL information in an automated manner.

Recommendations

Select a set of institutions without registration errors, that have consistency between the data on paper and those communicated online, to carry out the exercise of abandoning the paper method and continuing only with online registration. Once confidence is gained that no information is lost, one should gradually move to the online system and move away from paper records.

Incorporate outputs to the information system, taking into account the report to the WHO, the NTP and NRL indicators with graphs to facilitate the analysis of the information. Similarly, generate a strategy so that the subnational levels carry out the analysis of the information of the NTP and the NRL on a routine basis.

A specialized accompaniment is suggested to the NTP and the NRL for the management of the information system that is in the process of implementation and transition from paper to only electronic registration.

Include data quality management processes, which can be measured through the instruments delivered by the Global Fund regional project TB.Lab20-23, managed by ORAS-CONHU.

4.2 Dominican Republic

Meeting with coordinators of the NRL and the TB program of the Dominican Republic.

The country has made progress in the development and implementation of an online TB information system - SIOE (Tuberculosis Epidemiological Operational Information System). However, about 50% of the institutions that are part of the flow of information have implemented the information system in real time, which generates a process of data entry and supervision of information in collection points in the places where the system is not implemented.

The TB information system makes it possible to identify early warnings, monitor patients, generate information to calculate indicators and record information through mobile applications.

There is a National Epidemiological Surveillance System (SINAVE), which allows the systematic and timely collection, processing, analysis, interpretation and dissemination of Public Health surveillance information.

Data from the NTP and vital statistics are crossed annually to complement the information from the tuberculosis program.

The information system of the Laboratory is in the process of development and testing, it is estimated that by the year 2022 the platform will be operating.

The NTP has implemented data verification processes in the establishments, thus allowing progress towards better data quality at the national level.

The NTP and NRL information is nominally in a database.

Nowadays paper/Excel registration is handled and the electronic information system implemented.

Needs

Carry out the management to advance in the registration of the NTP in real time to a greater number of establishments.

Implementation of the laboratory's online information system.

Advance in the development of functionalities of the information system that allow the analysis of the information of the NTP and the NRL, as well as the generation of indicators of the NTP and the NRL and the report to the WHO in an automated way.

Recommendations

Select a set of institutions without registration errors, that have consistency between the data on paper and those communicated online, to carry out the exercise of abandoning the paper method and continuing only with online registration. Once confidence is gained that no information is lost, one should gradually move to the online system and move away from paper records.

Incorporate information outputs taking into account the indicators of the TB program and the NRL with graphs to facilitate the analysis of the information.

A specialized accompaniment is suggested to the NTP and the NRL for the management of the information system that is in the process of implementation and transition from paper to only electronic registration.

Generate a strategy so that the subnational levels carry out the analysis of the information of the NTP and the NRL on a routine basis.

Include data quality management processes, which can be measured through the instruments delivered by the Global Fund regional project TB.Lab20-23, managed by ORAS-CONHU.

4.3 Venezuelan

Meeting with coordinators of the NRL and the Venezuelan TB program.

There are established formats in Excel for the reporting of cases and tests in each of the establishments of the data flow.

There is a nominal and consolidated record of the NTP in Excel.

There is a nominal record of the laboratory tests that are carried out at the national level.

The NRN reports the laboratory data in Excel consolidated at the national level.

An analysis of the information reported is carried out on a quarterly or annual basis.

There are connectivity difficulties at the national level.

Data from the NTP and vital statistics are crossed annually to complement the information from the tuberculosis program.

Data crossing and information analysis are not carried out periodically at the different levels of the data flow with vital statistics and other programs. However, the identity card or document is registered in most registries, which allows this process to be carried out periodically with the different sources of information.

The databases of the NTP and the NRL were crossed, and differences were found in the data reported at the national level based on the results of the crossing. Recommendations were delivered to improve recording and consistency between the different sources of information.

Needs

Connectivity in the entities to improve and/or incorporate online tools that allow timely reporting of information.

An electronic online system that allows online registration and tracking

Management of the information system at the subnational levels for the reporting of data in a complete and timely manner.

Data triangulation processes between the different sources of information.

Technical assistance in monitoring and evaluation of NTP and NRL indicators at the different levels of data flow.

Analysis of periodic information at all levels of the data flow.

Recommendations

Improve connectivity coverage in establishments for the entry of NTP, NRN (National Reference Network) and NRL data in a nominal and online manner that allows traceability and monitoring of Tuberculosis cases.

Although up to now there is no development of online software for the registration of TB cases and laboratory tests, it is recommended to review and implement a system based on the dhis2 tool provided by the WHO, which allows online registration and analysis of patients and laboratory tests at the subnational and national levels.

Incorporate information system management processes such as monitoring of reports at the different levels of data flow, data quality auditing, and routine calculation of indicators.

Perform data triangulation between the different sources of information in order to find data or attention gaps.

Carry out technical assistance, monitoring and evaluation of NTP and NRL indicators at the different levels of data flow.

Incorporate periodic information analysis processes at all levels of the data flow.

Include data quality management processes, which can be measured through the instruments delivered by the Global Fund regional project TB.Lab20-23, managed by ORAS-CONHU.

4.4 Honduras

Meeting with coordinators of the NRL and the Honduras TB program.

A technological platform is being developed for the registration and analysis of NTP and NRL information in the dihs2 tool. To date, the TB Program and laboratory module have been developed. Information outlets are under development.

There is connectivity in the country for the operation of the online system.

The information is reported nominally, in Excel templates.

The unique identification document of the patient (the card) is registered in the databases. However, in patients deprived of their liberty, there are difficulties in registering.

The reports are made monthly by the health establishments, and quarterly at the departmental and national levels.

Data crossings and information analysis are not carried out periodically at the different levels of the data flow and the sources of information of the NTP, the NRL and other sources of information that contribute to the analysis of the data.

Needs

Finish the information system that is being developed under the dhis2 platform, which allows online registration and monitoring.

Implementation of the online information system based on the development of the dhis2 tool in 100% of the establishments and laboratories for timely data reporting.

Incorporate data triangulation processes between the different sources of information.

