

TERMS OF REFERENCE

ACADEMIC

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CONTRACT

Section:	Health Section	Date:	January 2024
Title:	Technical Experts on Digital Health Interventions	Duty station:	Lebanon
Reporting to:	Health Specialist- Health Section	Contract type:	Academic Institution
Duration:	105 working days	Start date:	March 2024

Section	Content
Background	<p>Digital health interventions using technology such as smart phones, websites, applications, telemedicine, have shown to improve the efficiency, effectiveness, accessibility of healthcare delivery around the globe. These interventions have been utilized in all aspects of healthcare, from, safe documentation of individual health records, promoting healthy behaviour through social behaviour change (SBC) e- messages, tracking and monitoring a patient's health status to improve the health outcomes of communities.</p> <p>The Ministry of Public Health (MoPH) developed the E-health national program in 2013 to enhance the quality of healthcare delivery with the support of advancing technology. Since then, the shift to E-health has been slow and gradual. As of 2022, the country has seen the development of various digital health technologies and tools both in the public and private sectors. For the public health sector, the MoPH has developed applications and systems to support in the processes of delivering care with the primary healthcare network information communication system (PHENICS) as the country's main health information system used by most primary healthcare centres (PHCCs) to advance the delivery of care by documenting the stages of care of each individual patient.</p> <p>PHENICS is a comprehensive health information system developed by the MoPH to facilitate management and monitoring of all PHC activities including outreach, enrollment, service delivery, medication ordering and dispensing. PHENICS was launched in 2016 and currently covers 279 PHCCs. PHENICS includes the following modules: some electronic medical record capabilities, procurement, monitoring tools, enrollment and outreach, lab results/X-ray results/drugs, referral, and stock module, billing, patient satisfaction and reporting. The system enabled the automation of fiduciary functions in the MoPH and payment procedures.</p> <p>With the system's flexibility build additional modules and linkages with other platforms. PHENICS has been expanding. Example of platforms that are linked to PHENICS:</p> <p>Mobile EPI Registration Application (MERA): An offline mobile application that is used by immunization points beyond the PHC centers and in the field and connects to PHENICS.</p> <p>MERA PRO: An offline mobile application that is used by immunization points by private doctors</p> <p>Sohatna: A mobile phone application used by caregivers for keeping track of a child's routine immunization status. It displays information stored in PHENICS.</p> <p>As the country is grappling with an economic crisis affecting the ability of the MoPH to fund the public health system and currently heavily dependent on external donors to support healthcare delivery, the need to advance existing digital solutions to promote effectiveness and efficiency in service delivery, and in data collection and management for decision making to reduce waste in healthcare is vital. To ensure existing systems are operating at their optimum, are accessible and fully utilized by all users, and the data used by policy makers and decision makers in health there is a need to conduct a comprehensive evaluation on the HIS to ensure user friendliness, acceptability, and efficiency and identify areas for improvement.</p>

<p>Purpose and Objectives</p>	<p>Purpose The purpose of this assignment is to evaluate as the basis for an action plan, existing digital health tools (PHENICS, Sohatna, and MERA, MERA PRO) to identify strengths and gaps related but not limited to User-friendliness, User satisfaction System efficiency, System functionality, Interoperability, Data architecture, Data analytics and visualization, Security and Privacy, Scalability and Cost effectiveness. The outputs and deliverables of this consultancy is intended to support the future costing and creation of an investment case for scale-up of the digital health implementation plans.</p>
<p>Scope of Work and Methodology</p>	<p>Scope of Work The contractor will be briefed by the MoPH and UNICEF on the tools’ details including development process of the tools, the intended purpose, how and where they are utilized, and their scale level. UNICEF will liaise with governmental and other relevant stakeholders to facilitate needed consultative meetings and data collection. This will include engaging with UNICEF, WHO, MoPH, consultants working on the digital transformation strategy and other in-country stakeholders to facilitate the understanding of the current deployments and partnerships, the status of the supporting environment, the health system bottlenecks, opportunities where the aforementioned tools digital health solutions are supporting the delivery of care. For this assignment, the contractor must complete the following:</p> <ol style="list-style-type: none"> 1. Review existing literature and documentation on Lebanon’s health system strategy, health information system, digital health tools, and digital health enabling environment. 2. Conduct a comprehensive assessment of PHENICS, including its modules and linked applications to identify areas of improvement- strengths, weaknesses, opportunities, and threats. Report shall include identified gaps and provide gap filling recommendations. 3. The evaluation of the four UNICEF supported digital solutions shall be based on agreed criteria, identify which aspects (applications, workflows, technical capabilities) of the health information system program are being utilized along with the current and potential barriers for other components’ scale up via stakeholder interviews, data metrics from the HIS dashboard and management programs, and other avenues of client feedback. 4. Outline of the planned architecture (including integration of existing systems) and data flows. This includes a breakdown of the HIS component systems, their roles and interdependence on other component systems. Stakeholder interviews/surveys aim to understand user experiences and identify areas of needs or improvements. <p>Criteria shall include but not limited to:</p> <ul style="list-style-type: none"> • Number of users, providers • Functionality and features • Clinical workflows • Clinical content and decision support • User-friendliness and accessibility • Data input validation • Data quality management • Interoperability architecture and standards • Reporting and analytics • Security and privacy • System performance and reliability • Business continuity • Support and maintenance requirements • Running cost, dev., infra., and maintenance • Regulatory compliance features • Configurability and customizability • Users’ satisfaction (Providers)

