

Guidance to countries to integrate TB response in the Expression of Interest of the Pandemic Fund

The purpose of this document is to support the entities working in tuberculosis (TB) and health systems who are interested in applying for the first [Expression of Interest](#) and Call for Proposals from The Pandemic Fund. Expressions of Interest (EOI) was opened on 3rd Feb, 2023 to seek potential projects to be funded under this first Call for Proposals and closes on 24th Feb. The call for proposals is open from 3rd March to 19th May 2023. The following write up gives guidance for the national TB programs for synergies with Pandemic Preparedness Response (PPR).

Introduction

In 1993, WHO declared TB a global public health emergency¹. The airborne and droplet-borne infection affected all sections of society in all countries as we are all connected by the air we breathe. Countries and global partners were galvanized, progress was made albeit slow^{2,3} but in 2020 all efforts were upended with covid-19 pandemic⁴. One lesson was evident - Operating in crisis mode is difficult to sustain⁵.

As the world is galvanized yet again with WHO's declaration of covid-19 as a public health emergency of international concern, experts caution that

- 1) TB which still kills 1.5 million people every year continues to merit emboldened efforts as an existing pandemic^{6, 7, 8}.
- 2) for future pandemics it is important to have resilient and sustainable community and health systems that are running and therefore, ready to surge^{9,10}.

Most TB programmes have well-planned systems for diagnosing, treating and preventing airborne and droplet infections that are rooted in equitable, gender-responsive and human rights-based approach in partnerships with community and private sector.

It will be smart and efficient to build on these for PPR. Building a separate response for pandemic will not only divide and distract attention but also pose challenges on resourcing and governance. A step in the right direction by the Pandemic Fund and JEE assessment is the inclusion of vaccinations for vaccine preventable diseases as a marker for vaccine preparedness^a. Similarly a step in the right direction will be for PPR to build on systems available for TB.

The national TB programs in several countries conducted bidirectional screenings for covid-19 and TB, organized contact tracings using TB community networks and trained TB workers, and tested for covid-19 using the TB molecular testing platforms^{11,12}. TB wards with isolation facilities and staffed with workers skilled in airborne infection control and respiratory care were converted to covid-19 wards. These unplanned surge efforts resulted in a diversion of resources and setback for the TB

^a "In order to achieve the target of a national vaccine delivery system – with nationwide reach, effective distribution, easy access for marginalized populations, adequate cold chain and ongoing quality control – that is able to respond to new disease threats measles immunization is being emphasized. It is expected that - 95% of the country's 12-month-old population has received at least one dose of MCV, as demonstrated by coverage surveys or administrative data; or 90% has received and the trajectory of progress, plans and capacities are in place to achieve 95% coverage by 2030 (p59 of JEE 3rd ed)".

programs in terms of increased mortality and, worse still, increase in undiagnosed TB cases that will increase transmission in the coming years¹³.

Now is an opportunity to integrate national pandemic preparedness response with national TB response and strengthen these jointly to address the current pandemic as well as provide ready surge for the future, especially for future pandemics which are airborne/droplet respiratory illnesses.

The priorities of national TB programs that are in alignment with the priorities of PPR are –

- 1) Availability of real time sub-national TB data and dashboard technologies that can be used by communities for advocacy and accountability, and by program managers for planning, preparedness and adequate response of uninterrupted people-centric care at the primary healthcare level. This is aligned with the Pandemic Fund priority area - Surveillance and early warning.
- 2) Improved case detection that leverages technology, partnership with communities for contact tracing, referral, targeted screening and case finding, community-level monitoring, and takes testing to the doorstep of people followed by prevention and treatment adherence. This is aligned with the Pandemic Fund priority area – Laboratory systems.
- 3) Trained health care workers adequately protected with masks and PPE, in an environment with infection control be it inpatient and outpatient settings or laboratories. This is aligned with the Pandemic Fund priority area - Human Resources/Workforce Strengthening.

These efforts for strengthening the TB responses and integration with PPR need to be placed in WHO's advisory for national action plan for health security (NAPHS), and in various assessments of the Pandemic Fund like the JEE.

The integration of PPR with TB response deserves urgent attention of all the national governments and global technical and financial partners including the WHO, Pandemic Fund (PF) and Global Fund (GF).

Guidance for EOI of the Pandemic Fund for strengthening the existing TB response for PPR

Based on earlier global guidance^{14,15,16,17,18,19,20} for strengthening the TB response, the following suggestions are placed for the consideration of stakeholders from national TB programs and the broader national health systems for strengthening the priority areas of Pandemic Fund by building on the existing TB response in the country.

PF Priority area - Surveillance and early warning

◆ *JEE D2.1 Early warning surveillance function –*

Deployment, scale-up and maintenance of real-time, digital case-based TB disease surveillance systems with dashboards for sub-national data.

The system should be interoperable and linked to the larger e-health information system, laboratory information system, patient management data, digital treatment adherence data, supply system for drugs and commodities and community-based monitoring.

Strengthen the TB real time digital monitoring system with additional features for cough, fever monitoring at local levels to help in early identification of airborne infections and alert response mechanisms. Local level TB surveillance and response mechanisms can be utilized for early identification and rapid response for other airborne epidemics.

◆ *JEE D2.2 Event verification and investigation*

The aim should be to develop lab management information system that provides alerts for diagnosed cases, adverse events and clustering of disease in time or space. People with symptoms are

referred, screened, tested and followed through till treatment or prevention, people who experience adverse events, who interrupt treatment are identified by the digital or e-system and health workers notified for providing appropriate support. The laboratory information system alerts the rapid response team for further action. Health workforce TB surveillance system can be further strengthened for early identification of new infections and alert for responses.