Technical assistance in monitoring and evaluation of NTP and NRL indicators at the different levels of data flow.

Analysis of periodic information at all levels of the data flow.

Recommendations

Continue with the development of the information system that is being developed under the dhis2 platform, taking into account the incorporation and completion of the laboratory module, carry out tests of the validations of the different variables, include reports that respond to the report that is made to WHO annually to facilitate the consolidation of the report.

Include an information analysis module with graphic reports through a dashboard.

Include data quality management processes, which can be measured through the instruments delivered by the project.

Management of the information system at the subnational levels for the reporting of data in a complete and timely manner.

Incorporate data triangulation processes between the different sources of information.

Technical assistance in monitoring and evaluation of NTP and NRL indicators at the different levels of data flow.

Analysis of periodic information at all levels of the data flow.

4.5 Guatemalan

Meeting with coordinators of the NRL and the Guatemalan TB program.

An online information system is being developed for the registration and analysis of NTP and NRL information, it is expected that the pilot test will be carried out by December 2021 and that it will be implemented in the country by 2022.

The platform has different user roles that allow users to have user profiles for registration and management of the information system.

90% of the records have the identification of the person registered in the TB program database, which allows the information to be crossed with different data sources. Regarding the records of the population deprived of liberty and children, this record is not available in its entirety.

The information system that is being developed has different validations that allow a better record to be obtained when entering the information into the system.

All terminology is being updated according to the new definitions of the TB Program.

There is currently a pilot plan for the platform in three health areas with 35 health establishments.

There is connectivity in the country for the operation of the online system.

The information is reported nominally, in Excel templates.

Data crossings and information analysis are not carried out periodically at the different levels of the data flow and the sources of information of the NTP, the NRL and other sources of information that contribute to the analysis of the data.

Needs

Finalize the information system that is being developed.

Implement dashboards that facilitate the analysis of information.

Implementation of the online information system in 100% of the establishments and laboratories for timely data reporting.

Recommendations

Implement dashboards for TB program and NRL indicators that work at all levels of data flow.

Implement the information system that is being developed, carry out tests and identify improvements to be made on the platform.

Incorporate data triangulation processes between the different sources of information.

Technical assistance in monitoring and evaluation of NTP and NRL indicators at the different levels of data flow.

Include periodic information analysis processes at all levels of the data flow.

Continue with data quality routines when implementing the new technology platform.

4.6 El Salvador

Meeting with coordinators of the NRL and the TB program of El Salvador.

An online information system is being developed for the registration of NTP and NRL information in a nominal way, it is expected that by the year 2022 it will be implemented in the country for the management of information in real time.

A department is piloting the technological platform and by the end of 2021 it will be possible to continue with the implementation.

There is an Excel record of the culture and molecular test databases that is routinely reported.

In the primary data sources, the identification document variable is not recorded in the NTP and NRL databases, which makes it difficult to cross-check information with other data sources.

The SIAP information system integrates TB, laboratory and HIV event data.

The country is carrying out an interface that allows the information of the molecular tests to be stored in real time and allows the information to be exported in Excel for data analysis.

There is connectivity in the country for the operation of the online system.

The information is reported nominally, in Excel templates.

Data crossings and information analysis are not carried out periodically at the different levels of the data flow and the sources of information of the NTP, the NRL and other sources of information that contribute to the analysis of the data.

Needs

Strengthen the registration of the NTP, the NRL and the NRL, taking into account the registration of the identity document that allows cross-referencing of data between the different sources of information.

Implementation of the online information system in 100% of the establishments and laboratories for timely data reporting.

Analysis of information in an automated manner and at all levels of the data flow.

Recommendations

Implement processes for data verification at the different levels of the information flow that will allow quality information to be obtained and progress in the implementation of the online information system.

Manage the implementation of the information system at the national level, taking into account the tests carried out in the NTPs and the NRL where the technological platform is being implemented, and monitor the adoption of the software and the registry.

Monitor the information reported in the information system by the NTPs and the NRL in order to identify registry gaps in a timely manner.

Implement dashboards that facilitate the analysis of information at all levels of data flow.

From the strengthening of the registration of the variables in the information system such as the identification document, it is important to incorporate data triangulation processes between the different sources of information.

Include periodic information analysis processes at all levels of the data flow.

4.7 Nicaraguan

Meeting with coordinators of the NRL and the Nicaraguan TB program

Currently there is an online information system (SILAIS) that registers the information of the NRL and the NTP in a nominal way, in the same way the department report the information by municipality in a consolidated Excel reporting the information of the laboratory and the TB program.

In the meeting, the verification of the nominal data and the consolidated report made by each municipality was carried out, finding minimal differences between what was reported in the consolidated and the nominal report.

The central level verifies the data reported at the national level.

Quarterly reports are made and the information is analyzed in technical meetings for decision making.

The online information system generates an Excel file with the nominal data of the patients to carry out the data analysis.

The online information system generates the consolidated reports made by the TB programs and laboratories.

There is connectivity in the country for the operation of the online information system.

Needs

Strengthen the online information system so that it is the only report made by laboratories and hospitals.

Automation of reports from the online information system.

Data quality routines at the different levels of the data flow.

Recommendations

Evaluate the TB laboratories and programs that have an optimal information registry so that it is only reported through the online information system, and continue progressively with other institutions until reaching 100% implementation of the online system.

Generate a dashboard that contains the indicators of the TB program, of the laboratory and that allows the information to be analyzed in an automated manner.

Incorporate data quality processes at all levels of the information flow to improve the quality of the record from the primary data source.

4.8 Suriname

Meeting with coordinators of the NRL and the Suriname TB program

There is an online NTP information system that allows the registration of patients in real time, the data is generated and the analysis is carried out from a nominal registry.

The NRL information system is not linked to the NTP.

The NRL receives information on paper and is registered in an Excel database with an identification registration variable from the first two letters of the name, surname and date of birth, however, there is a unique patient identification number that could allow information to be cross-checked between the different sources of information but that has not been recorded in the databases so far.

In the last year, a group of professionals was formed to support the data analysis, identifying differences in the NTP and NRL records,

The NTP and the NRL will strengthen the registry with the inclusion of a variable that allows the unique identity document to be registered in the databases and implement information cross-checking processes with the NRL and other public health programs.

