

TERMS OF REFERENCE

INSTITUTIONAL CONTRACT

Section:	Health and Nutrition section	Date:	August 2023
Title:	Data Quality Assessment for Primary Healthcare Information System in Lebanon	Duty station:	Lebanon
Reporting to:	Health and Nutrition section	Contract type:	Institutional contract
Duration:	80 days	Start date:	August 2023

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 adoption of digital health in Lebanon has been on the rise since the establishment of the national digital health strategy in 2013. Platforms such as the PHENICS, MERA, and MERA PRO have been integrated into the primary healthcare system to support service delivery through electronic medical record keeping, medication ordering and dispensing, and immunization documentation outreach activities, etc. The ability of the public health system to harness, utilize the data, and the continued success of the implementation of the aforementioned tools is dictated by the quality of the data captured for improved evidence-based decision making at both local and national levels.</p> <p>PHENICS is a comprehensive health information system developed by the MoPH to facilitate the management and storing 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 records, 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): The Mobile EPI Registration Application (MERA) is 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: The Mobile EPI Registration Application (MERA) is an offline mobile application that is used by immunization points by private doctors. Literature has shown that data from digital health tools has been plagued by issues of completeness and accuracy which can be detrimental to patient safety, continuity of care, and health research. On the other hand, quality data is essential in providing an accurate picture of the health needs present within a locale and inform on efficient resource allocation while also promoting best practices and initiating needed corrective measures. With this context, there is a need to evaluate the quality of data collected by the national public digital health tools (mentioned above) to ensure the public health system is receiving accurate and relevant health information for improved decision - making and better health outcomes.</p>

Purpose and Objectives	The purpose of the assignment is to implement a Data Quality Assessment for PHENICS, MERA and MERA Pro to understand the issues in data quality including associated data risks and propose a Data Quality Improvement plan
Scope of Work	<p>Scope of Work</p> <p>Project Kick-off</p> <ol style="list-style-type: none"> Develop a Concept report that provides an overview of the purpose and objectives of the data quality assessment and literature review on the background documents. Define the scope and boundaries of the assessment, specifying the focus on PHENICS, MERA, and MERA Pro platforms. <p>Methodology and Approach</p> <ol style="list-style-type: none"> Describe the proposed methodology and approach for conducting the data quality assessment. Utilize GSBPM to evaluate data quality from the identification of data needs to data uptake (analysis, dissemination, and evaluation). Ensure unitizing the UNICEF Data Quality framework, UN statistical quality assurance framework and WHO data quality assurance as a basis for assessing data quality. Ensure the process is including the Responsible Data for Children’s principles <p>Data Collection Process</p> <ol style="list-style-type: none"> Analyze data governance and data security <p>Assess the process used for data collection, including the identification of data sources and the flow of data within PHENICS, MERA, and MERA Pro and any other information system linked to PHENICS.</p> <ol style="list-style-type: none"> Evaluate the applicable dimensions of quality of data collected from various sources. Identify any challenges or gaps in the data collection process and propose improvements. <p>Data Flow and System Linkages</p> <ol style="list-style-type: none"> Assess the data flow between different information systems, such as PHENICS, MERA, and MERA Pro. Evaluate the effectiveness of data integration and exchange mechanisms. Identify any bottlenecks, data inconsistencies, or issues arising from the interlinkages between systems. Propose strategies to enhance data flow and improve data consistency across systems. <p>Data Quality Assurance Mechanisms</p> <ol style="list-style-type: none"> Assess the existing data quality assurance mechanisms in place within PHENICS, MERA, and MERA Pro. Evaluate the extent to which these mechanisms are applied consistently and effectively. Review data validation, cleaning, and error correction processes. Identify gaps in quality assurance and propose recommendations for improvement. <p>Data Quality Assessment</p> <ol style="list-style-type: none"> Apply the valid framework to evaluate data quality dimensions across the data lifecycle. Analyze the results of the data quality assessment and provide a comprehensive report of findings. Highlight specific areas of concern and provide recommendations for addressing data quality issues across the data lifecycle. <p>Data Uptake</p> <ol style="list-style-type: none"> Assess data uptake based on selected frameworks including analysis dissemination and communication Provide recommendations for improving data uptake <p>Data Quality Improvement Plan</p> <ol style="list-style-type: none"> Develop a Data Quality Improvement Plan (DQIP) based on the assessment findings.

