SUPPORT FOR THE HEALTH SYSTEM STRENGTHENING FOR THE PREVENTION AND CARE MANAGEMENT OF NON-COMMUNICABLE DISEASE PROGRAMME

Electronic Health Record (EHR) Requirements Consultant

Background:

The Government of Jamaica has received two loans from the Inter-American Development Bank (IDB) to support the Health Systems Strengthening for the Prevention & Care Management of Non- Communicable Diseases (NCD) Programme.

The programme objective is to improve the health of Jamaica's population by strengthening comprehensive policies for the prevention of Non-Communicable (Chronic) Diseases (NCDs) risk factors and improved access to an upgraded and integrated primary and secondary health network in prioritized areas with an emphasis on chronic disease management, that provide more efficient and higher quality care. This is a hybrid programme with a policy-based operation, a programmatic policy-based loan series (PBP) and an investment loan that will invest in the physical infrastructure and equipment of Jamaica's health sector.

The **Policy-Based Loan** will look at policies that will consolidate regulatory measures to address the preventable causes of NCDs and to reorient health systems to address prevention and control of NCDs through a people-centred primary health chronic care model.

The **Investment Loan**, in turn, will finance activities to consolidate integrated health networks and improve the management, quality and efficiency of health services. The Policy Based Loan will benefit the Jamaican population at-large, while the Investment Loan will have approximately 800,000 potential direct beneficiaries who reside in the catchment areas of the health services networks that will receive investments.

The Investment Programme being implemented by the Ministry of Health and Wellness (MHW) has two (2) major components and an allocation to support programme administration and evaluation:

Component 1 – Organization and consolidation of integrated health services networks

This component will finance the purchase of medical equipment and the improvement of infrastructure for primary health care services in the catchment areas of three priority hospitals to increase their capacity in health promotion and disease prevention, especially regarding chronic, non-communicable diseases. The investments will focus on strengthening the diagnostic and screening capability as well as the clinical and resolutive capacity of health clinics. This Component will further finance the upgrading and or expansion of three (3) hospitals selected on criteria relating to strategic role in the national hospital network, supply-demand gap analyses, and physical needs assessment. The hospitals will benefit from infrastructure upgrading and or expansion as well as modernization.

Sub-Component 1.1 – Strengthening Primary Care

1.1 The purpose of this subcomponent is to increase the physical capacity for service provision at the primary care level in three (3) priority geographical areas. Approximately ten (10) health centres have been identified to receive investments in medical equipment and infrastructure refurbishment and expansion. The subcomponent will finance: (i) the preparation of building designs for the construction of new infrastructure on the sites of existing facilities (three centres), expansion of existing structures (four centres), and refurbishing (three centres); (ii) the physical works required for infrastructure improvement; (iii) the purchase of medical equipment including essential diagnostic and treatment items for NCDs, such as sphygmomanometers, electrocardiogram machines, pulse oximeters, defibrillators, computerized chemistry machines, etc.); (iv) engineering services for construction supervision; and (v) corrective and preventive maintenance of medical equipment

Sub-Component 1.2 – Increasing the Capacity and Efficiency of Hospital Services

This subcomponent will address urgent needs to enhance patient safety and services in three (3) hospitals whose catchment areas contain the health centres identified in subcomponent 1.1. Financing from this subcomponent will be allocated to:

(i) the building and engineering designs for the infrastructure improvement and expansion;

(ii) the construction in three hospitals according to contracted plans and designs;

(iii) the purchase of medical equipment to raise clinical capacity to partially account for

Existing demand;

(iv) the purchase of imaging equipment, including computerized tomography

machines;

(v) purchase of industrial style laundry machines;

(vi) construction supervision services; and

(vii) the design and implementation of a corrective and preventive equipment

Maintenance programme.