At the local level, TB nurses collect the information from the NTP/NRL and register it in a database to be reported at the national level.

In technological infrastructure, all hospitals have an Internet connection.

There are no data quality audit processes in the NTP and the NRL.

Data quality processes must be implemented in order to verify the information reported to the information system.

Needs

Development of the laboratory module and integrated into the NTP software

Strengthening of the information system with the integration of data between the NTP, the NRL and other public health programs

Analysis of information from the NTP and the NRL.

Assess the quality of the NTP and NRL data.

Recommendations

Advance in the development of the laboratory module and integrated into the NTP software.

Strengthen the registry with the patient's identity card or unique document to include information triangulation routines with other sources of information from the document.

Implement processes, routines or an interface that allow the integration of data between the NTP and the NRL and other public health programs

Include automated reports of the NTP indicators in the online system.

Implement processes to assess data quality at different levels of the data flow.

4.9 Colombian

Meeting with coordinators of the NRL and the Colombian TB program

The NRL has implemented an Excel registry book in the NRL that allows the registration of BK tests, culture and molecular tests, at this time it is updating variables to be implemented at the departmental, municipal and clinical laboratory levels.

The registry book allows the generation of indicators from the nominal registry that is consolidated by the municipalities and Departments to cross-reference information with the NTP and the public health surveillance system.

The public health surveillance system is implemented for the reporting of events of interest in public health with a weekly report in flat files that are consolidated in the INS (National Institute of Health), from which the event information is extracted from Tuberculosis to be analyzed with the information from the NTP and the NRL.

The NTP consolidates the nominal information of TB cases, TB-DR, Contacts, Chemoprophylaxis and other processes at the national level in an Excel database with the patient's follow-up variables.

The NTP has different formats implemented in Excel that allow the management and monitoring of management indicators, results, impact, technical assistance, execution of resources, medicines, among other indicators, in a very detailed manner.

Needs

An online information system that allows integrating the processes of the TB program, the NRL and other events of interest in public health.

Computer tools that facilitate and allow the generation of information analysis in an agile way.

Strengthening of the information system with the integration of data between the NTP, the NRL and other public health programs in an automated manner.

Recommendations

Develop and implement an online TB and NRL information system that allows for centralized information to be obtained and interoperability with other information systems to facilitate data analysis and decision-making.

Implement tools that facilitate the collection and analysis of data from the NTP, the NRL, and other public health programs.

4.10 Peru

Meeting with coordinators of the NRL and the TB program of Peru.

There is an online information system fed from the health establishments that allows registering diagnostic data, follow-up, final result of treatment, contact follow-up among

others in a nominal way, the system generates consolidated reports and nominal databases for analysis of the data.

The system allows the generation of graphs and the georeferencing of the information recorded in a specific period, the analysis is carried out annually.

Data quality processes are carried out on a quarterly basis, identifying inconsistencies in the registry.

Data recording has been strengthened with the incorporation of patient identification documents.

At the moment, data triangulation is not carried out with the HIV program since this program does not have an implemented information system.

Progress has been made in interoperability between the TB program and the TB laboratory, however, it is necessary to continue advancing in this process at the different levels.

In the Netlab information system, all laboratory tests are recorded, including TB, reports of opportunity indicators, performance indicators, delivery of results can be made, it is necessary to incorporate more specific reports to generate different analyzes between the NTP and the NRL.

At the national level there are three people for all processes including monitoring, follow-up, evaluation and the information system.

The country has different projects that are being executed, it is important to identify the Needs for the strengthening of the information system.

Needs

Advance with the interoperability of the information systems of the NTP, the NRL and other information systems that allow complementing the analysis of information from the NTP.

Advance in the implementation of routines for the triangulation and analysis of NTP and NRL data, incorporating information from other public health programs.

Recommendations

Implement processes, routines or an interface that allow the integration of data between the NTP and the NRL and other public health programs

Implement dashboards that facilitate the analysis of information at all levels of data flow.

Incorporate data triangulation processes between the different sources of information and at the different levels of the information flow.

Generate a strategy so that the subnational levels carry out the analysis of the information of the NTP and the NRL on a routine basis.

4.11 Mexico

Meeting with coordinators of the NRL and NTP of Mexico

The country has an information system for epidemiological surveillance, a laboratory, and a tuberculosis program that allows for patient follow-up. The system allows analysis of graphic information and the indicators defined in the information system.

The NRL has an information system that allows the registration of information on the reception of samples, types of samples, quality control, culture information, Gene-Xpert and PSD.

The laboratory information system allows the productivity of the Gene-Xpert to be recorded.

The NTP and the NRL make quarterly and annual reports.

The NTP carries out follow-up visits to verify the data at the different levels of the data flow.

The technological platform generates standardized information outputs and with graphic analysis of indicators

Needs

Advance with the interoperability of the information systems of the NTP, the NRL and other information systems that allow complementing the analysis of information from the NTP.

Advance in the implementation of routines for the triangulation and analysis of NTP and NRL data, incorporating information from other public health programs.

Recommendations

Implement processes, routines or an interface that allow the integration of data between the NTP and the NRL and other public health programs

Implement dashboards that facilitate the analysis of information at all levels of data flow.

Incorporate data triangulation processes between the different sources of information and at the different levels of the information flow.

Generate a strategy so that the subnational levels carry out the analysis of the information of the NTP and the NRL on a routine basis.

4.12 Bolivia

Meeting with coordinators of the NRL and NTP of Bolivia

The NTP is working on a nominal database for the registration of TB cases at the national level in order to obtain disaggregated information and to be able to cross-check data with other sources of information.

The national level receives the information in a consolidated manner; therefore, it is not possible to triangulate and validate the data with the NRL and other public health programs.

The GeneXpert is being implemented in focal points, and the information must be reported to be included in the laboratory's databases and analyzed with the NTP.

The laboratory receives information quarterly and consolidated in Excel, and from this information the calculation of the laboratory indicators is made.

An information system is managed in Excel, based on the consolidation of information at the departmental and national levels.