- Number of users, patients
- Patient engagement
- Users' satisfaction (Patients)

Comprehensive mobile application security assessment shall include but not limited to criteria:

- Cross site scripting (XSS) protection
- Cross site request forgery (CSRF) protection
- SQL injection protection
- Clickjacking protection SSL/HTTPS
- Host header validation
- Referrer policy
- Session security
- On device data retention
- On device data encryption

5. Benchmarking of global solutions and best practices on HIS contextualized to Lebanon's case.
6. Develop an action plan and a costed roadmap for the MoPH to effectively address the weaknesses and optimize the strengths of the digital health tools in the country, advocating for best practices in digital health to reduce unnecessary fragmentation, encourage re-use, improve health information exchange, and support continuity of care across public and private providers.
 - Create and document an action plan in alignment with national plans and health priorities that includes recommendations based on the effectiveness study. The consultant should ensure that all relevant stakeholders, e health organizations and committees participate in this process. Include an analysis and a prioritized costed roadmap for the activities identified in the action plan after approval of the action plan.
7. Prepare findings in an easily digestible format to be presented to stakeholders.

Management	The consultancy will be managed by the Health section in close coordination with the ICT at UNICEF and the IT department and the MoPH
Reporting Requirements	<p>The academic institution will be reporting to the Health section focal person</p> <ul style="list-style-type: none"> • Consultancy inception report detailing the understanding of the work to be done, methodology expected to be used and a workplan with a clear timeline. • Weekly progress reports to validate the findings and address bottlenecks • End of consultancy report with all relevant deliverables
Profile Requirements	<p>UNICEF is seeking to contract a reputable academic institution with a team of experts with the below qualifications:</p> <ul style="list-style-type: none"> • Competent team with diverse skill sets including: <ul style="list-style-type: none"> ○ Health System: Strong understanding of health systems ○ Health information systems expertise including design, implementation, and evaluation of a wide range of HISs ○ Technical expertise in areas such as systems architecture, software development, database design, data management and data analysis, visualization cybersecurity, and usability ○ Health data governance expertise; experience in systemization and institutionalization of data-driven decision making at all levels of the health system. ○ Evaluation expertise including experience in designing and conducting evaluations on digital health systems ○ Project management expertise: including experience in managing large- scale and complex projects • Proposed project manager should have at least 12 years of experience, working with health systems/primary healthcare systems and information technology in large-scale projects. • Experience in supporting the development digital health technology systems for government or health organizations (including mobile technology) to improve health interventions • Experience in working with governments and national systems; experience in creation or oversight of an Information/Informatics, eHealth, or Health Surveillance Unit to coordinate monitoring, evaluation and digital health activities and budgets across programs and directorates. • Great PowerPoint skills – able to ‘translate’ ideas/takeaways from discussions into professional-grade outputs. • Experience sharing knowledge through conferences, workshops, and scientific journals. • Excellent analytical and quick problem-solving skills • Great writing and communication skills – able to clearly depict nuanced or complex ideas and manage competing expectations among multiple projects stakeholders. • Highly organized, creative proactive, problem solving and a self-starter. • Proven ability to analyze data and write reports that are of high quality • Familiarity and experience of working with UNICEF and government health offices considered an asset • Proficiency in English as well as Arabic is required

Evaluation Process and Method	Technical Evaluation Criteria: <ul style="list-style-type: none"> • <i>The academic institution is encouraged to ensure they meet the below requested evaluation and qualification criteria.</i> • <i>Technical evaluation is composed of 70 points.</i> • <i>Minimum successful score for the technical evaluation is 50 points.</i> 		
	Evaluation criteria		
	Criteria	Marks	Benchmarks
	Overall concord between the request for proposals and the submission, with clear methodology and approach based on understanding of UNICEF requirements.	10	<ul style="list-style-type: none"> • Briefly outline the proposed methodology for the assignment (8 points) • Specific timeline vis a vis the assignment deliverables (2 points)
	Expertise of the company in working on large scale projects related to health information systems.	30	<ul style="list-style-type: none"> • Project management expertise: experience in managing large scale and complex projects (5 points per summary report) • Health System and Health Data Governance Expertise: Strong understanding of health systems (5 points per report) • Health information systems expertise including design, implementation, and technology development of a wide range of HISs (10 points per report) • Costing of information system and associated activities expertise (5 points per report)
	Evaluation expertise including experience in designing and conducting evaluations on digital health systems	10	<ul style="list-style-type: none"> • Provide reports of previous HIS evaluation assignments in the mentioned field (5 points per report)
	Experience and expertise in working closely with the MoPH and UN agencies or similar large- scale organizations	20	<ul style="list-style-type: none"> • Proof of academic institution personnel technical expertise in areas such as strategy development, health systems, public health, primary healthcare, health system architecture, software development, data base design, data management and data analysis, visualization cyber security (5 points for every relevant CV with a minimum of one key team member with excellent knowledge of Arabic, max 10 points) • In depth understanding of Lebanon's health system (provide reports/publications 2.5 points per report/publication) max 5 points • In-depth knowledge and understanding of MOPH health information systems, knowledge of PHENICS, MERA, and MERA Pro. Proof of previous engagement (2.5 points per CV/report) max 5 points
Total	70		