◆ *JEE D2.3 Analysis and information sharing*

Develop and deploy automated tools that include regular TB data analysis, feedback, hot-spot analysis and dissemination. Dashboards placed on the website for wider public. The care cascade analysis considers age, gender and vulnerable groups. Analysis facilitates planning, improvement of program quality and operational research. Program data analysis is correlated with financial data to inform costing, budgeting, resource-tracking as a minimum. Regular data analysis and feedback is complemented with data quality audits, program reviews and evaluations.

◆ *JEE P4.2 Surveillance of AMR*

Strengthen Surveillance for TB drug resistance. Surveillance for TB drug resistance and community transmission will be important especially in areas without universal drug sensitivity testing. Important drugs include fluoroquinolones, bedaquiline and other new anti-TB drugs.

Surveillance can be targeted, for example, in the in-patient facilities with TB patients, in the TB laboratories.

Bidirectional screening for TB and other infections or co-morbidities at the population level is combined with TB prevention treatment.

◆ *PVS II-4 Surveillance and early detection*

National TB programs work within the national one-health forum to advocate or plan or ask for development of surveillance system that includes surveillance for TB and DR-TB in animals in for detection of pockets of transmission of bovine TB and zoonotic TB in humans.

◆ *PVS II-9 Antimicrobial resistance and antimicrobial use*

National TB programs work with the national one-health forum to ensure appropriate use of antibiotics and discourage indiscriminate use of fluoroquinolones and other drugs in animals.

Priority area -Laboratory Systems

◆ *JEE D1.1 Specimen referral and transport system*

Develop systems for referral and transport of sputum and other specimens within the districts, and to the intermediate and national labs with attention to specimens from children and other vulnerable populations.

NTPs should consider planning costs of collection and packaging of specimens as well as meetings/technical assistance for biosafety regulations, coordination for co-sharing with other departments and communication costs besides the actual transportation costs.

Technology like air tags for tracking specimens is considered.

◆ *JEE D1.2 Laboratory quality system*

Newer molecular tests developed for TB are also multi disease detection platform and can be placed at peripheral laboratories, further strengthening primary health care.

Quality assurance protocols and guidelines are regularly implemented for all labs engaged in sputum microscopy, rapid molecular diagnostics, line probe assay and phenotypic culture and sensitivity for TB.

Lab management information system provides updated information including on supplies.

All labs receive feedback on their performance, receive regular supervision and have opportunity for improved performance as per a national plan.

◆ *JEE D1.3 Laboratory testing capacity modalities*

Plan for molecular testing done at the primary health care level ensuring same-day results, including for the vulnerable populations like urban poor, rural poor, PLHIVs, internally displaced persons, prisons and other congregate settings.

Procure and deploy multiplex diagnostic testing platforms, line probe assay, phenotypic culture and sensitivity, whole genome sequencing, with respective quality assurance processes, annual maintenance contracts and adequate number of trained staff are available at different levels.

Plan for annual assessment of infection control practices and lab capacity jointly with other programs.

◆ *JEE D1.4 Effective national diagnostic network*

Plan and budget for effective diagnostic mix that can serve TB pandemic as well as any future airborne pandemic that includes an appropriate mix of X-rays with AI and molecular labs as per national TB guidelines based on the recent most WHO guidance. Consider having an assessment of the current lab networks for decentralization and equitable service to different populations and linkages with specimen referral and transport system. The effective diagnostic network ensures all children receive molecular diagnostic test.

Effective TB diagnostic network includes uninterrupted power supply, infection control, waste management, connectivity solutions to enable automated reporting by diagnostic devices, and appropriate integration with other disease lab services.

Expansion and decentralised placement of Digital Chest X-Ray with artificial intelligence supported reading can be effectively expanded for early detection TB and other lung pathology as an important tool for PPR.

Priority area - Human Resources/Workforce Strengthening

◆ *JEE D3.1 Multisectoral workforce strategy*

Plan adequate number of trained community health workers (male and female) are available at the primary health care level through public sector or CBOs/FBOs or private sector, trained and enabled to do specific tasks. Include in the capacity building efforts skills such as contact tracing (needed for TB and any future infectious disease outbreaks). Laboratory, M&E, epidemiology, communication, procurement and distribution, and management of human resources.

Ensure that the capacity building activities are as per the national guidelines for recruitment and harmonized compensation/incentivization of health staff including for mobility and communication.

Based on the covid-19 experiences, plan for surge capacity in line with the national workforce strategic plan.

Ensure that the workforce (including TB staff and workers) are supported also by digital systems that ideally are linked to the surveillance system/health MIS.

Plan to ensure that health workers, including TB should:

- have connected handheld devices/mobile phones, digital tools like WhatsApp groups, Zoom/Teams or other platforms to support remote meetings.
- are protected with adequate availability of masks and PPE.

- have adequate infection control in their workplace (labs, in-patient and out-patient settings) with good ventilation and other environmental and administrative airborne infection controls standards.
- screened for infectious diseases and co-morbidities and receive counselling and mental health services especially when in high stress environment.

◆ D.3.3 Workforce training

Plan for an e-training platform to facilitate remote training, testing and certification based on standardized curriculum with focus on building skills. Training needs and quality of trainings are assessed periodically.

All cadres of workers – community level to national level should be included in training as per an approved and budgeted training plan. Costs for development, printing or publication of training materials are considered besides the costs for conducting the trainings.

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