Needs

An online information system that allows integrating the processes of the TB program, the NRL and other events of interest in public health.

Connectivity in the entities to improve and/or incorporate online tools that allow timely reporting of information.

Management of the information system at the subnational levels for the reporting of data in a nominal, complete and timely manner.

Technical assistance in monitoring and evaluation of NTP and NRL indicators at the different levels of data flow.

Computer tools that facilitate and allow the generation of information analysis in an agile way.

Strengthening of the information system with the integration of data between the NTP, the NRL and other public health programs in an automated manner to cross-check information between the different sources of information.

Periodic information analysis routines at all levels of the data flow.

Recommendations

Improve connectivity coverage in establishments for the entry of NTP, NRL and NRL data in a nominal and online manner that allows traceability and monitoring of Tuberculosis cases.

Although up to now there is no development of online software for the registration of TB cases and laboratory tests, it is recommended to review and implement a system based on the dhis2 tool provided by the WHO, which allows online registration and analysis of patients and laboratory tests at the subnational and national levels.

Incorporate information system management processes such as monitoring of reports at the different levels of data flow, data quality auditing, and routine calculation of indicators.

Perform data triangulation between the different sources of information in order to find data or attention gaps.

Carry out technical assistance, monitoring and evaluation of NTP and NRL indicators at the different levels of data flow.

Incorporate periodic information analysis processes at all levels of the data flow.

Include data quality management processes, which can be measured through the instruments delivered by the Global Fund regional project TB.Lab20-23, managed by ORAS-CONHU.

4.13 Ecuador

Meeting with coordinators of the NRL and the TB program of Ecuador

The NTP has an online information system that allows nominal registration of TB cases; Each institution that participates in the data flow has users in the system as follows; 1980 health establishments that report cases, 150 district users, 20 zone users that allow information registered in the system to be consulted.

The NTP expects that by the first quarter of 2022 the retrospective information of the cases will be entered and continue with the entry in real time in the information system to be implemented.

The NRL has an online information system with consolidated laboratory information with 283 laboratories reporting at the national level. Each clinical laboratory has a nominal record in Excel of the tests that are performed, however, the reports at the national level are sent consolidated.

Needs

Strengthening of the information system with the integration of data between the NTP, the NRL and other public health programs in a nominal and automated manner.

Strengthen the analysis of information at the different levels of the information flow in an easy and agile way.

Recommendations

Advance in the processes of triangulation of the nominal data of the NTP, the NRL and the NRL.

Advance in the process of implementing the information system, including retrospective information for information analysis.

Incorporate information system management processes such as monitoring of reports at the different levels of data flow, data quality auditing, and routine calculation of indicators.

Implement computer tools that facilitate and allow the generation of data visualization and information analysis in a timely manner in the different establishments of the data flow

Include data quality management processes, which can be measured through the instruments delivered by the Global Fund regional project TB.Lab20-23, managed by ORAS-CONHU.

4.14 Guyana

Meeting with coordinators of the NRL and the Guyana TB program.

The NTP has an online electronic registry of TB patients nominally, information can be consulted by patient name. In addition to the online system, the NTP receives quarterly reports from each TB patient care center (20 centers in total) and 10 administrative regions, the online information system is not operating in all regions.

The NRL sends the NRL consolidated reports of the results of smear microscopy, cultures and Gene-Xpert on a monthly basis, there is no nominal database.

There is no way to cross-check the data from the NTP and NRL databases in an automated manner, an exercise is carried out to review the paper lists of positive patients of the NRL and the NTP databases are reviewed to verify if are included.

The NTP reviews the data reported quarterly, twice a year; at this time, due to the pandemic, it is done once a year.

About 300 cases per year are reported to the NTP, in the data verification process, missing information is identified in the report, which is entered from the review of the data.

There are two databases, one in Access and the other in Excel that are not linked.

The NRL databases do not have unique identifiers such as the identification of the patient to be able to link the data with the NTP, attempts were made to include it and make it mandatory, but not much progress was made, added to the fact that the identification document is changed every 5 years, which makes it difficult to trace the patient's history from the identification document.

The process to improve the quality of the data in the NRL/NRL and the NTP should be strengthened.

There is only one outdated computer for handling the data, which makes it difficult to process and manage the information.

Needs

Adjustments must be made in the data capture forms of the NRL/NRL and the NTP for the mandatory entry of the patient's identification document in order to cross-check the data with the NTP.

Generate mechanisms for all TB patient care centers to record information online.

Technical assistance in information systems, monitoring and evaluation of NTP and NRL indicators.

Strengthening of the information system with the integration of data between the NTP, the NRL and other public health programs in a nominal and automated manner.

Strengthen the analysis of information at the different levels of the information flow in an easy and agile way.

The NTP and the NRL express the need to have updated computers to strengthen the processes.

Recommendations

Include data quality management processes, which can be measured through the instruments delivered by the Global Fund regional project TB.Lab20-23, managed by ORAS-CONHU.

Advance in the processes of triangulation of the nominal data of the NTP, the NRL and the NRL.

Incorporate information system management processes such as monitoring of reports at the different levels of data flow, data quality auditing, and routine calculation of indicators.

Implement computer tools that facilitate and allow the generation of data visualization and information analysis in a timely manner in the different establishments of the data flow.

4.15 Haiti

Meeting with coordinators of the NRL and the TB program of Haiti

The NTP and the NRL have a paper registry that is consolidated through an Excel database.

The NRL has an Excel database that consolidates the GeneXpert information.

There is no way to cross-check the data from the NTP and NRL databases in an automated manner.

The challenge is to strengthen the registration of the identification document in the NTP and NRL databases.

The process to improve the quality of the data and the analysis of the information of the NRL/NRL and the NTP must be strengthened.

Needs

Adjustments must be made in the data capture forms of the NRL/NRL and the NTP for the mandatory entry of the patient's identification document in order to cross-check the data with the NTP.

Technical assistance in information systems, monitoring and evaluation of NTP and NRL indicators.

Strengthening of the information system with the integration of data between the NTP, the NRL and other public health programs in a nominal and automated manner.

