UNDP Expression of Interest for the implementation of a National eHealth Solution for the Ministry of Health and Wellness, Republic of Mauritius

1.Letter of Invitation

The United Nations Development Programme (UNDP) hereby invites interested companies to submit an Expression of Interest (EOI) for the above-referenced subject.

If you are interested in submitting a Proposal in response to this EOI, please prepare your Proposal in accordance with the requirements and procedure as set out in this EOI and submit it by the Deadline for Submission of Proposals set out in Bid Data Sheet.

Please acknowledge receipt of this EOI by sending an email to procurement.mu@undp.org, indicating whether you intend to submit a Proposal or otherwise. You may also utilize the "Accept Invitation" function in eTendering system, where applicable. This will enable you to receive amendments or updates to the EOI.

Should you require further clarifications, kindly communicate in the email provided in this EOI.

UNDP looks forward to receiving your Proposals and thank you in advance for your interest in UNDP procurement opportunities.

Issued by:

_____
Name: Fatuma Musa
Title: Operations Manager
Date: 10 February 2022

Approved by:

_____
Name: Amanda Serumaga
Title: Resident Representative
Date: 10 February 2022

Summary of proposal:

The UNDP Mauritius Country Office invites Expressions of Interest (EOI) from organisations or consortiums (the Respondent) who wish to pre-qualify as prospective tenderers for the provision, customisation, and implementation of a national citizen-centred eHealth solution for the Republic of Mauritius (including Rodrigues and outer islands). Subsequently, the UNDP intends to issue a Request for Proposal (RFP) for the implementation of a **Patient Administration System** to selected Respondents that meet certain pre-qualification requirements.

The UNDP Country Office, in collaboration with the Ministry of Health and Wellness (MOHW), wishes to design and implement a comprehensive integrated national digital health solution which would start from online advice and booking of appointments, home visits for antenatal care to pregnant women to ambulatory visits at health institutions and inpatient stays culminating in the delivery of corpses by the mortuary department. These systems are intended to cover all public health institutions as appropriate to allow seamless interaction among themselves.

The UNDP and MOHW intend to implement the project in a phased manner by starting with the Patient Administration System across all hospitals, Mediclinics, Area Health Centres and some Community Health Centres in the Republic of Mauritius. The **Patient Administration System** should consist of:

- Nationality: Paying Patients (non-citizens)
- Master Patient Index
- Patient Registration: referrals, attendances, admissions, discharges and deaths
- Recording of diagnosis and Clinical Coding
- Scheduling of appointments
- File Tracking System
- Waiting List Management
- Police Case Management
- Admission Registration
- Discharges Registration
- Consent Management
- Bed Management
- Health Information Management: generation of routine and ad-hoc reports
- Archiving: scanning and uploading
- Satellite interface for police officers and their families under the purview of police medical officers

The desirable health standards/guidelines to be integrated in the system would comprise Health Level 7 (HL 7), the World Health Organization (WHO) International Classification of Diseases 11 (ICD-11) and Logical Observation Identifiers Names and Codes (LOINC).

In addition, there is a desire to implement **a citizen-focused patient portal**. While the UNDP/MOHW prefers a national web-enabled Software/Platform-as-a-Service (SaaS/PaaS) solution, hosted in a high-availability data center with redundant connectivity to major health facilities, it recognizes that other architectural approaches are possible or in some circumstances preferable (e.g., a mix of Cloud and Locally hosted software). The UNDP/MOHW is not precluding respondents who have alternative architectural models.

The scope of the upcoming procurement, will not only include the proposed functional solution, but also the services necessary to design, customize, implement and operate the solution at a national level, including, but not limited to:

- **Requirements' confirmation (gathering and validation)**
- **Digital Health Solution design**
- **High Availability Architecture Design (inclusive of backup and disaster recovery)**
- **Software configuration, including integration points**
- **Testing, user acceptance and implementation**
- **Program and Project Management (establishment of an in-country Project Management Office (PMO)) with a local counterpart/representative**
- **Change management / Capacity Building**
- **Data migration from legacy systems (if necessary)**
- **Maintenance & support (application, operation and facility management)**
- **Transfer of Knowledge (Handing over of source code)**

As part of your response to this EOI, include your experience on the above components under **Annex 1 Section 3: Format for Expression of Interest**

Expected Output

To provide an EOI on the context, design and operation of a National eHealth Solution for the Ministry of Health and Wellness, Republic of Mauritius

Eligibility criteria:

List of attributes	Benchmark
Reputation of Firm/ Consortium/ Joint Venture	- Company profile not exceeding ten (10) pages - Relevant References
Organizational Capability	- Demonstrated evidence of years undertaking similar assignments. - Demonstrated evidence of financial stability (average annual turnover of minimum USD 150,000)

List of attributes	Benchmark
	• Ability to bring in both international and national expertise. • Previous work experience with UNDP or Development Partners. • Experience in implementing projects in Small Island Developing States (SIDS).
Certificates and/or agreements where applicable	• Legal evidence of Firm/ Consortium/ Joint Venture • Tax compliance certificate • Audited financial statements of last 3 years • Environmental sustainability/ Quality certificates

Documentary evidence of experience in conducting a similar assignment	• **Hardware - Reference Sites**
	No. of reference sites where the Bidder has supplied, installed and configured a server under the proposed environment with at least 50 workstations in a Local Area Network (LAN) environment within the last five years.
	  • Two (2) sites over the last 5 years together with corresponding testimonials from customers as evidence of satisfactory performance. In case of non-submission of testimonials, reference sites may not be considered.
	
