Wave 10 Quarterly Narrative Report

TB Preventive Treatment Projects

Project Information	
TB REACH Project Short Code	10429
Grantee organization	Brazilian Research Network in Tuberculosis , REDE-TB
Country	Brazil
Report Period	01-10-23 to 31-12-23

Activities

1. Describe the activities that were implemented this quarter.

- How are you reaching out to and identifying persons with TB infection and diagnosing persons with active TB who are excluded from TPT?
- Are you using any tests for infection this quarter?
- What treatment regimes are you using?
  (indicate if and when there were changes in the test or treatment regimen used?

This is the third quarter of activities (project started on 10/Apr/23). In this quarter, the project focused on in-service training activities (mainly using the registry book) and training of trainers for TST application and reading (PPD distribution was regularized in September 2023). This resulted in an initial (still modest) increase in the number of clinics offering TST (see details below). The standard project visit (SPV) took place in October. Miranda Brouwer, our supervisor, visited Rio de Janeiro and Manaus clinics, and held meetings with the NTP in Brasilia and with the clinical staff in Rio and Manaus. Staff from the other cities participated in a hybrid meeting. Miranda also encountered members of the CAB in Manaus and Rio.

The project's activities and tools seem to be now absorbed by the health system in these 5 cities, which is a promising step towards sustainability. For the moment, HSS is our main result. We still do not see an increase in the numbers of TPT initiated, we expect that increased offer of TST will result in more prescriptions in the current trimester.

Guidelines have not changed compared to previous reports, but nurses are starting to prescribe TPT (authorization depends on state nurse council agreements). In summary, TST is used for HIV negative >10 and <2 years contacts, IGRA (QFT) is used for HIV+ and contacts 2-10 years of age. 3HP is the treatment of choice and its use has been expanding. In Manaus, 1HP has been used in some settings, as part of a research project conducted by other colleagues from Rede-TB, but it is exceptional.

Training activities :

1. National guidelines

We did not conduct online general training sessions in Q4.

2. TST Training

Training of HCW by the NTP and their certification for multiplying TST training started at the end of Q3, when PPD was distributed. SP HCW were trained in Q3, the NTP trained HCW in Recife, Porto Alegre and Manaus in Q4. Again, Rio de Janeiro is behind, with formal training by the NTP scheduled for end Feb 2024. However, we have found solutions to train HCW in Rio de Janeiro. Training is being conducted by the project focal point in Rio de Janeiro, as she was trained and certified by the NTP. Q4 was dedicated to train-the-trainer, and they are now training other HCW, to further increase the number of clinics offering TST. Before the beginning of the project, 149 out of the 327 participating clinics offered TST, at the end of Q4, 173 offer TST. The main expansion was in Manaus, as shown in the table below:

	Rio	São Paulo	Manaus	Recife	Porto Alegre
Before Apr 23	36	81	20	7	5
Currently	38	91	31	8	5

Our aim for Q1 2024 is to substantially increase these numbers.

3. Registry book and Surveillance Tool

As advised during the SPV, we concentrated efforts in Q4 to use the book as a training tool and to check the data against other sources. We have conducted in-service training based on the registry books and national recommendations involving 645 HCW, 190 in São Paulo, 201 in Rio de Janeiro, 35 in Recife, 183 in Porto Alegre and 36 in Manaus. Onsite training activities are now being carried out by the focal points and the local TB programs independently from the central coordination and NTP, as part of their routine activities (important for sustainability). Focal points have been very creative and active not only for training but also for dissemination to the public and to HCW on the importance of TPT (see details in annex 1). The number of contacts registered in the book is increasing and the data looks more consistent in Q4, see table 2.3 GMS. HCW from Manaus, Porto Alegre, Recife and São Paulo report (no systematic collection of this information yet) that the registry book has been useful for increasing and improving contact assessment. In Rio de Janeiro, implementation has been more difficult and we believe that this is due to the fact that the focal points are not part of the Municipal Secretariat's staff, with whom we met to agree a new strategy aimed at reversing this scenario (the decision is to officially adopt the registry book as mandatory in all clinics in Rio).

