Consultancy to Digitise the Faecal Immunochemical Test and Cervical Cancer Registries and Audit tools for Programmes for NCD Screening, Management of Sickle Cell Disease, Interpersonal Violence and Gender-based Violence within the Non-communicable Diseases (NCD) Registry

Name of the Division	Technical Services Division
Name of the Branch/Unit	Health Promotion & Protection Branch/ Non-communicable Diseases & Injury Prevention Unit

1. BACKGROUND

The Non-communicable Diseases and Injury Prevention (NCDs & IP) Unit is implementing strategic information systems to support the surveillance, monitoring, and evaluation of key programmes in collaboration with the four (4) Regional Health Authorities (RHAs). To this end, the Non-communicable Diseases (NCDs) Registry was developed in January 2023 to house facility-based nominal clinical data for clients with selected chronic conditions accessing care at public health facilities. The NCDs & IP Unit is desirous of designing within this platform, electronic data systems for Faecal Immunochemical Test and Cervical Cancer Screening Registries and Audit tools for NCD Screening, Management of Sickle Cell Disease, Interpersonal Violence, and Gender-based Violence which are currently collected manually.

Transition from manual to electronic data systems requires significant investments, which have already been initiated as a priority under the "Support for Health Systems Strengthening Programme for the Prevention and Care Management of NCDs Project "commenced in 2019, supported by the Inter-American Development Bank (IDB). This programme includes the development of a National Plan of Action for Information Systems for Health (IS4H), and an investment component that entails the development and implementation of technological solutions such as a national Electronic Health Record, a NCDs application (to replace the Chronic Care Passport) to strengthen self-management support, tele-mentoring sessions for primary care providers and tele-health. The Electronic Health Records has been rolled out in May Pen West and St. Jago Park health centres, May Pen and Spanish Town Hospitals. The system will be rolled out in St. Anns Bay Hospital and health centre by December 2024.

Critical to the enhancement of surveillance, monitoring and evaluation is the incorporation of electronic and digital solutions that are expected to improve the efficiency with which data is collected, collated, reported and analysed. Several registries, audit tools and reporting forms have been recently developed and/or updated and the need for transitioning to electronic tools and forms has become a priority for the 2024/2025 operational plan. These electronic solutions are expected to:

- Allow electronic collection and storage of data for easier processing and submission
- Minimize inaccuracies in submission of data by providing electronic verification including edit checks
- Increase the timeliness of reporting through utilization of a centralized system
- Facilitate collaboration between team members at various levels of the health system that interact with the data

2. OBJECTIVE OF THE CONSULTANCY

The purpose of this consultancy is to design and develop electronic applications module, using the existing platform for the NCD Registry and Audit tools, for the paper based registers for FIT and cervical cancer screening and audit/assessment tools for the management of sickle cell disease, NCDs screening, interpersonal violence and gender-based violence.

3. SCOPE OF WORK

In undertaking this assignment, the consultant is required to:

1. Prepare a comprehensive work plan
2. Design electronic data entry forms and reports based on requirements specified by the NCDs & IP Unit
3. Submit monthly status reports
4. Submit a final status report at the end of the contract

Design and Development

The consultant is required to design electronic data entry forms and reports based on requirements specified by the NCDs & IP Unit, and develop applications for implementation at the parish, regional and national levels, utilizing the platform approved by the MoHW Information Communication and Technology Unit (ICTU). Specific activities include:

- Review of the specified registers and audit/assessment tools provided by the NCDs & IP Unit that require digitization.
- Review of the minimum data set and reporting requirements for each of the registers, tools and forms.
- Consult with the NCDs & IP Unit, ICTU, RHAs and other key stakeholders identified by MoHW to review and determine the specifications for development of electronic applications.
- Utilization of the technical architecture as specified by ICTU (see Appendix 1)
- Development and enabling of electronic data entry forms and enabling storage and records management compatible with the latest version of the software.
- Development and enabling reports for specified indicators.
- Conducting of testing (including user acceptance testing) and troubleshooting of the working models and develop solutions for production issues.
- Conducting of demonstrations for stakeholders and training sessions with end users
- Conducting knowledge transfer sessions with system administrators
- Ensuring interoperability of the digitised applications with the MoHW electronic health record
- Ensuring adequate data security and compliance with the data protection act and other relevant laws/policies in Jamaica
- Conducting training of ICTU (national) and Management Information Systems (parish and regional) staff in the operations and functions of the digitised tools and registries.