Financial Evaluation Criteria:

- Only bidders obtaining the minimum pass mark in the technical evaluation (50 points) will be considered for the financial evaluation.
- Financial evaluation is composed of 30 points. The lowest financial offer will obtain 30 points.

Administrative Issues

- The academic institution will work under the direct supervision of the Health section at UNICEF in close coordination with the Operations section (ICT).
- The academic institution will be responsible to arrange appointments for physical coordination meetings and visits to MoPH if need be.
- The assignment will be a combination of desk-based and data collection with frequent consultations and meetings.
- The academic institution will be expected to work independently, although UNICEF will assist within reasonable parameters to ensure the smooth running of the assignment.
- The academic institution is responsible to submit deliverables over the course of consultancy contract.
- The academic institution is not entitled to payment of overtime; all remuneration must be clearly described in the contract agreement.
- To preserve ethical standards, all collected data needs to be considered as confidential and property of UNICEF. Furthermore, the institution is not allowed to use the data for any purposes outside the scope of the current ToR or to share the data with any party without UNICEF's approval. An MOU on confidentiality will be signed between all parties.
- All data, outputs, and deliverables including databases, strategies, assessment results, maps, drawings, images, logos, plans, and reports developed under this assignment are the intellectual property of UNICEF and MoPH.

Tasks/Phases:	Description	Outputs/Deliverables	Timeline
Inception Phase	<p>Inception phase will cover an introductory briefing by UNICEF and the technical team of the project.</p> <p>A desk review to investigate and get an understanding of the digital health context of Lebanon from existing literature.</p> <p>Consultative meetings with key stakeholders in digital health</p>	<p>Inception report clearly detailing the task at hand covering but not limited to the below:</p> <ul style="list-style-type: none"> • Background • Objectives of the assessment • Proposed methodology for conducting the assessment, findings analysis. • Proposed methodology to develop an action plan and costed roadmap for improvements of PHENICS and associated tools. • Clear and detailed timeline • The report will be used as an initial point of agreement and understanding. 	15 days

Conduct an evaluation assessment of the digital health tools	Assess the selected digital tools (PHENICS, MERA, MERA PRO, Sohatna and other selected digital solutions) on User friendliness, User satisfaction System efficiency, System functionality, Interoperability, Data analytics and reporting, Security and Privacy, Scalability and Cost-effectiveness. The evaluation is to include an assessment on Data Governance, including Data Management, Data Use, Data Architecture and all the above-mentioned criteria	A report detailing the status, strengths, gaps, and opportunities on the applications for scalability and usage increment for improved health outcomes	45 days
Develop a plan for the MoPH to effectively address the weaknesses and optimize the strengths of the PHENICS and associated tools in the country, advocating for best practices in digital health to reduce fragmentation, encourage re-use, adaptability to ensure continuity of care	A plan that can be actualized and adopted by the MoPH to improve the utilization, comprehensiveness, and data usage for the different applications.	Action plan and Costed Roadmap that includes prioritized actions to achieve optimal use of the PHENICS and reduce redundancies	30 days
Consultancy closure phase	A closure report covering and highlighting the elements of the consultancy	End of consultancy report including analysis of achievements, challenges, and way forward	15 days
		Total number of Days	105 days

**The above timeline is tentative and will be discussed and agreed with the academic institution as part of the inception report.*

Payment schedule	The payments for the deliverable will be done following the approval of the submitted reports by the Health section.	
	Deliverable	Payment
	Submission of a final inception report reviewed and approved by both MoPH and UNICEF	20%
	Conduct digital health tools evaluation assessment	30%

	Develop a plan advocating for best practices in digital health that focuses on reducing fragmentation, encouraging re-use, and adaptability	30%
	Final consultancy report	20%
Budget	<ul style="list-style-type: none"> • The academic institution will be responsible of covering all the costs including all logistics, transportation and accommodation if needed during data collection. • The academic institution will be using its own resources in matter of premises. • The academic institution will be using its own resources in matter of electronic devices such as laptops, tablets, printers, etc. 	

Ettie Higgins, Deputy Representative