Strengthen the analysis of information at the different levels of the information flow in an easy and agile way.

Recommendations

Include data quality management processes, which can be measured through the instruments delivered by the Global Fund regional project TB.Lab20-23, managed by ORAS-CONHU.

Advance in the processes of triangulation of the nominal data of the NTP, the NRL and the NRL.

Incorporate information system management processes such as monitoring of reports at the different levels of data flow, data quality auditing, and routine calculation of indicators.

Implement computer tools that facilitate and allow the generation of data visualization and information analysis in a timely manner in the different establishments of the data flow.

4.16 Chile

Reunión con coordinadores del NRL y del programa de TB de Chile

The meeting was held with the SRL and the NTP to review the technical support needs for the strengthening of the information system of the NTP and the SRL.

The need to advance towards the interoperability of the NRL, the NTP and the strengthening of the processes to facilitate the analysis of the data in the NTP and the NRL was identified.

The NTP and the NRL sent the results of the different processes of the information system in order to be reviewed and to be able to prioritize the activities in a technical assistance in information systems to the country.

4.17 Argentina

Meeting with coordinators of the NRL and the TB program of Argentina.

The meeting was held with the SRL and the NTP to review the technical support needs for the strengthening of the information system of the NTP and the SRL.

The need to advance towards the interoperability of the NRL, the NTP and the strengthening of the processes to facilitate the analysis of the data in the NTP and the NRL was identified.

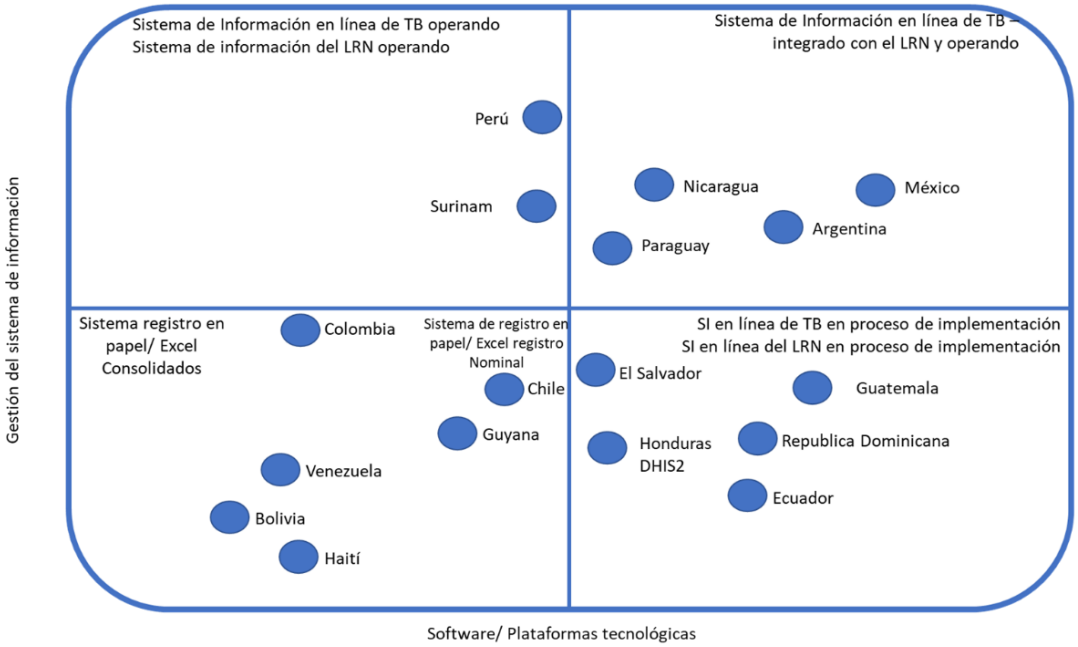
The NTP and the NRL sent the results of the different processes of the information system of the NTP and the NRL in order to be reviewed and to be able to prioritize the activities in a technical assistance in information systems to the country.

General conclusions

In conclusion, of the 17 countries with a virtual visit and with the information provided by the country, there are 4 (Argentina, Nicaragua, Paraguay and Mexico) with online information systems, integrating the registry of the TB Program and the laboratory and operating , 5 countries with development of a technological platform and in the process of implementation (El Salvador, Guatemala, Honduras, Dominican Republic and Ecuador), 6 countries with a record in Excel (Chile, Venezuela, Bolivia, Colombia Haiti and Guyana) and 2 countries with TB information system and the NRL online and operating (Peru and Suriname)

Countries with information systems in the process of implementation and with significant progress in the process, it would be proposed to carry out a specialized accompaniment to advance in its implementation and that allows improving the quality of the data and the capacities of analysis of indicators for decision-making. decisions, and in countries that do not have available technological platforms, the support to be provided to continue advancing in the strengthening of the process will be analyzed.

Advances in information systems according to virtual meetings held in the countries of Mexico, Colombia, Honduras, Dominican Republic, Guatemala, Paraguay, Nicaragua, Venezuela, Suriname, Bolivia, Peru, El Salvador, Chile, Argentina, Haiti, Guyana, Ecuador.



It is important to note that most of the countries have made significant progress in the implementation of the NTP information systems, the SRL/NRL/NRL. However, there are gaps in connectivity, interoperability with the laboratory and other public health information systems, management of information systems, automated data analysis with in-depth data analysis at all levels of the system. information flow and the quality of the data registered in a nominal and consolidated manner in the NTP and the NRL.

In the virtual meetings, it was possible to identify information systems with online records that work in parallel with paper or Excel records, information systems that work separately (one software for the NTP and another for the NRL), NTP databases and the NRL that do not cross each other to validate the data recorded in the different data sources, and the cross-checking of the NTP information with other public health programs (HIV, Mental Health, Chronic Diseases, vital statistics, among others). For this reason, it is necessary to work on interoperability with technological equipment or tools that allow real-time results in the clinical management of the patient.

In countries where there are difficulties in infrastructure and technological development, it is important to incorporate technological tools at all levels of the data flow to facilitate the management of the NTP and the NRL, achieve a quality registry and implement processes that allow triangulation of data. data and analysis of the information reported through the management of the information system.

