

CALL FOR PROPOSALS

Contractual partner for the Prototyping of Artificial Intelligence and Predictive Analytics for Digital Tools of the National TB Program



World Health Organization

Representative Office
for the Philippines

1. Summary

The World Health Organization (WHO) Philippines is looking for a contractual partner to prototype artificial intelligence and predictive analytics for digital tools of the National TB Programme, Philippines under an Agreement for Performance of Work (APW) contract.

The proposals are due by 10 September 2021.

2. Background

The National TB Program (NTP) of the Department of Health (DOH) has developed various digital tools in the last decade with the assistance of partners, including WHO. These tools have increased the productivity and potential of the program. However, much of the potential of the rich data collected is locked away without any automated mechanisms to easily analyse, interpret, predict and propose actions at the population and individual levels.

Under this contract, we expect the contractual partner to create a prototype for an artificial intelligence and predictive analytics “engine”. This engine should input data from the existing information systems and digital tools, and then analyse, interpret, predict and display the outputs in the same digital tools. The engine will query data, identify trends and test assumptions using health, socio-economic and other relevant data, including data on Geographically Isolated and Disadvantaged Areas (GIDA). The prototype should have machine learning to allow continuous refinement based on new data. These “data loops” will help in continuous refinement of program activities and health worker actions.

The associated concept note describes seven use cases as a few examples to be prototyped under this contract.

3. Timeline

The implementation timeline for the project is from **16 September to 20 December 2021**.

4. Place of Assignment

To be conducted remotely.

5. Scope of Work

Under the supervision of the Technical Officer for TB Program and the Medical Officer for Disease Programs, the contractual partner shall:

1. Conduct a thorough review of data collected through digital tools, identifying errors and recommending improvements where necessary;
2. Aligned with the associated concept note, identify input and output locations in digital tools;

3. Create the artificial intelligence and predictive analytics engine using input and make output available for display in tools;
4. Create “data loops” where output is compared with real-life outcomes and used to refine the models;
5. Evaluate solutions for performance, accuracy, and usefulness; and
6. Implement solutions and cover maintenance for two years.

Deliverables:

- 1 Review of data flows and drafting of plan
 - 1.1 Inception report showing implementation plan with milestones
- 2 Basic structure for artificial intelligence and predictive analytics “engine”
 - 2.1 Input channels
 - 2.2 Analytic and prediction model
 - 2.3 Output channels
 - 2.4 “Data loops” to feed findings back into the model
- 3 Implementation of key use cases
 - 3.1 Population level (programmatic) optimization
 - 3.1.1 What is the likelihood of finding people with TB in different population groups?
 - 3.1.2 What is the likelihood of optimal population-level outcomes?
 - 3.1.3 How can we improve population-level data?
 - 3.2 Individual level (clinical optimization)
 - 3.2.1 What is the likelihood that an individual may have TB?
 - 3.2.2 What is the likelihood of optimal individual-level outcomes and how to improve them?
 - 3.2.3 What actions need to be taken for precision care and medicine?
- 4 Final technical and financial report

6. Completion of Work

The work to be done under this contract shall be Technical Assistance for Prototyping of Artificial Intelligence and Predictive Analysis for Digital Tools of the National TB Programme as set out in the Terms of Reference. The contract will be completed in not more than 5.5 months from the commencement of the Work, or otherwise as agreed in writing among the Owner and the Contractor. The work shall be done in strict compliance with the Contract, Specifications, Schedules, and all other Contract documents and all Instructions. Failure to do so shall be at the Contractor’s risk and account. Submission of Bid by the Contractor shall constitute acknowledgement by the Contractor that it is aware of and concurs with all of the requirements or conditions incorporated in the Call for Proposal and the other documents.

As time is an essential element of this Contract, for failure to complete all work within the stipulated as set out in the Terms of Reference, the Owner shall charge the Contractor liquidated damages. This shall be in the amount the sum of 0.5% of the total contract amount per day (Saturdays, Sundays and holidays are included) but not to exceed on total 10% (ten percent) of the contract amount. These liquidated damages shall be for the added cost incurred by the Owner for such delay and also for the inconvenience caused to the users of the Work. It is understood that this is not a penalty but a fixed sum representing the liquidated damages for

each calendar day of the delay. Delay shall be counted from the agreed completion date, considering further time extensions approved by the Owner, to the date of completion of work.

Management of Conflict of Interest

Any interest by an entity (organization/company), expert or member of the project team that may affect or reasonably be perceived to (1) affect the expert's objectivity and independence in providing advice to WHO related to the conduct of a project, and/or (2) create an unfair competitive advantage for the expert or persons or institutions with whom the expert has financial or interests (such as adult children or siblings, close professional colleagues, administrative unit or department).

WHO's conflict of interest Rules are designed to identify and avoid potentially compromising situations from arising thereby protecting the credibility of the Organization and of its normative work. If not identified and appropriately managed such situations could undermine or discount the value of the expert's contribution, and as a consequence, the work in which the expert is involved. Robust management of conflicts of interest not only protects the integrity of WHO and its technical/normative standard setting processes but also protects the concerned expert and the public interest in general.

Confidentiality Statement

All input from participants and all related documents about the project are confidential and must **NOT** be handed over to third parties. The contractual partner should advise the participants on how to opt out or withdraw their statement(s), if needed. The DOH and WHO have the exclusive ownership of all documents, and only DOH and WHO have the right to disseminate any information outside the agreed project's scope.

7. Qualifications

Education of staff involved (lead team members):

- Essential: Master's degree in information technology-related field
- Desirable: University degree in health-related field

Skills of the lead team members:

- Artificial intelligence, predictive analytics and machine learning
- Technical writing
- Interoperability and integration

Experience required:

- Essential: At least 3 years technical experience in IT systems and artificial intelligence
- Desirable: Technical experience in TB control; experience writing and designing publications
- Experience completing this type of work.

Language requirements:

- Essential: Fluency in English
- Desirable: Fluency in Bisaya and Tagalog

In addition, the contractual partner must have no direct or indirect interest in the tobacco industry, alcohol industry, arms dealing or human trafficking.

8. Competencies

- Creative and strategically oriented
- Able to adapt to relevant and reasonable project demands and submit deliverables within timelines

9. Proposal format

Proposals should include the following:

- Modular costing. The proposal should be separated into modules (e.g. data readiness, artificial intelligence engine, use cases) for a partial proposal to be accepted and funded.
- Person-days and rate. Include the number of person-days of work for each module and payment rate per person-day.
- Accommodate multi-contracting. Further developments of this work may be done by different suppliers. Considering this, proposals should accommodate this multi-contracting approach and have the ability for continued development by other suppliers.
- All code will be open source or owned by WHO as part of this contract. Any proprietary code licensed as part of the proposal is discouraged and should be explicitly indicated.

10. Submission Requirements

Interested institutions should submit electronic copies of the following:

- Cover letter
- Proposal with financial details and proposed timeline
- Company profile

Address cover letter and proposals to:

Dr Rabindra Abeyasinghe

WHO Representative to the Philippines

Ground Floor, Building 3, Department of Health San Lazaro Compound

Rizal Avenue, Sta Cruz, Manila

Please submit the electronic copy of the documents with the title “**Contractual partner for the Prototyping of Artificial Intelligence and Predictive Analytics for Digital Tools of the National TB Program**” to wpphlwr@who.int. Only shortlisted applicants will be contacted by WHO Philippines.

Deadline of submission of proposals is on **10 September 2021**.