4. Educational material

We continued to distribute the educational materials to HCW, CHW and clients. CAB members together with project staff took the opportunity to discuss the difficulties of the clinic in events to launch the educational material on site.

Cy-TB:

We are negotiating the importation of Cy-Tb with the Serum Institute of India (paperwork ongoing). We are preparing a dossier for submission to the IRB. We have obtained additional

funding from the NTP in December 2023 to extend the ExpandTPT to three additional cities and to conduct effectiveness, acceptability and cost-effectiveness analyses of the Cy-Tb test.

CAB Activities:

Continued/regular activities: At least one CAB member participated in all training sessions and meetings mentioned above (for HCW and CHW) between October and December 2023. During the last 2023 quarter, there were continued distribution of educational booklets for CHW in all cities of the program/study.
In 2023Q3, arrangements were made by the CAB coordination to hold a meeting by the CAB members with the NTP to provide direct feedback on the CAB participation in the program/study. That was held virtually on 24-Nov-2023. See details in section 10 ahead.

Communication and dissemination activities:

We were invited by the Department of Health and Environmental Surveillance to present the ExpandTPT project at the 17th edition of the National Exhibition of Successful Experiences in Epidemiology, Prevention and Disease Control – ExpoEpi, which took place in Brasília between the 7th and 10th of November. Priscilla Wolter, the project coordinator, presented the lecture "ExpandTPT and the role of preventive therapy for elimination of tuberculosis as a public health problem" (certificate in annex 2).

All activities are publicized on social media, Instagram @expandtpt and website https://redetb.org.br

Supporting documents attached in (All supporting documents/Others: Communication Report)

iTB - Innovation, Integration and Information in Tuberculosis, achieved a prominent position during the 2023 Digital Transformation in Health Award, winning 2nd place in the Health Economic and Industrial Complex 5.0 category at the 6th Health Solutions Fair (certificate in annex 3). This notification system was developed by the Data Intelligence Directorate and the Tuberculosis Control Center of the Manaus Municipal Health Department and included contributions from the ExpandTPT and NTP team to improve the contacts module. The report on the award is available at the link https://www.portaldozacarias.com.br/site/noticia/sistema-para-saude-desenvolvido-pela-prefeitura-recebe-selo-inovacao-em-transformacao-digital/ .

We have submitted a cost-effectiveness analysis of TBST and QFT compared to PPD, Cy-Tb and Diaskin are more cost-effective than the other technologies. Manuscript under revision, annex 4.

We would like to advance two dissemination activities in Q1 2024:

1. Fans with ExpandTPT TB messages were distributed during carnival, we are adding pictures to the item 11 *Stories from the field.* Our project staff composed lyrics to known carnival songs, which are in the fans
2. We have presented the project (5 minute presentation) in the 37th Stop TB Partnership Board meeting, in Brasilia, 7 Feb 2024 (picture attached also in item 11)

CAD:
Weare still finding solutions for the implementation of CAD. The images generated by the different machines need to be uploaded in a secure platform. We hope they will be installed in Q1 2024 and data gathered in Q2 2024. We are also implementing the OpenTB CAD in a van deserving prisons in Rio de Janeiro (in addition to the 5 clinics originally planned, with additional resources).

Implementation (Operational) Success and Challenges

2. A. Describe any operational successes or challenges you had implementing your TPT program.

- How have you built health care worker capacity for identifying persons with infection and providing TPT?
- Were there any concerns for program staff or health care workers providing the services?
- Were there any notable benefits or challenges for persons screened, tested, or treated?
- Describe any procurement challenges or successes?
- Is TPT adequately recorded and reported in your evaluation population?

