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**Government of Saint Lucia**

**DEPARTMENT OF HEALTH AND WELLNESS**

**Terms of Reference for Software Developer/Programmer to Support the Saint Lucia**

**Performance Based Financing (PBF) Scheme in the Health Sector**

**March 2021**

1. **Background:**

The government of Saint Lucia has requested financing from the World Bank, through the Health Systems Strengthening Project (HSSP), to support its strategy for achieving Universal Health Care (UHC). Component 2 of the HSSP will strengthen service delivery of an Essential Benefits Package. A Performance-Based Financing (PBF) Scheme focused on Diabetes (DM) and Hypertension (HTN), is a subcomponent of Component. PBF seeks to improve the efficiency of health expenditure by providing bonuses based on performance. The proposed PBF scheme focuses on strengthening NCD management at the primary care level. Most of the requisite data for the PBF Scheme will be extracted from the Saint Lucia Health Information System (SLUHIS) of the Department of Health and Wellness (DoHW). The SLUHIS is implemented in the 35 primary health care facilities on the island by the Health Management Information Unit (HMIU). The PBF Pilot is estimated to be completed by October 2023.

The PBF Scheme is new to the country; it requires extraction of accurate and reliable data from SLUHIS, to support effective implementation including evidence-based decision-making, verification audits, and evaluations. There are significant challenges for the HMIU in managing and maintaining the SLUHIS with its current staff complement. In addition, the Unit has recently lost some key technical staff. Moreover, there are no dedicated HMIU staff to work with/assigned to the PBF-U/PIU to ensure the successful design and implementation of the IT aspects of PBF Scheme - despite of the key role of SLUHIS in the success of the Scheme, according to the PBF Operations Manual. The added IT requirements of the new PBF Scheme will put additional pressure on the HMIU staff, which will result in delays in design and implementation of the scheme due to other competing priorities of the HMIU.

The software developer will work with the HMIU – with technical oversight of the external consultant – to develop a PBF Module within SLUHIS. The HMIU will review the work of the software developer to ensure consistency with SLUHIS operating systems, and seamless integration into SLUHIS.

**2.0 Purpose and Primary Objective of the Consultancy:**

Complete and high quality data must be collected, analyzed, available and used to facilitate payments to participating facilities and Regions, and to measure their performance. Web-based IT solutions are fundamental to increasing requisite PBF data availability from the facility to national levels. SLUHIS is web-based; the PBF module can be implemented sooner on the existing SLUHIS platform. Introduction of PBF into SLUHIS will strengthen data platforms and accountability, resulting in better quality data, increased availability and usage of data at all levels – from the community Wellness Centres to the Ministry. Linking data to payment will also accrue improved quality of performance information.

This consultancy seeks to bolster the collection, analysis, reporting/availability and use of high quality PBF data from the participating primary care facilities in the communities to the national level.

1. **Scope of Services**

The primary objective is to design specific software to develop a PBF module in SLUHIS. The PBF module must be consistent with the recommendations of the external PBF consultants, and deemed satisfactory upon review of the HMIU.

1. **Activities/Tasks to be Performed**

* Work closely with HMIU and the PBF Unit to ascertain that the PBF module meets all requirements to create an optimum software application
* Design, build, and maintain efficient, reusable, and reliable code in Java, Javascript and SQL
* Create models/diagrams/flowcharts that show software codes needed for the PBF Module application
* Develop and test software for PBF module based on the IT specifications and requirements of the PBF Operations Manual and recommendations of the PBF external consultants
* Implement appropriate security measures and standards during PBF Module development and enhancement
* Develop tools for data sharing between the various PBF implementing partners
* Check for software bugs and find ways to improve – recommend/develop upgrades and integrate PBF module into SLUHIS; provide maintenance and support for existing functionality of SLUHIS
* Support implementation of PBF module into SLUHIS
* Ensure that the PBF Module continues to function normally through software maintenance and testing
* Develop and update MIS technical documentation (system design document, configuration manual) for future reference

1. **Resources Provided**

* PBF Operations Manual
* Access to SLUHIS architecture
* Data collection tools for DM and HTN screening, treatment and quality of care (QoC)
* Work station and relevant software
* HMIU/PBF Unit will review the work of the consultant and the PBF Unit will provide managerial support as needed