Component 2 – Improvement of Management, Quality and Efficiency of Health Services

This component will provide technical assistance to design and implement the Chronic Care Model (CCM) in the participating health services networks; to review and develop care pathways and protocols; and to prepare change management, continuous quality improvement and social media marketing for behaviour change strategies. It will also finance the implementation of the fourth Jamaica Health and Lifestyle Survey. This component will further support:

(i) the creation of a strong foundation for a digital health ecosystem, including the adoption of standards for interoperability, system architecture, updated governance structure, and other key elements;

(ii) the design and implementation of a sustainable Electronic Health Record (EHR) platform focusing on digitalization of key processes within the improved CCM;

(iii) the strengthening of telehealth/telemedicine/telementoring capacity to include chronic care management, and the establishment of norms and processes for its institutionalization.

(iv) the strengthening of telehealth/telemedicine capacity through the expansion of the ECHO model, the inclusion of chronic care in the platform, and the establishment of norms and processes for its institutionalization.

Programme Administration and Evaluation:

This allocation will support the MOH in terms of strengthening its institutional capacity for project implementation. It will finance, inter alia, the consultants of the Project Execution Unit (PEU), specialized technical services, independent auditing, as well as surveys and studies regarding the implementation of the programme and evaluation of its impact. The PEU is structured to provide additional capability in the areas of project management, procurement, financial management, infrastructure upgrading, medical equipment specification, and health information technology. Technical and fiduciary staff from the MOH will work closely with the PEU specialists so that the MOH benefits from knowledge transfer and capacity strengthening

Under Component 2, the Project will support activities related to the establishment/strengthening of the Ministry's Information System for Health. **In particular, an E H R Requirements Consultant will be hired**. Information systems for health are critical to primary health care and the CCM, as well as complex care. The WHO recognizes the need for information systems for health as part of the Package of Essential Non-communicable (PEN) Disease Interventions for Primary Health Care in Low-Resource Settings. Additionally, research shows that digital tools can make important contributions to the provision of chronic care when patients and providers are connected to share information, compare this information to knowledge found in evidence-based standards, and monitor results through regular feedback and interaction. Adoption of health information technology has produced mortality rate reductions for complex patients whose diagnoses require cross-specialty care coordination and extensive clinical information management in hospital settings and improvements in resource allocation efficiency. Health information systems, along with information sharing, have the potential to improve clinical practice by reducing staff errors, improving automated harm detection, monitoring infections more effectively, and enhancing the continuity of care during physician handoffs. A significant number of opportunities exist for the Hospital Information Management System (HIMS) to contribute to savings for both the health system and the Jamaican economy.

Telemedicine and mobile health (mHealth) present possibilities to improve the effectiveness and efficiency of NCD management, which can occur principally in the outpatient setting. For example, blood pressure control consultations by way of 10-15 emails and/or phone calls can occur across weeks and the cost is approximately 29% of the cost of in-person acute care. mHealth tools, such as text messages, medication reminders, symptom monitoring, educational resources, and facilitated patient-provider communication to increase adherence targeting low-income, elderly, and minority groups were found to lessen the burden of travel to a care provider. They have also facilitated better management and improved patient confidence to monitor chronic diseases. Telehealth, or the remote diagnosis and treatment of patients by means of telecommunications technology, has been especially effective in the management of chronic diseases, and has demonstrated improvement in outcomes (diabetes), empowerment and self-management (diabetes and high-risk dialysis patients). As mobile-cellular subscriptions are high in Jamaica (115 per 100 inhabitants). mHealth and telemedicine may provide an opening to improve patient

adherence and aid in follow-up. Given Jamaica's experience using ECHO's tele mentoring portal for HIV, this platform could be expanded to support chronic illness, and use-cases could be developed to pilot the use of mHealth and telemedicine for chronic care.