	<p>b. Outline specific actions, strategies, and interventions to enhance data quality.</p> <p>c. Provide recommendations for strengthening data collection processes, system linkages, and quality assurance mechanisms.</p> <p>d. Propose capacity-building measures to improve data management skills among relevant stakeholders.</p> <p>Stakeholder Engagement</p> <p>a. Identify key stakeholders and their roles involved across the data lifecycle</p> <p>b. Conduct interviews or workshops with stakeholders to gather insights and address concerns related to data quality.</p> <p>c. Facilitate discussions and collaborations among stakeholders to ensure their active involvement in implementing the Data Quality Improvement Plan.</p> <p>Reporting and Deliverables</p> <p>a. Prepare an interim report presenting initial findings and progress.</p> <p>b. Produce a comprehensive final assessment report, including detailed analysis, recommendations, and an executive summary.</p> <p>c. Provide data visualizations, dashboards, or other relevant tools to facilitate data interpretation.</p> <p>d. Deliver any additional documentation, such as data quality score cards or improvement guidelines.</p>
Management	<p>The consultancy will be managed by the Health and Nutrition section in close coordination and support from the UNICEF's ICT and MoPH IT departments.</p>
Reporting Requirements	<p>The institution will be reporting to the Health and Nutrition 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 bottle necks • Prepare an interim report presenting initial findings and progress. • Produce a comprehensive final assessment report, including detailed analysis, recommendations, and an executive summary. • Provide data visualizations, dashboards, or other relevant tools to facilitate data interpretation. • Deliver any additional documentation, such as data quality scorecards or improvement guidelines • End of consultancy report with all relevant deliverables
Profile Requirements	<p>UNICEF is seeking to contract a reputable institution with a team of experts with the below qualifications:</p> <p>Expertise in Data Quality Assessment: Proven experience in conducting data quality assessments in healthcare and familiarity with industry standards, frameworks, and best practices related to data quality assessment.</p> <p>Knowledge of Health Information Systems: In-depth knowledge and understanding of health information systems, knowledge of PHENICS, MERA, and MERA Pro is a plus. Familiarity with the data flow processes, system linkages, and data collection mechanisms within these platforms.</p> <p>Data Management and Analysis Skills: Strong skills in data management, analysis, and interpretation.</p> <p>Understanding of Data Quality Frameworks Proven experience in applying data quality frameworks, such as the UNICEF Data Quality framework or similar frameworks, to evaluate data quality dimensions and indicators.</p> <p>Technical expertise in working with health information systems and databases, experience in data validation, cleaning, and integration processes. Knowledge of data standards and interoperability principles is a must</p>

	<p>Knowledge of Healthcare and Digital Health: A solid understanding of the healthcare sector, particularly in the context of digital health interventions, would be advantageous. Familiarity with relevant policies, regulations, and best practices related to data quality in healthcare is a must.</p> <p>Stakeholder Engagement and Facilitation: Proven experience in engaging and collaborating with various stakeholders, including healthcare professionals, policymakers, and technical experts.</p> <p>Project Management Experience: Proven track record in managing projects of similar nature and complexity. They should be able to establish project timelines, manage resources efficiently, and ensure timely delivery of deliverables.</p>

Evaluation Process and Method	Technical Evaluation Criteria:		
	<ul style="list-style-type: none"> • <i>The 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 60 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 (5points) • Specific timeline vis a vis the assignment deliverables (5 points)
	Expertise of the institution in conducting large scale data quality assessments.	25	<ul style="list-style-type: none"> • Expertise in data quality assessments (5 points per recommendation letter from similar assessments max of 2 letters) • Proven team experience in conducting data quality assessments in healthcare and familiarity with industry standards, frameworks, and best practices related to data quality assessment. (5 points per CV with relevant experience maximum of 2) • In-depth knowledge and understanding of health information systems, knowledge of PHENICS, MERA, and MERA Pro is a plus. • Familiarity with the data flow processes, system linkages, and data collection mechanisms within these platforms. • Strong skills in data management, analysis, and interpretation (2.5 points per CV or recommendation letter maximum of 2)
	Experience of the institutional team	10	<ul style="list-style-type: none"> • Proof of expertise of institution personnel with the mentioned expertise; provide CVs (2.5 points per CV) • Letters of recommendation (2.5 points per each letter of recommendation)
	Experience and knowledge in digital health interventions and a solid understanding of different healthcare systems. Familiarity with relevant policies, regulations, and best practices related to data quality in healthcare	15	<ul style="list-style-type: none"> • Provide reports of previous assignments in the mentioned field. (5 points per report)
	Previous experience working closely with the MoPH and UN agencies or similar large-scale organizations.	10	<ul style="list-style-type: none"> • Provide reference letters or project reports/ evaluations of previous partnership with agencies on similar projects. (5 points per letter of reference)
Total	70		