	• **LAN - Reference Sites**
	No. of reference sites where the bidder has installed a LAN with at least 50 data points per LAN and a Router within the last 5 years
	  • TWO (2) sites together with testimonials from customers as evidence of satisfactory performance. In case of non-submission of testimonials, reference sites may not be considered
	
	• **Support Staff Qualifications & Experience**
	Number of Information and Communication Technology (ICT) related technical staff (Same number of ICT related staff should be available during implementation stage)
	  • Minimum FOUR (4), out of which at least TWO (2) should be degree holders in an ICT related field.
	
	Total person-year ICT related technical experience of the above FOUR staff
	  • TWENTY (20) years – the degree holders should have at least FOUR (4) years ICT related technical experience each

List of attributes	Benchmark
	Application Software - Reference Sites No. of Sites where the Bidder has successfully supplied, installed and configured a similar eHealth solution for a health care institution with at least 500 concurrent users accessing proposed eHealth solution in a network environment within the last five years. - TWO (2) sites over the last 5 years with corresponding testimonial from customers as evidence of satisfactory performance. In case of non-submission of testimonials, reference sites may not be considered No. of Sites where the Bidder has successfully supplied, installed and configured a similar *web-enabled* Picture Archiving and Communication System (PACS) solution in a network environment within the last five years. - ONE (1) site with corresponding testimonial from customers as evidence of satisfactory performance. In case of non-submission of testimonials, reference sites may not be considered No. of software developers (Same number of software developers with equivalent Qualifications & Experience should be available during implementation stage. In case these resources are not available at the time of implementation, alternative resources with equivalent or better qualifications will have to be proposed to the client for approval prior to their joining the project) - At least FOUR (4) degree holders in IT related field with experience in software development or customisation of which, at least ONE (1) with on-site experience. Number of software developers with experience in software customisation of proposed eHealth Solution (Same number of software developer(s) with equivalent Qualifications & Experience should be available during implementation stage. In case these resources are not available at the time of implementation, alternative resources with equivalent or better qualifications will have to be proposed to the client for approval prior to their joining the project) - At least 2 of the above 4 Degree holders should have experience in software customisation of proposed eHealth solution (documentary evidence to be submitted)

List of attributes	Benchmark
	Total person-year software development or customisation experience of the above 2 staff • 10 years – Each staff should have at least 5 years of experience in software development Number of resources to be deployed on full time basis during User Acceptance Test (UAT) • Yes, at least 2 • Please specify number of resources to be deployed during UAT Project Manager for eHealth - ONE (1) Qualification: • At least a Master's Degree in the field of ICT or any other related field acceptable to the Client. • Postgraduate / Professional Certifications in the field of Project Management or any other related field would be an advantage. Work Experience: • At least five years of Project Management Experience and Experience at management position in two (2) projects of similar size and scope Change Agent - ONE (1) • At least a Master's Degree in the field of ICT or any other related field acceptable to the Client. • At least five years of Change Experience and Experience at management position in two (2) projects of similar size and scope Digital Health Expert - ONE (1) • At least 10 years of IT project management experience and at least 2 projects of a similar nature, i.e. in the health sector successfully completed; • A demonstrated track record in digital health software engineering practices, eHealth architectures, and software engineering.

Important Note:

Firms are not required to provide any information relating to cost as this is just an expression of interest needed to adequately address the technical requirements for the consultancy.

Applications received from this EOI will be taken into consideration for any possible short listing that might be conducted with the planned procurement exercise.

Submission details

The UNDP requests that all responses are in **English.**

The format of the requested EOI response should be as per outlined in Annex 2.

Interested Companies may provide the following information indicating that they are qualified to perform the services (brochure, description of similar assignments, experience in similar conditions, availability of appropriate skills among staff, etc.). Companies may associate to enhance their qualifications.

Companies will be selected in accordance with the procedure set out in the UNDP Procurement Guidelines and UNDP Financial Rules and Regulations.

You are kindly requested to submit your Expression of Interest to UNDP on the **e-Tendering system**: https://etendering.partneragencies.org

Insert BU Code – MUS 10 and Event ID number – 0000011588:

- File Format: PDF or word
- File names must be maximum 60 characters long and must not contain any letter or special character other than from Latin alphabet/keyboard.
- All files must be free of viruses and not corrupted.
- Max. File Size per transmission: 25 MB
- Mandatory subject of email: EOI for implementation of a National eHealth Solution for the Ministry of Health and Wellness, Republic of Mauritius - EOI Reference - {Bidder's Name}
- Multiple emails must be clearly identified by indicating in the subject line "email no. X of Y", and the final "email no. Y of Y.
- It is recommended that the entire Quotation be consolidated into as few attachments as possible.

Detailed instructions on how to submit, modify or cancel a bid in the eTendering system are provided in the eTendering system Bidder User Guide and Instructional videos available on this link:
http://www.undp.org/content/undp/en/home/operations/procurement/business/procurement-notices/resources/

EOI from suppliers failing to provide the request information will be disregarded. Invitations to bid and any subsequent Purchase Order will be issued in accordance with the rule and procedures of UNDP.

The EOI should be received by UNDP no later than **09 March 2022, Etendering Time.** EOIs received after the above deadline will not be considered.

Should you require further clarifications, kindly communicate to: procurement.mu@undp.org no later than **25 February 2022 at 04:00 PM Mauritius Time**.

Vendors will be selected in accordance with the procedures set out in the UNDP Procurement Guidelines and UNDP Financial Rules and Regulations.

EOI from suppliers failing to provide the request information will be disregarded.

This EOI does not entail any commitment on the part of UNDP, either financial or otherwise. UNDP reserves the right to accept or reject any or all EOI without incurring any obligation to inform the affected applicant/s of the grounds.