Country Prioritization.

As a result of activity 30, in the meetings with the 17 countries of the grant, needs for technical assistance in information systems were identified, a prioritization of the countries with Needs for accompaniment in information systems was carried out, and the monitoring and evaluation of the NRL and the NTP during the first half of 2022.

The prioritization takes into account the degree of progress in the development of information systems and the need for support to advance in the implementation, management, analysis and development of capacities that, based on technical support, allow progress in the strengthening of the information system of the SRL, NRL and the NTP of each country.

Prioritization is done as follows:

First prioritization: Countries that have significant technological development, with platforms in the process of implementation and that have technical support needs.

El Salvador, Guatemala, Honduras and Paraguay.

Second Prioritization: Countries that are in the process of developing information systems for short-term implementation with accompanying Needs.

Dominican Republic, Ecuador, Peru, Nicaragua and Suriname

Third prioritization: Countries that do not have technological platforms developed up to now or it is not foreseen in the short term (records are handled in Excel)

Colombia, Guyana, Venezuela, Bolivia, Haití

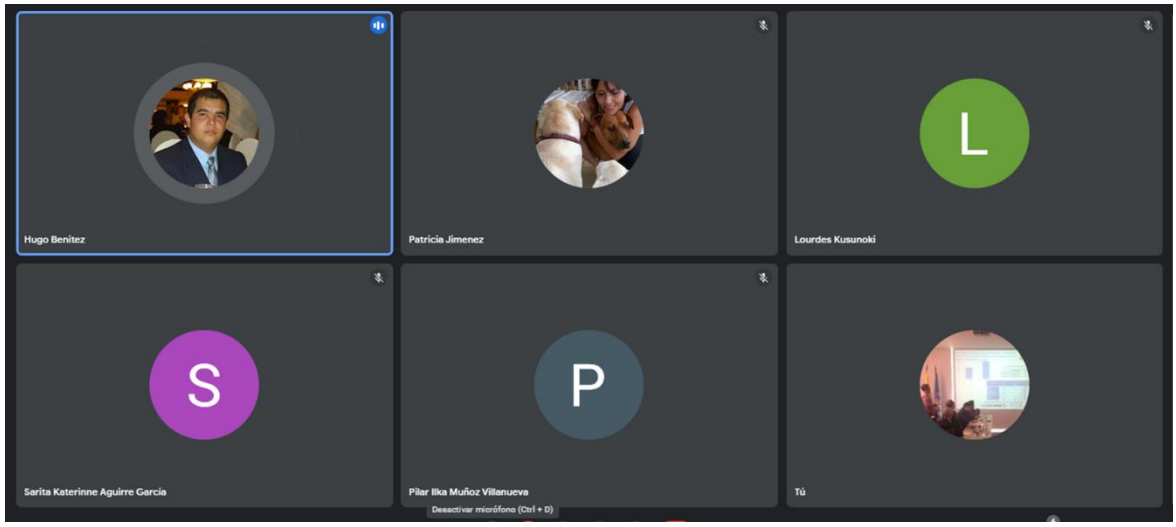
Although the prioritization is carried out on the countries that have a greater technological infrastructure, this prioritization would allow faster progress in the objectives for strengthening the information system according to the prioritization made.

Likewise, the results of the technical assistance provided to the countries will have a greater impact in the short term in the countries that have advanced in the development of information systems.