Financial Evaluation Criteria:

- *Only bidders obtaining the minimum pass mark in the technical evaluation (60 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	<ul style="list-style-type: none"> • The institution will work under the direct supervision of the Health and Nutrition section at UNICEF in close coordination with the Operations section (ICT) • The 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 institution will be expected to work independently, although UNICEF will assist within reasonable parameters to ensure the smooth running of the assignment • The institution is responsible to submit deliverables over the course of consultancy contract. • The 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.
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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>A concept report clearly detailing the task at hand covering but not limited to the below:</p> <ul style="list-style-type: none"> • Background and overview of the assessment • Objectives of the assessment • Scope of the assessment • Proposed methodology for conducting the assessment, findings analysis. • Clear and detailed timeline <p>The report will be used as an initial point of agreement and understanding.</p>	10
Data Collection Process	<p>Assess the process used for data collection, including the identification of data sources and the flow of data within PHENICS, MERA, and MERA Pro and any other information system linked to PHENICS.</p> <p>Evaluate the accuracy, consistency, and completeness of data collected from various sources.</p> <p>Identify any challenges or gaps in the data collection process and propose improvements.</p> <p>Identify key stakeholders involved in data collection, management, and utilization.</p> <p>Conduct interviews or workshops with stakeholders to gather insights and address</p>	<ul style="list-style-type: none"> • A situation analysis report detailing the findings from the data collection exercise including challenges encountered and mitigation measures • Data visuals from the findings to help facilitate data interpretation. 	21

		concerns related to data quality.		
	Data flow and system linkages	Assess the data flow between different information systems, such as PHENICS, MERA, and MERA Pro. Evaluate the effectiveness of data integration and exchange mechanisms. Identify any bottlenecks, data inconsistencies, or issues arising from the interlinkages between systems.	A report proposing strategies to enhance data flow and improve data consistency across systems	15
	Data Quality Assessment and Assurance	Apply the UNICEF Data Quality framework to evaluate data quality dimensions, including completeness, accuracy, timeliness, consistency, and relevance. Analyze the results of the data quality assessment. Assess the existing data quality assurance mechanisms in place within PHENICS, MERA, and MERA Pro. Evaluate the extent to which these mechanisms are applied consistently and effectively. Review data validation, cleaning, and error correction processes.	Provide a comprehensive report of findings highlighting the main challenges and recommendations. Develop a Data Quality Improvement Plan (DQIP) outlining specific actions, strategies, and interventions to enhance data quality, recommendations for strengthening data collection processes, system linkages, and quality assurance mechanisms. Propose capacity-building measures to improve data management skills among relevant stakeholders.	20
	Consultancy closure phase	Produce a comprehensive final assessment report, including detailed analysis, recommendations, and an executive summary	<ul style="list-style-type: none"> End of consultancy report including analysis of achievements, challenges, and way forward 	14
				80 days

Payment schedule	<p>The payments for the deliverables will be made following the approval of the submitted reports by the Health and Nutrition section.</p> <table border="1"> <thead> <tr> <th>Deliverable</th> <th>Payment</th> </tr> </thead> <tbody> <tr> <td>Submission of Concept Report and final version reviewed and approved by MoPH and UNICEF</td> <td>15%</td> </tr> <tr> <td>Data collection exercise and a situation analysis report, including data visuals from the findings to help facilitate data interpretation</td> <td>30%</td> </tr> <tr> <td>A report proposing strategies to enhance data flow and improve data consistency across systems</td> <td>15%</td> </tr> <tr> <td>Submit a Data Quality Improvement Plan (DQIP) outlining specific actions, strategies, and interventions to enhance data quality, recommendations</td> <td>20%</td> </tr> <tr> <td>End of consultancy report</td> <td>20%</td> </tr> </tbody> </table>	Deliverable	Payment	Submission of Concept Report and final version reviewed and approved by MoPH and UNICEF	15%	Data collection exercise and a situation analysis report, including data visuals from the findings to help facilitate data interpretation	30%	A report proposing strategies to enhance data flow and improve data consistency across systems	15%	Submit a Data Quality Improvement Plan (DQIP) outlining specific actions, strategies, and interventions to enhance data quality, recommendations	20%	End of consultancy report	20%
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Budget*	<ul style="list-style-type: none"> • The institution will be responsible for covering all the costs including all logistics, transportation and accommodation if needed during data collection. • The institution will be using its own resources in the matter of premises. • The institution will be using its own resources in the matter of electronic devices such as laptops, tablets, printers, etc. 												