Annex 1: Background information on the digital health initiatives in the Republic of Mauritius

1.0   Background

The COVID-19 pandemic has posed significant challenges to the capacity to deliver public services. In Mauritius, the pandemic has resulted in increased strain to the public health system and caused significant shock to the economy, which relies on tourism, foreign direct investment and external markets as a Small Island Developing State. The pandemic has also resulted in a negative impact on the social and economic development of the country, manifested in a decline in growth of more than 14%, a rise in unemployment from 8.2% at the onset of the pandemic to 9.8% in 2021, and a sharp rise in vulnerabilities especially among women, the elderly, and youth.

The Mauritius Health System has been resilient and remains accessible and is founded on the World Health Organization (WHO) Health System Framework principles. The public sector caters, free of any user cost, to the bulk of the healthcare needs of the population (73%). The remaining healthcare needs of the people (27%) are managed by the private sector, on a user fee basis, either through out-of-pocket payments or payments effected by private health insurers. The Government provides free primary, secondary and tertiary health care to all Mauritian citizens while foreigners must bear costs of inpatient service. Patients move, free of cost, from secondary islands to the mainland and from Mauritius to overseas for health services not available locally.

New COVID-19 variants have created additional significant congestion in regional hospitals and flu clinics, consequently over stretching the health personnel who face a high-risk contamination and heightening the risk of disrupting health care system services. The rapid increase of COVID-19 cases in Mauritius is also negatively impacting the provision of essential health care services as the government reprioritizes resources to address the growing emergency.

As a result, the MOHW aims to continuously improve the quality of healthcare delivery with a view to increasing patient satisfaction and enhancing social equity through the provision of a wider range of health services to the whole population. The COVID-19 pandemic has also highlighted the need to continue to reinforce preparedness for response to health crises including through improvements of in-country health infrastructure, equipment and training of specialized health workers especially epidemiologists and laboratory technicians. The Mauritius Health Sector Strategic Plan (2020-2024), notes that the current unprecedented health situation requires that the health care system is strengthened to ensure that citizens are safe and healthy and continue to have access to health services. The COVID-19 pandemic has provided impetus for the accelerated use of new technologies in the dissemination of efficient medical care and potential new disease outbreak. The Strategic Plan also proposes a comprehensive set of actions to re-engineer and revamp health delivery services with emphasis on customer care, enhancement of primary health care, health promotion, preventive medicine,

specialised services and improve the response to the resurgence of communicable diseases.

In addition, pursuing its efforts to maintain high-income status, Mauritius aims to achieve health indicators that are at par with developed economies. During the last 3 decades, infectious diseases have been largely eliminated. However, despite the remarkable health achievements, Mauritius continues to face many constraints including the growing burden of Non-Communicable Diseases (NCDs), the complex health needs of an ageing population, growth in demand for personalized medicine and the rising expectations of patients for more patient-centred and improved quality of care. The new pattern of health risks, coupled with an ageing population, has also given rise to a growing burden on the health care delivery system.

The Government of Mauritius aims to implement Digital Technologies to ensure efficiencies in service delivery and system processes. With the same vision, the Ministry of Health and Wellness envisages to implement a National eHealth Project in Mauritius and Rodrigues to improve the quality and responsiveness of health care services.

A key partner in implementing the eHealth system is the UNDP Mauritius Country Office (CO). The UNDP CO has been assisting the Government of Mauritius in implementing several digital health-related projects aligned with international best practice and the eHealth vision of the Government. Under several UNDP programmes and with the support of the Japanese Government, the UNDP has been implementing projects to strengthen the health systems to respond not only to the Covid-19 pandemic but also to ensure a strengthening the health sector. All these interventions have laid the foundation for the implementation of an eHealth project in Mauritius which will replace the paper-based health care information management system with a modern and integrated eHealth system to improve the quality of health services in all public regional and health care centres. A major implementation currently ongoing is the COVID-19 Laboratory Information Management System (LIMS) through technical assistance from the University of Washington (Department of Global Health). The COVID-19 module of the LIMS has been deployed in all the Flu Clinics at the Regional Hospitals and is being scaled up to a National LIMS integrating the other Laboratory services such as the biochemistry, bacteriology and haematology. The UNDP is also supporting with the rolling out of a digital Embarkation/Disembarkation Platform at the SSR International Airport as health control at ports of entry for incoming passengers.

2.0   Overview of the Existing Environment

2.1   Health Services

The Republic of Mauritius consists of the main island with a mid-year resident population of 1,221,921 inhabitants in 2020 followed by the Rodrigues Island with 43,819 inhabitants and 274 inhabitants in the Agalega Island and Diego Garcia, among others. Mauritius has a strong, resilient and equitable health system which is founded on the World Health

Organization (WHO) Health System Framework. The public sector caters, free of any user cost, to the bulk of the healthcare needs of the population (73%). The remaining healthcare needs of the people (27%) are managed by the private sector, on a user fee basis, either through out-of-pocket payments or payments effected by private health insurers.

The Government provides free primary, secondary and tertiary health care to all Mauritian citizens while foreigners have to bear costs of inpatient service. Patients move, free of cost, from secondary islands to mainland and from Mauritius to overseas for health services not available locally. As at end of 2020, the public health services in the Island of Mauritius comprises 5 Regional Hospitals, 2 district hospitals and 7 specialized hospitals (1 Psychiatric hospital, 1 Chest Diseases hospital, 1 Eye hospital, 1 (Ear, Nose and Throat) ENT hospital, 2 Cardiac Centres and 1 Cancer Hospital) with a total of 3,738 beds in addition to out-patient services. Out-patient services are also delivered in 2 Community Hospitals, 6 Mediclinics, 19 Area Health Centres and 114 Community Health Centres. As at end 2020, there were 1,546 doctors, 67 dentists, 35 pharmacists and 3,798 nurses and midwife in public hospitals, with overall, around 14,900 personnel at the Ministry of Health and Wellness.