B. How has the project adjusted to maximize these successes and mitigate the challenges described in 2 above?

We have conducted a diagnosis of the needs of the participating clinics, a detailed report is underway. This is the basis for tailored interventions in different clinics. PPD stockout and absence of trained HCW for TST were among major barriers not only because HCW refused to prescribe TPT without TST testing despite NTP recommendations during stockout, but because training for TST was held until PPD stocks were restored. PPD distribution was restored in September 2023. TST capacity is gradually increasing with training for TST and flexibilization of what is needed to consider the HCW apt for conducting TST. The NTP fears a new stockout of PPD, we hope that we will have successfully imported Cy-Tb by then! (in Feb 2024, during the Stop TB Partnership Board meeting, the MoH informed us they will buy PPD from another provider. We are advocating for the adoption of new skin test technologies (TBST such as the Cy-Tb), which are more specific than TST (but the MoH procures through PAHO and consumables must be pre-qualified by WHO. SII informed the process was launched). We have also shown (under revision for publication at cadernos de Saúde Pública, annex 4) that TBST are more cost-effective than TST (cost-effectiveness studies are necessary for technology incorporation by the Brazilian MoH).

MDs are resistant to any additional work, the empowerment of nurses, now authorized to prescribe TPT. However, authorization from the Federal RN council is not sufficient, State agreements are necessary and are progressively being signed. Although there is also some resistance among RNs, as they are already responsible for several tasks in primary care units, the project is investing in their training.

In-service training has expanded the interest and actions regarding TPT in many clinics, there is still room for improvement in many other clinics.

We are using the RedCap graphs, generated by the Registry Books, to give feedback to HCW at the clinical, district and municipal level. Obstacles in the various steps of the cascade of care are identified in different clinics. We have started to see some improvement in some clinics. Some clinics, however, are not using the Registry Books. Manaus Municipal Health Secretariat has issued a technical note stating that this is a compulsory tool and that scans of the books' pages must be sent to the TB managers. In the state of Rio, a similar technical note is under preparation (Rio is slower to react...)..

Delay in TPT notification, especially on treatment outcomes, is still a problem, and we do not think we will be able to fix this completely, although we have been insisting, in our training activities, on the need for timely response to surveillance, which obviously depend on timely notification. We are using the RedCap instead of the IL-TB system to take actions.

We believe that the impact of the project will continue to increase after the end of the program, as focal points work at the municipal TB management and are deeply sensitized for the need for scaling up TPT. They find the projects' tools very useful and will continue to use them (training

material, registry book/registry online tool). They are also very active in proposing new advocacy materials (cards, carnival fans, book page markers - see dissemination activities).

In December 2023, funding a phase 2 project, with expansion to three additional cities was approved by CNPq, the funding agency from the Ministry of Science, Technology and Innovation. This will also provide sustainability to the activities.

Outcomes and Impact

3. Did activities result in the identification of persons with active TB disease and TB infection?
- **Did the activities result in TPT initiation and completion for those with TB infection?**
- **What interventions are being done to improve TPT initiation and completion?**
- **How are persons on TPT being supported and assessed for adherence and side effects?**

According to data collected by the project sources (the information system does not capture all steps of the cascade), the number of people screened more than doubled, from 753 to 1964. However, this may reflect the improvement of the registry book data more than the number of contacts actually being identified and screened. The proportion of those who received a TBI test increased from 28% to 43%. There is still room for improvement and again, this may be biased by training to fill the books. The positivity of tests - 62% is much higher than expected (30% according to the literature), which may reflect differential registry of positive tests. 20% of people with a positive TBI test did not undergo a CXR, which is better than previously but still higher than the goal. Finally, the proportion of contacts eligible for TPT who were prescribed TPT increased from 45% to 84%. We will follow up to observe consistency of this improvement, and we will continue to stimulate improvement in the retention in all steps of the cascade. Treatment completion does not reflect those who started in Q4, rather those who started in the previous trimesters.

4. Describe how the numbers of persons across the cascades- those identified with active TB, TB infection, who initiated, and/or completed TPT- have changed in your evaluation population since the beginning of your activities (data from GMS tables)
- **How do these numbers compare to your control areas?**

Data from tables 5.3 and 5.4 derive from IL-TB, the information system, which is a different source from table 2.3, from project's data.

The IL-TB only reports numbers of contacts starting and completing treatment in the trimester. We already observe a recovery compared to Q3 (PPD stock out) to levels similar to Q2. This same effect is observed in the control areas. Because there is a delay in notification, we still expect some increase in Q4 numbers (in both control and intervention cities). The spreadsheets with the data extracted from the system are available in annex 5 and 6.