4. CONDITIONS OF CONTRACT

CONDITIONS OF CONTRACT	
SELECTION METHOD	Quality Cost-based Selection (QCBS)as outlined in Section 6
PERIOD OF CONTRACT	Six (6) Months
PAYMENT METHOD	Deliverable based contract
FUNDING	Funding will be provided by the Government of Jamaica
REPORTING ARRANGMENTS	a) The Consultant is ultimately responsible to the Director of Non-communicable Diseases & Injury Prevention Unit in the Ministry of Health & Wellness and the Director, Information, Communications and Technology Unit, but will report on a day-to-day basis to the Programme Development Officers – Cancer and NCD Risk Factors b) The Consultant will also work closely with the professional staff of the Ministry of Health & Wellness, Regional Health Authorities, and the selected health facilities. c) Technical oversight of this service agreement will be provided through the NCDs & IP Unit and ICTU at the MoHW. In carrying out technical duties,

	the Service Provider will liaise with the Service Desk within the Ministry's ICTU. The Service Desk will facilitate the following activities of the contract: • Ticket lifecycle management (creation, update, escalation, closure) • Service level monitoring and performance reporting Decisions related to major application changes will be passed through the NCDs & IP Unit, in consultation with the ICTU for technical guidance.
SUPPORT	The MoHW through the NCDs & IP Unit and ICTU will provide reference documents as required (including ICT service level agreements, network configuration and manuals), the required storage and access to same, and guidance on escalation of tickets. The NCDs & IP Unit will also facilitate consultations, discussions and training sessions with the Regional Health Authorities as required.
INTELLECTUAL PROPERTY	All material produced during the delivery of this Consultancy are the property of the Ministry of Health and Wellness and requests to use the same must be made in writing to the Permanent Secretary.
TRANSFER OF KNOWLEDGE	N/A
TRAVEL	Travel as required under this assignment is authorized and should be included in the final price.

DELIVERABLES

DELIVERABLE	DESCRIPTION	COMPLETION TIME	% WEIGHT OF CONTRACT SUM
Work Plan	The Work Plan is the operational document for the consultancy and is used to determine the required inputs for the execution of the consultancy. The work plan must detail: o Methodology for providing the key outputs of the consultancy. o Resources required that are outside of the control of the consultant. Timeline for the achievement of tasks associated with the deliverables.	One (1) week after contract signing	10%
Design proposal	Proposal for design with flow diagrams, requirements specifications, data structure, reporting	End of 1 month	15%
Working models	Working models and test reports (including user acceptance testing) with documentation of iterative testing and customizations	End of 3 months	40%
Completed application	Completed working applications, training and deployment reports, and user guides	End of 5 months	20%
Post-activation report	Post-activation report for Go-Live support	End of 6 months	5%

DELIVERABLE	DESCRIPTION	COMPLETION TIME	% WEIGHT OF CONTRACT SUM
Monthly Status Reports	To be submitted every four (4) weeks starting after the first 4 weeks of the contract.	Every four (4) weeks	----
Final Report (electronic Word document)	Due on the final month of the contract	One (1) week before the contact ends	10%

5. SELECTION CRITERIA

Criteria	Requirement	Weight
Qualification	University Bachelor's degree in • Software Engineering, Computer Science or equivalent (20)	20
Experience	Python programming language (Python3) • At least 4 years (5) Django Framework or Flask experience • At least 2 years Django OR At least 3 years Flask (5) PostgreSQL Database Engine • At least 1 year (5 SQL language (with other engine) • At least 5 years' experience (5)	20
Technical Proposal	• Work plan (10) • Methodology (15) • Access to other key experts, support staff and backstopping (5)	30
Financial Proposal	Consultancy costs for producting the deliverables as stated.	Ranking giving the highest score to the lowest cost utilisation: least cost/bid cost x 30

Evidence to support qualification and experience as above must be included in the submission, and copies of certification must be submitted along with signed individual CVs. Consultants must score a minimum of 70% to be considered for this consultancy.

APPENDIX 1: Technical architecture for application development

The Ministry has a system, built on the Django web framework, which forms part of the total solution. This system already has features to handle authentication, authorization, multi-user data entry and some generated reports.

This system was designed to accommodate summary reports with multiple related variables. Each variable belongs to a single heading that may have a parent or grandparent. A variable also belongs to a category that defines the number, names and types of the values that make up the variable. This means that a single heading could have variables that belong to different categories.

The platform has a single default method for displaying a data entry form for a group of variables belonging to a single heading. The results of this data entry can then be displayed in numerous ways depending on the need.

As with all Django based systems, this one can be extended by adding modules (called “apps” in Django parlance). And, since the system is owned by the Ministry, existing modules can be improved as well, as needed.

This system is already in production use in other divisions within the Ministry. By using it as a starting point for these audit and reporting tools, we aim to maintain high levels of interoperability among the different systems to ensure better clarity for decision making.

A team from the ICTU will provide developer support in the form of:

- Access to the Ministry’s source code repository
- Developer Documentation to include coding standards and guidelines
- Documentation on all the base classes and platforms expected to be used as part of the new solution. This includes class diagrams and associated developer-level documentation
- Space for a test deployment of the software under development
- Code reviews and refactoring support