2.1.1 Health Status

During the last three decades, infectious diseases have been largely eliminated, life expectancy at birth has increased from 65 years to reach 74.4 years in 2019 and the mortality rate due to NCD per 100,000 population has decreased from 560 in 2020 to 550 in 2021. The main areas of success include the favourable health status indicators, the successful control of HIV and AIDS, declining trend in smoking, some improvements on diabetes, hypertension and cardiovascular disease and an effective Harm Reduction Programme.

However, Mauritius now faces the growing problem of non-communicable diseases, including heart disease, diabetes, stroke, cancer, and mental illness. In adults aged 25-74 years, 23 % have diabetes, 28 % have hypertension, and 54 % are overweight or obese. The population growth rate is only 0.1 %. This pattern of health risk factors, coupled with an ageing population, is giving rise to a growing burden on the health care delivery system.

Notwithstanding the gains achieved to control communicable diseases, the country is not spared from the resurgence of infectious and emerging diseases.

2.1.2 The Island of Mauritius

The MOHW aims to improve the quality of healthcare delivery to increase patient satisfaction and enhance social equity by providing a broader range of health services to the whole population. At present, patients have uncontrolled access to public health institutions leading to duplication and misuse of resources.

In the Island of Mauritius, as at end of 2020, the public health services in the Island of Mauritius comprises 5 Regional Hospitals, 2 district hospitals and 7 specialized hospitals

(1 Psychiatric hospital, 1 Chest Diseases hospital, 1 Eye hospital, 1 ENT hospital, 2 Cardiac Centres and 1 Cancer Hospital) with a total of 3,738 beds in addition to out-patient services. Out-patient services are also delivered in 2 Community Hospitals, 6 Mediclinics, 19 Area Health Centres and 114 Community Health Centres. As at end 2020, there were 1,546 doctors, 67 dentists, 35 pharmacists and 3,798 nurses and midwife in public hospitals, with overall, around 14,900 personnel at the Ministry of Health and Wellness.

In 2020[1], 4.7 million medical appointments, including cases seen by doctors, were recorded at primary health care institutions for the treatment of common diseases and minor injuries. Another 4.5 million out-patient cases were seen by doctors at the out-patient service points. Furthermore, 169,824 patients were admitted in all government hospitals and 47,600 surgical operations were performed on them.

The regional hospitals benefit from a wide range of clinical and non-clinical support services including pathology laboratories, X-Ray, CT-Scan and MRI, pharmacy, blood collection and transfusion, public health and hygiene, health records services, catering, laundry, transport and cleaning.

These health institutions cover the whole island to facilitate access to health services to all sections of the population irrespective of their place of origin/location.

The private sector absorbs around 50 percent of the total expenditure on health with some 1,904 doctors, including specialists employed by the government, 361 dentists, 525 pharmacists and 602 nurses and midwives and provides primary, secondary and tertiary services with 18 private clinics, 758 beds, 20 private medical laboratories and 324 private pharmacists. In 2020, the private sector accepted ~244,126 admissions and other attendances for treatment, undertook about 25,606 surgical operations and delivered over 4,090 babies.

An estimated 9 million contacts take place each year in the main service departments of the Mauritius public health service, which includes 2.5 million emergency visits, 1 million appointments and 2 million attendances at primary health care centres. Approximately 200,000 admissions are registered for the 3,700 available beds; and 50,000 surgeries and 8,500 deliveries take place, 800,000 x-rays are carried out and 15 million laboratory reports are issued. Thus, some 26,000 visits are recorded at public health institutions per day.

Visits are forecasted to go down with the introduction of a digital health solution that will eliminate duplicate attendances.

Patient visit statistics (by highest day/month per institution type) indicate:

	2018		2019	
	Visits per Day (High)	**Visits per Month (High)**	**Visits per Day (High)**	**Visits per Month (High)**

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[1] Health Statistics Report (2020)

Hospitals	13,026	275,501	12,818	269,280
Primary Health Care Centres	8,976	190,339	9,053	182,039

2.1.3 The Island of Rodrigues

Rodrigues Island, administratively autonomous, with an area of 110km^2, is located 560 km north-east of Mauritius. In general, the population is scattered over the island, with no dominant towns, except the administrative centre, Port Mathurin.

The approximately 44,000 inhabitants of Rodrigues have access to primary and secondary health services. Health facilities in the island comprise a District General Hospital (Queen Elizabeth Hospital), 2 Health Centres with in-patient services, 3 Area Health Centres, 14 Community Health Centres, 14 Maternal and Child Health Clinics, 14 Vaccination Clinics (babies), 17 Family Planning Clinics, 1 Health Office, 3 Dental Static Clinics, 1 Dialysis Clinic, 1 Day Care Centre for the Immuno-suppressed and 1 Smoking Cessation Clinic. There is also 1 private pharmaceutical retail outlet on the Island. The Island also provides health facilities such as the NCDs mobile screening services, an Intensive Care Unit at the Queen Elizabeth hospital, hemodialysis and CT-Scan services, a physiotherapy unit and an incinerator for medical wastage.

Similar to Mauritius, Rodrigues Island benefits from the expanded programme on immunisation. Moreover, sanitary inspections and food hygiene related activities are carried out.

2.1.4 The Island of Agalega

Agalega consists of two islands (North Island and South Island) having a combined area of 70 km^2 with a combined population of 300 persons. The overall health status of the people of Agalega is comparable to that of the population in the main island of Mauritius. Health services are provided to the population of Agalega, free of any user fee, through a network of two health centres located on each of the islands. Surgeries and follow-up for further treatment is made in the Island of Mauritius.