PAHO has also been supporting MOHW/GOJ to strengthen information systems for health (IS4H) in Jamaica. IS4H is a key strategy in the efforts of the MOHW/GOJ improve planning, decision-making, policy formulation, and health equality in Jamaica. MOHW/GOJ has embarked on a renewed effort to strengthen and expand its use of information technology to improve the efficiency, efficacy and safety of both clinical and business processes, and to improve the availability of quality information to support clinical, program and policy decision-making.

Objective of Consultancy

The primary objective of this engagement is to identify and document the clinical and administrative functional requirements, and non-functional requirements for an electronic health record (EHR) solution for the public health system in Jamaica, and develop the functional requirements for the Request for Proposals (RFP) document. The documented requirements should define the scope of functional domains that the EHR solution must support and describe the clinical and administrative functional requirements at the business and stakeholder levels.

Scope of Work:

- Identify and review documentation relevant to establishing the EHR functional scope and requirements
- Develop a stakeholder engagement and consultation plan for identifying and validating EHR solution requirements;
- Understand the business objectives and needs of clinicians, administrators and other end users;
- Define the clinical, administrative, and other domains that the EHR will support;
- Collect and document the clinical and administrative high-level business and stakeholder requirements associated with the electronic health record through stakeholder consultations;
- Facilitate review and validation of the requirements documentation by a team from Jamaica MOH and other health system stakeholders;
- Submit a final draft of the requirements documentation;
- Draft the technical section of and the evaluation approach for an RFP for the EHR solution;
- Ensure the requisite knowledge transfer to the IS4H project team; and
- Reporting on status to EHR/Telehealth Lead.

Deliverables

- Product 1: Workplan – A workplan outlining the key activities and schedule that you will undertake as well as the inputs required from MOH or other stakeholders
- Product 2: Stakeholder Engagement and Consultation Plan – A plan describing the types of consultation that will be undertaken, the stakeholders that should be invited to participate in the consultation, and the topics of consultation

- Product 3: EHR Functional Scope – A report describing the healthcare functions and domains that the EHR must support. The document should include functional domain descriptions, business process diagrams, and other information as required.
- Product 4: EHR Requirements Specifications – A requirements document describing the business, stakeholder requirements, functional, and non-functional requirements and their relative priority. The document should include use cases, conceptual data entity diagrams, and other information as required, and should be in format that can be included within a Request for Proposals document.
- Product 5: Request-for-Proposal – Draft technical sections of the RFP document that includes the EHR requirements, and draft the evaluation approach and framework to evaluate RFP responses and vendors.

Payment Milestones:

Milestone	Percentage of contract amount
Product 1: Workplan	20%
Product 2: Stakeholder Engagement and Consultation Plan	30%
Product 3: EHR Requirements Specifications	25%
Product 4: Request for Proposal	25%

Qualifications and Experience:

Education: A Master's degree in computer science, health informatics, health/hospital administration, public health, or business administration, or related field:

or equivalent experience of ten years working in computer science, health informatics, health/hospital administration, public health, or business administration, or related field:

Experience:

- A minimum of 5 years professional experience in either Software Design, Software Documentation, Software Testing, or Technical Infrastructure Design and Implementation.
- Minimum of 5 years of experience working as a business analyst in the health sector – conducting business process modeling including documenting and analyzing functional procedures and workflows, business process reengineering and definition and evaluation of user requirements in the planning, designing, selection or development of information technology solutions to support clinical and administrative goals

Core and technical competencies:

- Experience designing and conducting stakeholder engagement;
- Experience conducting business analysis in a healthcare setting;
- Experience developing solution requirements at the business and stakeholder levels;

- Experience developing technical requirements for an RFP;
- Experience working in an international context is highly desirable;
- Strong organization skills;
- Ability to work independently without direct supervision.
- Advanced writing, communication, and presentation skills in English

Opportunity Summary:

- Length of contract: 66 non-consecutive days over 4 months
- Starting date: August 2019
- Location: Kingston, Jamaica
- Reporting to: IS4H Project Lead, MOH/GOV
- Other Requirement: You must be a citizen of one of the IDB's 48-member countries