We still do not see the exponential increase we expected from the projects' activities. However, one of the principles of the project is to train the trainer, to increase the number of clinics offering TST. Because of the PPD stockout, training was only possible in Q4, and the effect on expansion of TST is still very modest.

5. In the next quarter, what will the project do differently to improve / maintain impact?

We will continue the registry book training, feedback and surveillance activities.

We are further expanding the capacity of clinics offering quality controlled TST.

We hired an experienced team to conduct a survey of knowledge, attitudes, and practices for HCW and CHW, and a satisfaction survey among users (both planned to be conducted in Q1 2024).

We will expand the activities to other intervention cities, with additional funds from the Brazilian Government. This is an indirect effect of this current project.

6. Describe any internal or external factors* which may have influenced the identification of person with TB, TB infection, TPT initiation or TPT completion in your EP and CP (both positively or negatively). What changes were observed? How did they influence your results?

* Internal factors are directly related to project activities eg staff capacity and motivation; availability of commodities. External factors are more health systems related and can include political unrest, health care worker strikes, national stockouts of commodities, initiation or termination of service delivery activities by other organizations, changes in reporting units, and implementing new/improved diagnostics by others, etc.

Our main bottleneck was PPD stock out in the first 6 months of the project. This had two adverse results: less prescriptions of TPT on one side and delayed training for TST thus capillarization of clinics offering the service.

MDs still resist to evaluate and treat contacts, but the progressive empowerment of nurses might have a positive effect (both in intervention and control areas).

In some clinics, mostly in Rio, there is still resistance to fill the registry book. TB managers are releasing technical notes to make these books and their filling compulsory. The NTP is also considering adopting the book.

An unprecedented Dengue epidemic started in Q4 and is at its peak now, possibly due to the El Niño phenomenon. This is not exclusive to Brazil, but will possibly also have some impact in the Q4 and Q1 activities. In Porto Alegre and Rio de Janeiro, there were floods this summer, also impacting project's activities (transportation of staff was impossible).

CXR delays are still a bottleneck, and are not expected to be fixed during the period of our project (CAD implementation is not expected outside 5 clinics in the short term).

No internal issues detected, on the contrary, the focal points (and the TB management in ⅘ municipalities, with the exception of Rio) are highly enthusiastic, proposing new activities in their cities, and convinced that they will continue the project's activities/tools after the end of the funding.

7. Comment on how data quality was assessed during the reporting period.
We have built a tool to control the quality of the filling of registry books. The project team developed a quality control tool for book records. In addition to evaluating completion, it is possible to measure the number of incomplete and incorrect records, as well as whether the information was transcribed into REDCap and notification platforms (Sinan and IL-TB). An example (from Manaus) is in annex 7. This tool is used to prioritize visits for feedback and re-training. We will also be able to analyze which fields are causing the most errors when filling out and this will help to improve the quality of the records. The health teams are sending the scanned books so that the focal points can optimize the review. Errors in management are also clearly depicted in the Registry Books, feedback is given to the clinic staff as part of a Quality Improvement process. The Registry Books are considered a powerful training and quality improvement tool by the municipal TB managers. We are cross checking the information on the Registry Books with several other information sources: the "green" TB book (index cases), the pharmaceutical department (information on consumption of 3HP), the National TB information system Sinan. This represents a substantial amount of working hours but the focal points feel this is allowing to improve the project's and the National data. In Manaus, the registry book helped to identify a barrier to entering contact assessment tests into i-TB. Maybe the absence of a national fiscal number, mandatory in the iTB system, is the reason for the absence of data on tests in the iTB system. We have also held a meeting with the iTB team to explain how to create analysis graphs of the TBI module, as generated in the RedCap. In Rio de Janeiro, the focal points check the yellow books, comparing the information with periodic epidemiological bulletins from Sinan TB information system).