The project will comprise the design and implementation of a comprehensive integrated eHealth solution which would start from online advice and booking of appointments, home visits for antenatal care to pregnant women to ambulatory visits at health institutions and inpatient stays. These systems are intended to cover all public health institutions as appropriate to allow seamless interaction among themselves. It will be implemented in a phased manner by starting with the Patient Administration System across all hospitals and extended to the Primary Health Care Health Service points.

2.2 Digital Health

2.2.1   e-Government and Digital Infrastructure

The e-Government environment in Mauritius, sometimes referred to as the Government Cloud (g-Cloud), provides several services to Ministries, Departments, Parastatals, and the public, including:

- Co-location and Hosting services for physical or virtual servers at the Government Online Centre (GOC), including several back-office Platform as a Service (PaaS) offerings (e.g., E-Payment, E-Procurement, E-Permit etc.).
- A security framework for digital services connected to the Government Intranet Network System (GINS).
- A data-sharing environment called the InfoHighway allowing publishers and subscribers to share data securely using Service Orientated Architectures (SOAs).
- E-Services for citizens and residents.

A high-level Management Team chaired by the Ministry of Information Technology, Communication and Innovation comprising the Ministry of Finance, Economic Planning and Development, Economic Development Board, Attorney General's Office, the Civil Status Division, and the Data Protection Commissioner governs the E-Government environment. In addition, a legal framework ensures services adhere to various Acts of Parliament.

Some of the digital health components referred to in this EOI are expected to be hosted in the g-Cloud environment (if deemed architecturally appropriate). In addition, it is anticipated that data sharing between health facilities or between health facilities and any hosted PAS components will make use of the GINS.

A high-availability Disaster Recovery site will form part of the anticipated digital health solution referred to in this EOI request.

2.2.2   Digital Health Vision and Objectives

The vision for national digital health (eHealth) is:

To capitalise on Information and Communication Technologies so as to create an interoperable national digital health architecture with associated standards that help drive decisions for investment for digital health system components to ensure continuity of care through affordable, high-quality, user-centric services to all healthcare stakeholders in Mauritius

To help achieve the stated vision, the MOHW's eHealth objectives include:

- **A single integrated source of information (National Patient Database – One Patient One Record)** and a focal point of reference on all matters related to health;
- **Improving clinical outcomes** through better client-centric service delivery & high levels of internal efficiency and effectiveness;

- **Guiding resource planning, allocation, monitoring and evaluation** using appropriate technology;
- **Improving health awareness levels in citizens and residents** of key issues in personal/public health & use of technology;
- **Enhancing competency levels of health care staff** at all levels and across organization types towards ICT to deliver better healthcare;
- **Improving levels of collaboration between the sector stakeholders** with interoperability, standardization, and cooperative knowledge exchange; and
- **Ensuring health data privacy** by protecting personal, health and other confidential information and disclosure to authorized stakeholders only on a need-to-know basis.

2.2.3 Existing Digital Health Components

There are several digital health components currently in use (or under implementation) in the health system including the Queue Management System (QMS), the Patient Administration System at the Jawaharlal Nehru Regional Hospital and the Cardiac Centre, the Central Health Laboratory, the Blood Transfusion Service, the SAMU and the new ENT Centre for patients and other systems such as the Border Control System for the surveillance of diseases of incoming passengers from abroad, the Fleet Management System to monitor movement of vehicles and e-Vaccination.

Systems which would be retained are expected to integrate under the National eHealth system in due course and through data migration.

Existing government projects which will be required to interact with a new digital health system comprise:

a. Information Highway to access e-government systems;
b. National Identity Card Project to validate unique identifier of patients;
c. Civil Status Register to monitor births, marriages and deaths;
d. Attendance Monitoring System, Computerised Registry System, Treasury Accounting System, e-Procurement; and
e. Electronic Inventory Management System (EIMS) for stock control of goods.

A short description for a selection of these digital health components are provided below.

2.2.3.1 J. Nehru Hospital

The digitisation of the Health Sector started in 1990's with the development of an Integrated Hospital Management and Patient Care System (IHPMCS) for the J.Nehru hospital in 1993.

Despite the application being old, Medical Records, Registration, Appointment, X-ray, Pharmacy and Occupational Therapy modules are still in use at this hospital.

2.2.3.2 Blood Transfusion Service, Candos

The National Blood Transfusion Service (NBTS) was digitised in 2008. The application is hosted at the National Blood Transfusion Service, Candos, and replicated at all Regional Hospitals.

It is a blood banking system that caters for the registration, collection, and processing of blood. It also provides an updated inventory of actual stock of blood by groups throughout the country.

2.2.3.3 Inventory Stock Control Management System, Central Supplies Division, Plaine Lauzun

The System was developed by State Informatics Ltd (SIL) and installed in 1996 and upgraded in 2009. It caters for Inventory management of medicines, surgical items, raw materials, ayurvedic items, dangerous drugs, etc.

2.2.3.4 Laboratory Information Management System (LIMS) of the Central Health Laboratory (Victoria Hospital, Quatre-Bornes)

A web-based Laboratory Information Management System (LIMS) that interfaces with automated laboratory equipment, has recently been implemented. It interconnects five (5) regional hospitals, one (1) peripheral laboratory and Rodrigues is in the process of implementing it at the Central Health Laboratory.

Data is replicated from each site (except Rodrigues) to a central server located at the Government Online Centre (GOC) via the Government Intranet Network System (GINS).