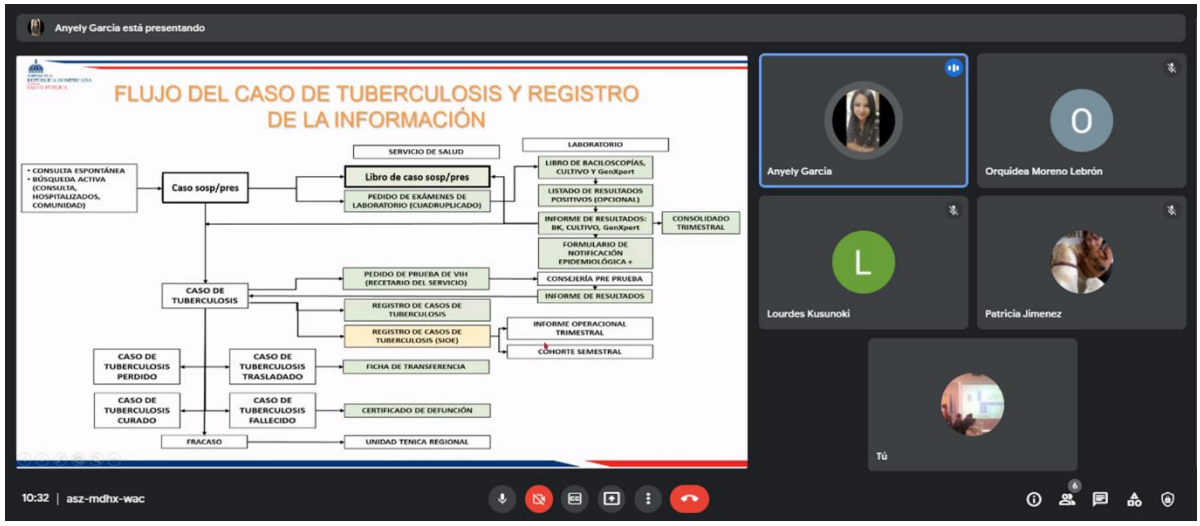
Annexes

Video conferences held

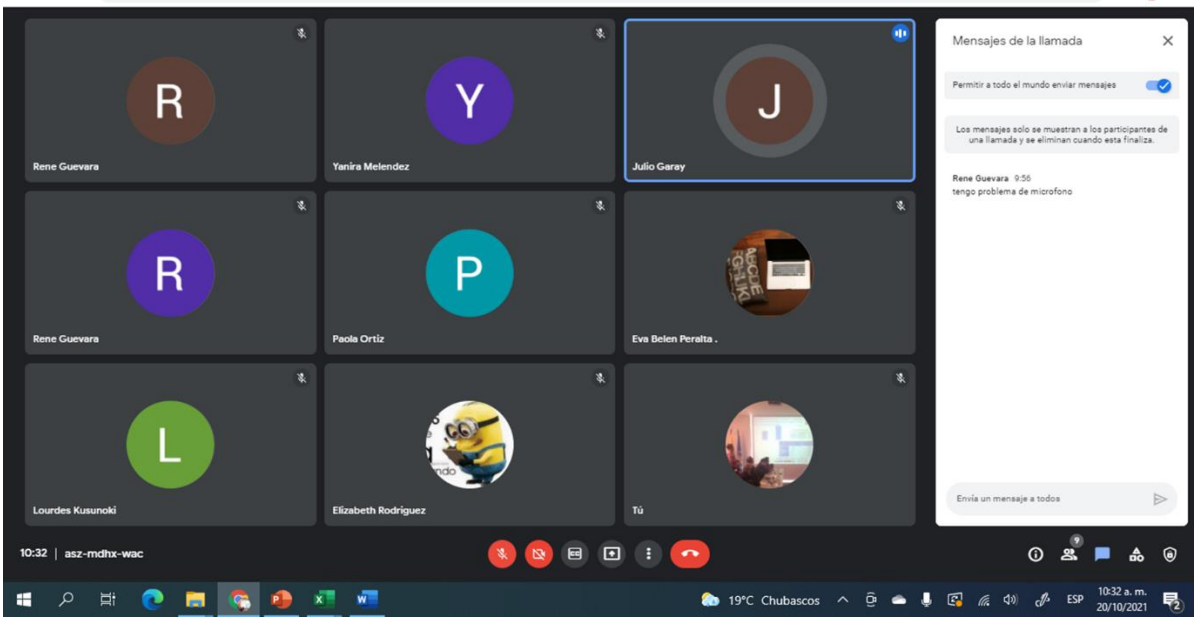
Paraguay



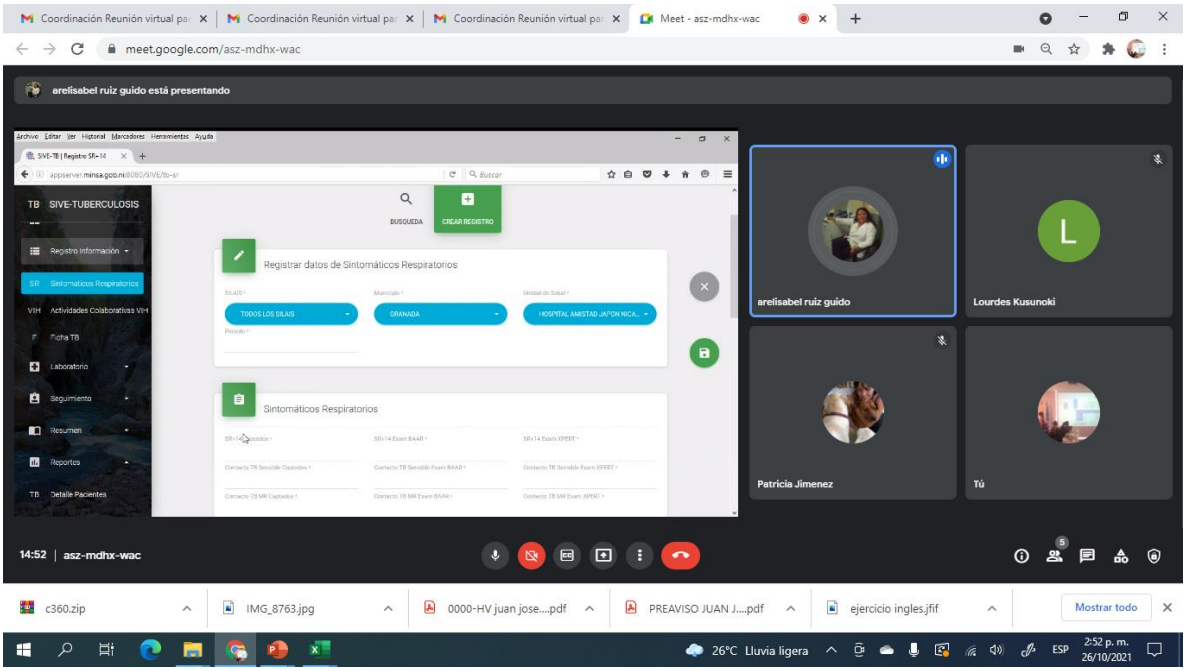
República Dominicana



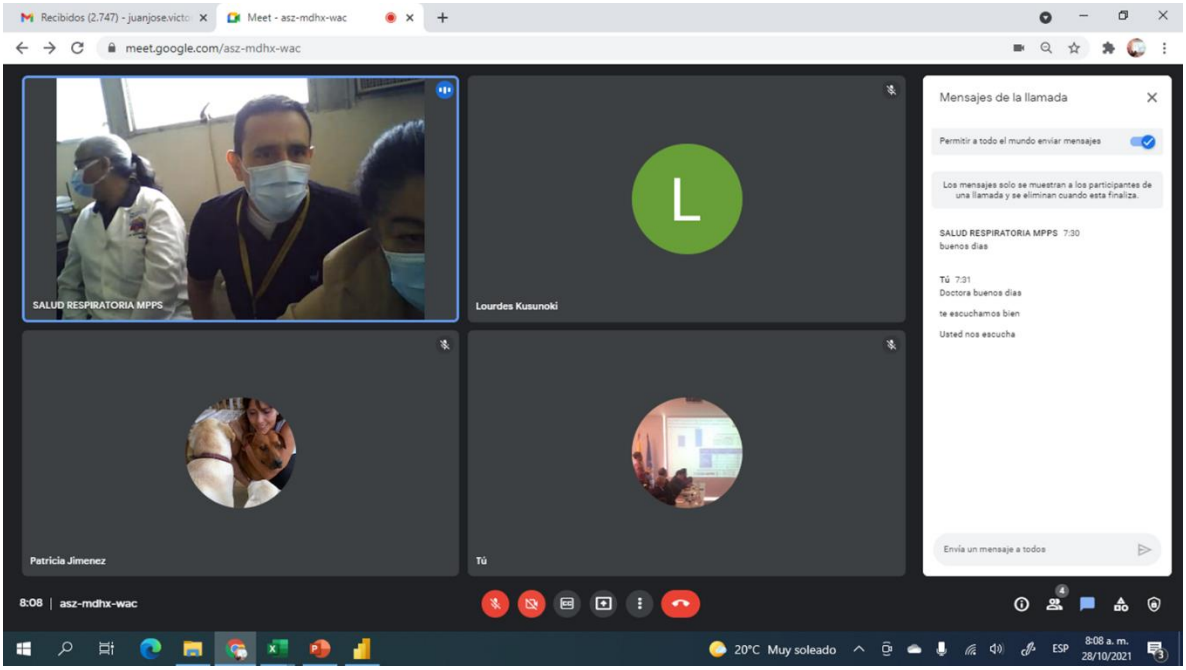