Health Systems Strengthening

8. Describe how your project contributed to health systems strengthening. • Describe which building blocks your project contributed to and how? (Leadership and governance, service delivery, financing, workforce, medical products and technologies, information systems, and community engagement) • Describe any challenges related to implementing HSS activities and how these were mitigated.
<u>*Human resources*</u>: We have certified 65 HCW to train other HCW on TST infection and reading. There were over 15,000 access recordings to the virtual training sessions since the beginning of the project for the national guidelines on TBI evaluation and TPT. Some may have accessed more than once, on the other hand, many people access on the same device, the number of truly trained people recorded per quarter in the Tables reflects the number of certificates provided in these sessions (tables available at https://drive.google.com/drive/folders/1nEDucyyn306zysvw4PivxdJKclXNkENa?usp=sharing). We are now conducting in-service training, which is slower and takes more time. We have trained 601 HCW in Q4. These activities are now conducted independently of the central project coordination, by initiative of the municipal focal points, who are mostly permanent staff of the

	public health system. In other words, we believe many project's activities will probably be sustained after the end of the project. TB municipal managers are 100% engaged in scaling up TPT using the tools of the project. We are training TST trainers and expect to shortly increase substantially the number of clinics offering TST. *Medical products*: We are having difficulties in transmitting images from the public health system to our IT group (interface and security issues). Solutions are being studied by the project's IT team. *Information system*: The registry book that is serving as a notification control tool in addition to an educational tool. We have a timely data source to take action (RedCap based on Registry Books). Manaus has developed, with the project's funding, a module for contact in their iTB information system. The module is now complete, we held a meeting to suggest analytics indicator tools (currently, the system is more useful for clinicians than for managers). Community engagement: The CAB is very engaged and held an important meeting with the NTP in Q4 2023. See more on item 10.

Implementation Research

9.	**If your project is conducting implementation research, describe any activities related to implementation research this quarter and what you are planning for the next quarter.**
	We are reporting (in preparation) a situational diagnosis for TPT scaling-up in Brazil. We have conducted cost-effectiveness analyses of different technologies for TBI diagnosis. We are collecting costing data for cost-effectiveness analyses of different activities: training on the guidelines, mTST, TST training. We have built tools to collect data on HCW acceptability of the registry book and of new TST training methods/quality control (mTST). We hope we will be able to import Cy-TB before the end of the project and start acceptability research. We have prepared, in collaboration with communication professionals, surveys on user satisfaction and HCW knowledge, attitudes and practice.

Advocacy for Awareness, Sustainability, and Scale-Up

10. Describe your advocacy activities including your partner engagement (especially with the NTP and CCM), results sharing/dissemination and advocacy efforts during the quarter.

- How has your project promoted and improved awareness among health care providers and the community on the importance of initiating and completing TPT?

CAB members participated from the very first training and capacity building of the program/study, and regular reporting was collected by the CAB coordination team. A series of feedback meetings took place in 2023Q2 with the program director and coordinator. Yet, CAB members understood there was a need to provide formal feedback on the progress of the program implementation under their perspective to the partners (REDE-TB, NTP and the Municipalities). This would be particularly important to the second half planning and focusing on the NTP's role to orchestrate roll-out and provide guidance/support to the local level. The CAB Coordinator negotiated with the NTP Manager a meeting in late November. A series of preparatory meetings were scheduled by the CAB Coordinator with CAB Members and program's Focal Points (FP) to prepare the material to be presented to the NTP in late November. This would create an atmosphere of collaboration and exchange of perspectives among CAB members and FP, which was not fully happening in all cities until that point.

Meanwhile, regular activities continued both in national (capacity building sessions to HCW or CHW, meeting) and in the local level (CAB members participating in the distribution of the ***Guia d@s ACS para TPT*** **("CHW's Guide to TPT")** and visits to different units. A general point to be underlined in this quarter was the intensification of interaction of CAB members and FP, who bridge the communication with the respective municipality programs and health units.

A technical mission/visit by the Stop TB Partnership's (STP) consultant took place in October 2023 to Rio, Brasília and Manaus. CAB members participated in the meetings and direct interaction in Manaus and Rio de Janeiro.