2.2.4 Modules for a unified single eHealth platform

There is a preference for a single unified platform (same software vendor) for PAS and Electronic Medical Record (EMR) modules. However, it is recognised that solutions that integrate components from different vendors are possible and viable. Any such offering would need to meet the criteria stipulated in section 3.1 of the Response Format (i.e. have been demonstrated to work in real-life projects.

While the initial phases of this project will focus on the Patient Administration System, and a Patient Portal, it is expected that responders are able to demonstrate that these systems are able to integrate with and interoperate with an Electronic Medical Record system to form an integrated eHealth environment as highlighted below. The different modules identified for a complete eHealth Service for the whole Republic of Mauritius (including Rodrigues and outer islands), which are not exhaustive, are as follows:

1. **Health/Patient Portal**

2. **Queue Management System**
   - Type of Access to health services on subsequent visits
3. **Patient Administration System**
   - Nationality: Paying Patients, non-citizens, non-residents and non-occupational permit holders
   - Master Patient Index
   - Patient Registration
   - Scheduling of appointments
   - File Tracking System
   - Waiting List Management
   - Admission Registration
   - Discharges Registration
   - Police Case Management
   - Consent Management
   - Bed Management
   - Archiving: scanning and uploading

4. **Accident and Emergency Service**
   - Unsorted Outpatient Department (OPD)
   - Primary Health Care Service

5. **Nursing Care**

6. **Doctors (and Surgeons)**

7. **Sorted Outpatient Department**
   - Existing 23+ specialties and expandable to other specialties in the future
   - Appointment Scheduling
   - Nurses Notes
   - Doctor Consultations: Medical Reports
   - Specificities of individual specialties
   - Medical Examination
   - Counselling clinics: dietician

8. **Ayurvedic and Other Traditional Medicine**
   - Special Drug Lists

9. **Inpatient Service**
   - Daily Ward Statement
   - Nurses Notes – Care, Treatment and Drug Management
   - Doctor Consultations – Instructions, Discharge Ticket, Medical Report
   - Catering: Menu, Meal Ordering
   - Laundry, linen
   - Intensive Care Unit (ICU)
   - Day-care wards
   - Mobile Xray

- Ward Ancillary Services – Speech Therapy, Medical Social Services, Physiotherapy

10. Operation Theatre
- Nurses Notes
- Surgeries, Procedures and Examinations Documentation
- Anaesthesia
- ICU care and close monitoring
- Organ transplant
- Telemedicine
- Central Sterile Supply Department

11. Pathology Services
- Blood Bank

12. Laboratory Services
- COVID-19
- Biochemistry, bacteriology and haematology
- Analysis of Food, Toxicological Samples, Water and Pharmaceuticals

13. Radiology or Diagnostic Imaging
- Referral and Registration
- Waiting List Management: specialised examinations
- Appointment Scheduling
- PACS
- Doctor Examination/Assessment Notes

14. Specialised Tests, Examinations and Procedures
- Angiography
- Endoscopy
- Lithotripsy
- Spirometry

15. Pharmacy Service
- Drug Procurement
- Drug Dispensing
- Stock Control

16. Radiotherapy Service
- Specialised Treatment Therapies

17. Dental Service
- General Dentistry
- Specialised Services
- Surgeries
- Community Screening Programmes: Schools

18.   Haemodialysis Service

19.   Other Professional Service Departments and Patient-related Support Services
-        Antenatal Care, Well-Baby Clinics and Immunisation
-        Audiology and Speech Therapy
-        Autoclave
-        Chaplain Services
-        Clinical Psychology
-        Electrocardiography
-        Electroencephalography
-        Family Planning
-        Hydrotherapy
-        Hyperbaric Medicine
-        Medical Social Service
-        Non-Communicable Diseases: Health Promotion
-        Nuclear Medicine
-        Nutrition
-        Occupational Health Medicine
-        Occupational Therapy
-        Physiotherapy
-        Podiatric Service/Foot Care
-        Retinal Screening
-        Smoking Cessation Clinic
-        Others

20.   Mortuary
-        Autopsy
-        Death Certification

21.   Health Information Management
-        Data Auditing and Maintenance: quality management
-        Clinical Coding
-        Health Statistics
-        Demography
-        Disease Surveillance
-        Disease Registries
-        Data Warehousing
-        Research (Survey, Clinical Trial)

22.   IT Support
-        Database Management
-        Operational Support
-        Training
-        Data Warehousing

23.   Telemedicine

24.   Inventory
- 　　　Required in all service departments

25.   Procurement Service: purchases and supply

26.   Laundry

27.   Catering

28.   Ambulance and Fleet Management Service

29.   Hospital Administration
- 　　　Administration
- 　　　Human Resource Management
- 　　　Complaints
- 　　　Support Services: Portering, Housekeeping, Security, Health & Safety, Switch, the management of facilities such as parking, baby tagging, access control, CCTV, mechanical maintenance, medical equipment maintenance, general worker groups, etc.

OTHER SERVICES

30.   Health Financing and Budgeting
- 　　　Cost Centres
- 　　　National Health Accounts

31.   Immunisation and Vaccination

32.   Drug Rehabilitation, Harm Reduction
- 　　　Methadone Substitution Programme
- 　　　Needle Exchange Programme
- 　　　Detox Centres

33.   Health Inspectorate Service
- 　　　Infection Control
- 　　　Disease Surveillance: Communicable Diseases Control Unit (CDCU)
- 　　　Border Control
- 　　　Food Handler's Certification

34.   Community-based (Screening) Programmes (dental, health promotion, breast and cervical screening)

35.   Government Analyst Division

36.   Migrant Worker Unit

37.   Cardiac Centre

38.   PRIVATE HEALTH SECTOR / PATIENT PORTAL / PERSONAL HEALTH RECORD

2.2.5   Existing or planned physical infrastructure

There is a planned implementation in all Regional Hospitals of a server room for hosting necessary servers and core hospital networking infrastructure. All Regional Hospitals are already connected to the internet via the Government Intranet System (GINS), however, it is expected that existing routers might be replaced to support the requirements of a new national digital health solution.