El Salvador



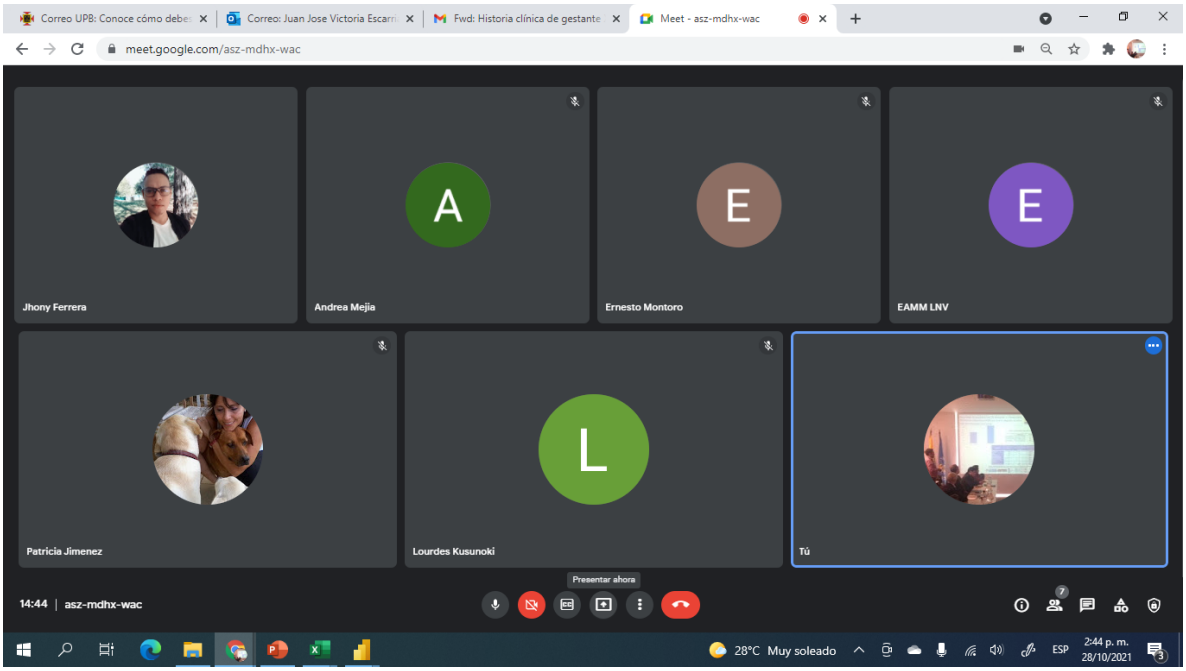
Nicaragua



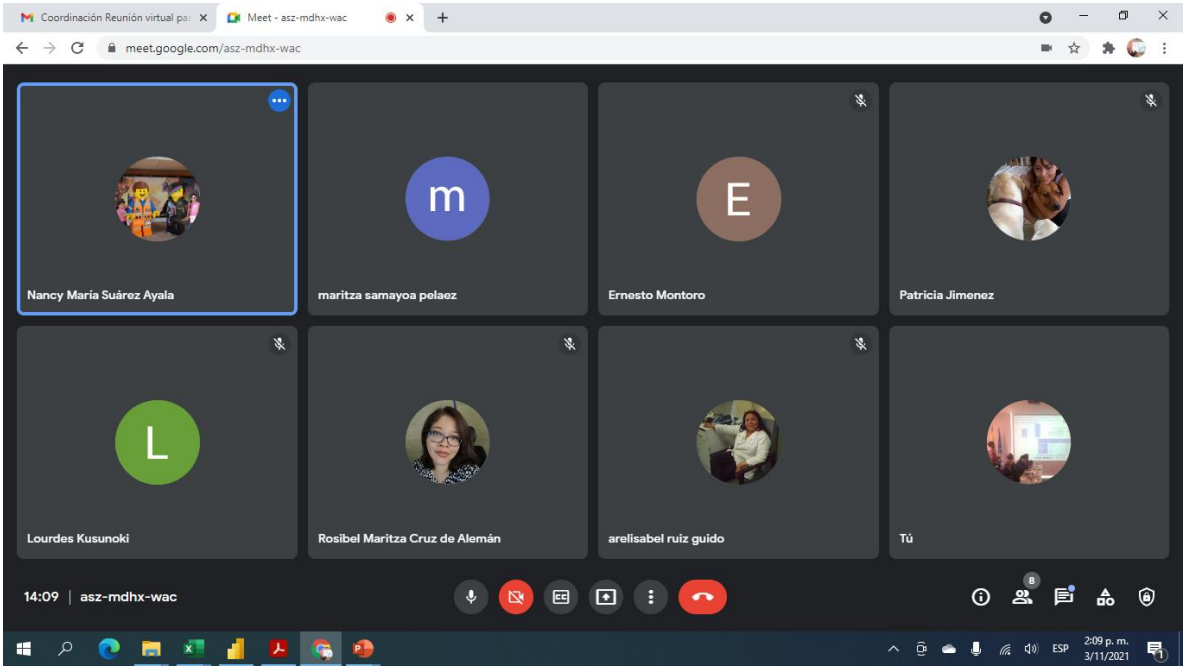
Venezuela



Honduras



Guatemala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