1. **Deliverables**
   * Inception Report which will include a discussion of potential problems and concerns and a detailed workplan for completing the PBF Module, PBF indicator Dashboard and other automated implementation support tools and training. This report will be submitted in electronic format, within two weeks of the signing of contract.
   * Monthly progress reports, timely, endorsed by HMIU and to the satisfaction of the PBFU/PIU.
   * PBF module developed and operational in accordance with recommendations of external PBF consultants:
     + Invoicing and Current Account Modules developed and operational by 2nd month after signing contract
     + RMIs and Management Information Modules developed and operational by 4th month after signing contract
     + All PBF sub-modules developed and operational in implementing PFs by 5th month after signing contract
     + Software codes used for PBF Modules illustrated on models/diagrams/flowcharts
     + Manual of operational processes of PBF Module documented by 5th month after signing contract
   * PBF indicator dashboard and other automated implementation support tools developed, implemented – liaison with External Consultants, PBFU/Database Manager, HMIU
   * PBF module tested in liaison with RBFU, HMIU and external consultants
   * Training materials for PBF Module developed – in liaison with External Consultants, PBFU/Database Manager, HMIU
   * Trainings on PBF Module scheduled, conducted – in liaison with External Consultants, PBFU/Database Manager, HMIUIn liaison with PBFU, HMIU and external consultants and regarding PBF Module:
     + User experience captured/documented automatically at each use and automated reports on user experience generated
     + User Manual/guidelines developed and updated periodically and according to user experience
     + Interface testing to check: (i) whether or not servers are executed properly; (ii) that errors are handled properly or return error messages for any queries made
   * System bug checks scheduled and debugging performed; system upgrades recommended/developed

**7.0 Required Skills, Qualification and Experience**

**Education**

* University degree or diploma in Computer Sciences or related technical field; or
* International Professional Certificate in software developing language (Java, Javascript, SQL)

**Work Experience**

Minimum of four (4) years of work experience as software developer

**Key Competencies and Skills**

* Good knowledge of data structure and algorithms
* Strong command over at least one programming language (Javascript, SQL and Java)
* Basic testing skills
* Good knowledge in working in databases; proven database programming
* Strong background in systems design and implementation
* Good knowledge of the fundamentals of and mechanism of different operating systems (Window, Linux-based)
* Good knowledge/experience of work in health is an asset
* Extensive knowledge in Web portal development

**8.0 Duration and Characteristics of the Consultancy:**

The consultancy contract will be for a duration of one year.

**9.0 Reporting Requirements and Supervision:**

The Systems Developer/Programmer will report to the PBF Coordinator. The consultant will submit monthly reports which will be reviewed and endorsed by the HMIU manager prior to submission to the PBF Coordinator. The PBF Coordinator will review monthly reports for progress on deliverables, which will be linked to payments, and submit to the PIU Project Manager for final approval.

He/she will work closely with the M&E Specialist and Database Manager to develop an indicator dashboard for PBF, and ensure that the collection, analysis and reporting of all data and information required for M&E of the PBF Program are automated in the PBF Module and SLUHIS.

**10.0 Working Arrangements:**

The Systems Developer/Programmer will be based at the PBFU/PIU and is expected to work with the technical staff of the HMIU and SLUHIS; the HMIS will review and endorse his/her work – to ensure that the objectives of the PBF Scheme are met, and the quality of work is consistent with the recommendations of the external consultants, and properly integrated into the operations of the HMIU and SLUHIS.

**Client’s Responsibility**

1. Overall supervision by PBF Coordinator;
2. HMIU will provide requisite access to SLUHIS data and architecture relevant to the work of the Systems Developer/Programmer;
3. Completion and submission of reports congruent with the Terms of Reference and signed contract;
4. PBF Unit will make the necessary arrangements made with the HMIU to ensure the successful completion of the work within the agreed timelines.

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**Consultant’s Responsibility**

1. Provision of transportation to and from work;
2. Engagement of appropriate staff and other resources required to perform duties;
3. Execution of services in accordance with the laws, customs and practices endorsed by the DoHW.
4. Assurance of strict confidentiality of all relevant data and information

**11.0 Evaluation Criteria:**

The Systems Developer/Programmer shall be selected based on the individual consultant selection method of the World Bank’s consultant selection guidelines. Main criteria for the selection will be relevant work experience and qualifications.