3.0   Format for Expression of Interest

The following sections and details should form the body of the Expression of Interest:

Section 1: Organization Details

1.1 Full Name of the Prime Respondent and Consortium Details, if applicable
1.2 Proposed role of the Consortium members, if applicable
1.3 Contact Details
1.4 Year of Establishment
1.5 Description of the Organisation Consortium members, if applicable
1.6 Consortium Agreement or MoU, if applicable

Section 2 Legal and Financial Details

2.1 Company Registration details from the commercial register of the prime respondent
2.2 Annual Turnover / Financial Statements for the last 3 years
2.3 Audited Attestation to Financial Statements

Section 3: Organisational Experience & Profile

3.1 Summary of projects related to the successful design and implementation of Electronic Medical Record systems and Patient Administration Systems, that meet the following criteria:
- Have been implemented in the last five years
- Have been implemented in a multi-facility setting
- Have been implemented in a manner that allows medical records to be accessible and shared by more than one facility
- Have been implemented in facilities of more than 350 beds (and is scalable to 800 X beds).

For each relevant project, the company must provide the following:

i. Client Name (or implemented institution)
ii. Project brief
iii. Size of institution (number of beds, number of health professionals)
iv. Project implementation timeline (estimate and actual)
v. Approximate project budget
vi. Whether implemented as a consortium or by a single partner
vii. Client references
viii. Key functional areas implemented
ix. Summary of the technology architecture used

Section 4: Description of Solution

Section 5: Human Resource Capacity

Section 6: System Demonstration

It is expected that the engagement for the Patient Administration System will span two years (July 2022 to June 2024), followed by a phased rollout of other modules as highlighted in section 2.2.4. Shortlisted suppliers will be invited to conduct a demonstration of 2 hours (including questions and answers) of the proposed solution to showcase main features of a patient flow(s) in relation to the modules at Section 2.2.4.

The demonstration should be a prototype of the system and not a PowerPoint or video presentation. The date and time for the demonstration will be communicated in due course, and the bidder will be given one (1) weeks' notice to prepare for the demonstration to be performed at their own cost.

The objectives of the demonstration is to ensure the following:

a. Appropriateness and capability of the proposed system in terms of meeting requirements of users
b. Look-and-feel of the applications
c. Possibility of customization needs
d. Minimization of potential constraints and gaps
e. To better, understand the strengths and weaknesses of the software being proposed.
f. To map any data cleansing, conversion and reconciliation processes

The following drawings/illustrations shall be needed:
• Project Plan which outlines, at least a clear implementation, resources assigned to the project, timelines, dependencies and other information to demonstrate the supplier's understanding of requirements.
• Expansion strategy through an execution plan for the expansion from the Patient Administration System to an Integrated Hospital Management and Patient Care System (IHPMCS). The preferred expansion is from one pilot site to all health institutions.

4.0   EOI Schedule

The following schedule is intended to provide enough time for respondents to prepare a thorough response and appropriate demonstration.

SN	ACTIVITY	DATE
1.	Issuing the EOI Request	By 10 February 2022 (online)
2.	Closing of the Bid	By 09 March 2022 (online)
3.	Opening the submission	By 10 March 2022 (online)
4.	Evaluation of EOI submissions	Between 11 March 2022 - 1 April 2022
5.	Presentation / Demonstration of system	Between 04 – 08 April 2022
6.	Final Shortlisting	By 13 April 2022
7.	Invitation to RFP	By 02 May 2022

Annex 2: Instructions to Express Interest

A. GENERAL

1. UNDP hereby solicits Expressions of Interest (EOI) for consultant firms that if selected in a short list, will be invited to submit proposals in response to a detailed Request for Proposal (RFP). Applicants must strictly adhere to all the requirements of this EOI. No changes, substitutions or other alterations to the rules and provisions stipulated in this EOI may be made or assumed unless it is instructed or approved in writing by UNDP in the form of Supplemental Information to the RFP.

2. Submission of an application shall be deemed as an acknowledgement by the Applicant that all obligations stipulated by this EOI will be met and, unless specified otherwise, the Applicant has read, understood and agreed to all the instructions in this EOI.3. These notices do not constitute solicitations. The UNDP reserves the right to change or cancel these requirements at any time in the EOI and/or solicitation process. UNDP will consider the vendor's qualifications and experience in the particular are of consultant services, and previous performance, when preparing a short list. Thus, submitting an EOI does not automatically guarantee a consultant firm will be considered for receipt of the Request for Proposal when issued.

4. UNDP implements a policy of zero tolerance on proscribed practices, including fraud, corruption, collusion, unethical practices, and obstruction. UNDP is committed to preventing, identifying and addressing all acts of fraud and corrupt practices against UNDP as well as third parties involved in UNDP activities. (See http://www.undp.org/content/dam/undp/library/corporate/Transparency/UNDP_Anti_Fraud_Policy_English_FINAL_june_2011.pdf and http://www.undp.org/content/undp/en/home/operations/procurement/protestandsanctions/ for full description of the policies)

5. In responding to this EOI, UNDP requires all Applicants to conduct themselves in a professional, objective and impartial manner, and they must at all times hold UNDP's interests paramount. Applicants must strictly avoid conflicts with other assignments or their own interests, and act without consideration for future work. All Applicants found to have a conflict of interest shall be disqualified. Without limitation on the generality of the above, Applicants, and any of their affiliates, shall be considered to have a conflict of interest with one or more parties in this solicitation process, if they:

5.1 Are or have been associated in the past, with a firm or any of its affiliates which have been engaged UNDP to provide services for the preparation of the design, specifications, Terms of Reference, cost analysis/estimation, and other documents to be used for the procurement of the goods and services in this selection process;

5.2 Were involved in the preparation and/or design of the programme/project related to the services requested under this EOI; or

5.3 Are found to be in conflict for any other reason, as may be established by, or at the discretion of, UNDP.

In the event of any uncertainty in the interpretation of what is potentially a conflict of interest, proposers must disclose the condition to UNDP and seek UNDP's confirmation on whether or not such conflict exists.