Some highlights in the quarter are:

October: CAB members participated in the Technical mission/visit by STP's Consultant in Manaus and Rio de Janeiro, respectively on 17-18-Oct and 20-Oct-2023. CAB members had a chance to express their perspective on the program's implementation. (ii) CAB members meet with CHW and HCW in different visits to the health units in all 5 cities, coordinated with the local FP; activities focused on the distribution of CHW's guides and triggered the intensification of calls of local CAB members with respective FP and local TB program managers. (iii) In the two late weeks of October, CAB Coordination assembled the information provided by CAB members along the last quarters and provided a first draft of November's presentation to the NTP. CAB members had a few days to provide direct input into the presentation, which would be discussed in the following month.

November: (i) Three calls were set in early and mid-Nov to prepare the final revision of the 24-November-2023 presentation to the NTP. The participation of the FP raised some concerns about the communication and the still low direct interaction with FP and local TB program managers to organize the local program implementation. (ii) The preparation for the late November presentation triggered a series of calls/meetings of local CAB members with respective FP and local TB program managers. This happened to be a very positive outcome and helped to overcome misconceptions of the CAB's role and capacity to contribute to the program's implementation process. Particularly positive meetings/calls happened with São Paulo and Rio de Janeiro. Porto Alegre had also taken a big step ahead with closer communication happening among CAB members and local FP and TB managers, rearranging activities, and establishing a productive communication and collaboration. Manaus was already having a good interaction among CAB members and local FP and TB managers. (iii) 24-Nov-2023 a meeting led by the CAB with the NTP, with the participation of the five FP and the program's Director and General Coordinator. The CAB's presentation had a high appreciation by the NTP, since it presented an analysis of the progress and

	direct suggestion on how the NTP could support and guide local health units and TB programs to implement and roll out the ExpandTPT program. **December:** In early December and mid-January, 2024, there was a series of calls with the local CAB members and local FP and TB manager, launching a series of visits/meetings and planning. Meetings with local health units happened in Rio, São Paulo, Recife, Manaus and Porto Alegre until late December (2023Q4).

Women's Empowerment Activities

Please describe activities that you conducted to provide gender responsive services and/or empower women?
We have hired one more woman to the staff team in Rio de Janeiro. Dinah Cordeiro was officially accepted for the PhD course and Larissa went on with her MSc. We will hire, in Q1 2024, a female pos-doctoral student to conduct additional cost-effectiveness analyses. Priscilla Wolter, Jorgiane Faria, Cristina Bettin, and Mayara de Sá completed the modules of the specialization course in Sanitary Pulmonology and are writing their final monography.

Story from the Field

11. Provide a story from either persons who accessed services that you provided under this TB REACH grant or from program staff/ health care workers who worked under this grant about their experiences and how their lives have been changed due to your program? Please insert relevant photos if available and be sure to get permission from the persons profiled for use of their photo. Stop TB Partnership will use these stories and photos to promote grantee's work.
Here are some pictures from our activities during Carnival and from the Stop TB Board meeting in Brasília in Q1 2024.


UNIDOS CONTRA A TUBERCULOSE


2024
CARNAVAL
PROTEGIDO CONTRA A TUBERCULOSE
TEM OU TEVE CONTATO COM ALGUÉM COM TUBERCULOSE PULMONAR,
PROCURE O POSTO DE SAÚDE PARA SE TESTAR!
COM A INFECÇÃO VC PODE ESTAR,
MAS AINDA ESTÁ EM TEMPO DA TUBERCULOSE EVITAR!
NÃO ESPERE O SINTOMA APARECER,
POIS A TUBERCULOSE PODE TE SURPREENDER,
COM O TESTE PRECOCE, A CURA VAI ALCANÇAR .
NÃO HESITE, SEJA RESPONSÁVEL E VÁ SE CUIDAR!
NA ALEGRIA DO CARNAVAL, VAMOS CONSCIENTIZAR,
A INFECÇÃO LATENTE DA TUBERCULOSE É SÉRIA,
MAS COM INFORMAÇÃO, PODEMOS ENFRENTAR!
COM RESPONSABILIDADE E ALEGRIA, VAMOS SAMBAR,
CARNAVAL COM SAÚDE, É O QUE VAMOS FESTEJAR!
REDE-TB
EXPANDTPT


STOP TB PARTNERSHIP