6. Similarly, the Applicants must disclose in their proposal their knowledge of the following:

a) That they are owners, part-owners, officers, directors, controlling shareholders, or they have key personnel who are family of UNDP staff involved in the procurement functions and/or the Government of the country or any Implementing Partner receiving services under this RFP; and
b) All other circumstances that could potentially lead to actual or perceived conflict of interest, collusion or unfair competition practices. Failure of such disclosure may result in the rejection of the EOI affected by the non-disclosure.

7. The eligibility of Applicants that are wholly or partly owned by the Government shall be subject to UNDP's further evaluation and review of various factors such as being registered as an independent entity, the extent of Government ownership/share, receipt of subsidies, mandate, access to information in relation to this EOI, and others that may lead to undue advantage against other Proposers, and the eventual rejection of the Application.

8. All Applicants must adhere to the UNDP Supplier Code of Conduct, which may be found at this link: http://www.un.org/depts/ptd/pdf/conduct_english.pdf

B. CONTENTS OF APPLICATION

Bidders are required to complete, sign and submit the following documents:

Section A: QUALIFICATIONS OF THE SERVICE PROVIDER: COMPANY PROFILE
Section B: SERVICE DESCRIPTION
Section C: SELF-DECLARATION FORM
Section D: ACCEPTANCE OF UNDP GTCS
Section E: FINANCIAL STABILITY

SECTION A: QUALIFICATIONS OF THE SERVICE PROVIDER: COMPANY PROFILE

The Service Provider must describe and explain how and why they are the best entity that can deliver the requirements of UNDP by indicating (as per the format of Expression of Interest provided above) the:

1. Profile - Describing the nature of business, field of expertise, licenses, certifications, accreditations

2. Business Licenses - Registration Papers, Tax Payment Certification, etc
3. Certificates and Accreditation - Including Quality Certificates, Patent Registrations, Environmental Sustainability Certificates, etc., if any

SECTION B: SERVICE DESCRIPTION

1. Relevant experience: description of relevant experience
    a) List and value of projects performed plus client's contact details who may be contacted for further information on those contracts.
    b) Reference sites and Documentary evidence of experience in conducting a similar assignment as per eligibility criteria.
    c) Statement of satisfactory Performance (experience Certificates) from the top two clients in similar field
    d) List and value of ongoing Projects with UNDP and other national/multi-national organization with contact details of clients and current completion ratio of each ongoing project.

Important Note: please refer to the mandatory and evaluation criteria listed in the EOI Terms of Reference. All the information regarding criteria connected to Section A should be provided in this section of the EOI. Section A of your proposal should provide sufficient information to facilitate the evaluation of the criteria listed under eligibility criteria. Absence of information may lead to direct disqualification.

SECTION C: SELF-DECLARATION FORM

The technical application must be accompanied by a written declaration of the following:

a) All the information and statements made in this EOI are true and we accept that any misrepresentation contained in it may lead to our disqualification;

b) We are currently not on the removed or suspended vendor list of the UN or other such lists of other UN agencies, nor are we associated with, any company or individual appearing on the 1267/1989 list of the UN Security Council;

c) We have no outstanding bankruptcy or pending litigation or any legal action that could impair our operation as a going concern;

d) We do not employ, nor anticipate employing, any person who is or was recently employed by the UN or UNDP;

e) We have examined and have no reservations to the Prequalification Documents, including any Addendum (or Addenda to same effect), issued by the procuring UNDP entity in accordance with Instructions to Applicants;

f) We are not associated, or have been associated in the past, directly or indirectly, with a firm or any of its affiliates which have been engaged by the Employer to provide consulting services for the preparation of the design specifications, and other documents to be used for the services to be procured; and

g) We understand that UNDP may cancel the prequalification process at any time and that you are neither bound to accept any application that you may receive nor to invite the prequalified applicants to bid for the contract subject of this prequalification, without incurring any liability to the Applicants.

SECTION D: ACCEPTANCE OF UNDP GTCS

The EOI application must contain bidder's written acceptance of the UNDP Contracts General Terms and Conditions:
https://procurement-notices.undp.org/view_file.cfm?doc_id=205222

SECTION E: FINANCIAL STABILITY

The EOI application shall contain Financial Audited Account/ Bank Reference/ Bank Statement/ Credit Scoring for the last two years or proof of financial soundness/ stability.

C. EVALUATION OF APPLICATIONS

1. UNDP shall examine the Applications to determine whether they are complete with respect to minimum documentary requirements, whether the documents have been properly signed, whether or not the Applicant is in the UN Security Council 1267/1989 Committee's list of terrorists and terrorist financiers, and in UNDP's list of suspended and removed vendors, and whether the Proposals are generally in order, among other indicators that may be used at this stage. UNDP may reject any Applications at this stage. To assist in the examination of applications, UNDP may, at its discretion, ask any Proposer for a clarification of its Applicant. UNDP's request for clarification and the response shall be in writing.

2. On the basis of the Applications received and examined, UNDP will prepare a shortlist of interested vendors.