

TERMS OF REFERENCE FOR INDIVIDUAL CONSULTANTS AND CONTRACTORS

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| Title: Digital Health Strategy Consultant | Funding Code: WBS: 3900/A0/08/881/001 /002 (HQ grant) | Type of engagement <input type="checkbox"/> Consultant <input type="checkbox"/> Individual Contractor Part-Time <input checked="" type="checkbox"/> Individual Contractor Full-Time | Duty Station: Freetown |
| Background: <p>Digital technologies and improved data capacity are important catalysts for accelerating achievement of the 2030 SDG3 targets. Actionable and relevant data is the foundation to monitor progress toward SDG 2030, while harmonized digital systems optimize the health system to deliver in a coordinated manner quality, coverage, and equity of health services. Digital systems can catalyze a necessary transformation in the health system -- addressing ongoing data gaps and persistent health system challenges - facilitating a more resilient, person-centered, and responsive health system.</p> <p>Digital innovations at community and primary health facility level can be useful for strengthening the linkages with, and use of, formal health services, while also supporting the institutionalization and strengthening of the community health system as a whole. The term "digital health", which includes both mHealth and eHealth, describes the general use of information and communication technologies (digital, mobile and wireless) to support the achievement of health objectives. Some successful examples include stock management tracking, electronic decision support tools for health workers, health worker communication and performance feedback, targeted messages and service delivery to clients, citizen-based reporting for increased accountability, and data storage, aggregation, and visualization do drive action/response.</p> <p>While most countries now have some level of digitalization of their health system functions, countries struggle with the implementation of a large number of pilots which often are not designed for scale, using systems architecture that lacks interoperability, sometimes using non-validated solutions and solutions that are not designed with the users in mind, and which often do not have a sustainable financial or technical support model to allow for scale-up. This has resulted in highly fragmented and uncoordinated implementation of small-scale pilots with many types of tools and software solutions (often targeting the same health workers), not feeding data into health management information systems (HMIS) and not addressing the system problems or Ministry of Health needs.</p> | | | |
| Purpose and objectives: This role will focus heavily on providing support to Sierra Leone in the following: <ol style="list-style-type: none"> 1) Stakeholder engagement and mapping of existing digital health technologies in Sierra Leone; and technical support to Ministry of Health and Sanitation (MoHS) for the development of a roadmap to operationalize the existing national digital health strategy 2) Technical support to MoHS, in close collaboration with GRID3, University of Geneva, and Global Fund, for the construction of a geospatial database linking PHU master facility list, Community Health Worker (CHW) master list and community coordinates; and the creation of a registry that hosts CHW master list 3) Technical support to MoHS for the development of a CHW performance management system including creation of an individual performance measurement module in DHIS2 platform; and planning for phased digitalization process 4) Technical support to MoHS for the development of interoperability between CHW performance management system and incentive payment mechanism (using mobile money) 5) Planning and developing a costed plan for phased introduction of electronic medical record (EMR) system across hospitals and periphery health units (PHUs) | | | |

6) Technical support to MoHS in strengthening data management for COVID-19 vaccine deployment with digital solutions

This will include engaging with UNICEF Sierra Leone Country Office, WHO, MOHS, and other in-country stakeholders in assessing current deployments and partnerships, the status of the “foundational eHealth building blocks”¹, the health system bottlenecks, opportunities where digital health solutions could support and strengthen the delivery of quality care at community level, planning for implementation of a digitally enabled Primary Health Care (PHC) strategy based on solid eHealth building blocks. 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.

Beyond the tasks identified above, the role will also support:

- 1) Documentation and dissemination of the processes and lessons learned to develop the digital health models and implementation plans in the future
- 2) Formulate and conduct capacity building strategies and activities to drive continuous policy and programme improvements through transfer of skills, trainings, and webinars.

It will require an ability to understand complex, abstract concepts, and ability to think creatively about best fitting technology for each country and create the end product investment case. It will take an understanding of currently available technology and trends to develop effective solutions for the Health sector, especially at community or primary health care level. It also requires an extensive background and presence in the mHealth/eHealth communities.

In the context of the COVID-19 pandemic, countries must develop and deploy strategic action plans, which can benefit explicitly from digital health and digital engagement solutions. The consultant will also be asked to support country offices to ensure that existing digital health solutions, where appropriate, are leveraged in a way that is consistent with UNICEF’s guidance, such as the [digital health and digital engagement guidance](#) for COVID-19 preparedness and response, to improve future emergency preparedness and response.

Methodology and Technical Approach

Over 12 months the consultant will work with the UNICEF country office, MOHS, and WHO (country level), and in liaison with WCA regional office and HQ (Digital Center of Excellence and Programme Division – Health) to support the production of country specific investment cases for digital health that are embedded with the community health roadmaps and COVID-19 response plans. CO staff will work in close collaboration with the consultant and be expected leverage their expertise in the local context, partnerships, CO plans/strategies, and other resources to actively engage in and support this work on the ground. The main results will be:

1. Stakeholder engagement and landscape analysis: Stakeholder mapping and engagement, assessment and consensus on digital health governance structures and standards¹, and establishment of strong in-country partnerships.
2. Planning: Produce a roadmap to operationalize the existing digital health strategy, including a plan for phased introduction of EMR
3. Technical support and advice: Provide technical assistance in the development of a national georeferenced CHW master list hosted in a registry, a CHW performance management system linked to incentive payment, and digital solutions for enhanced COVID-19 vaccination data management

The consultant will be embedded/based in the Directorate of Policy, Planning and Information of the Ministry of Health and Sanitation (MoHS).

¹ Common data standards; Unified digital architecture & interoperability; Governance & Leadership, Strategy & Investments; Legislation; Infrastructure & foundational services & applications; Human Workforce/capacity

Specific Tasks of the Consultant

Under the overall guidance of the Senior M&E Specialist of the MoHS Directorate of Policy, Planning and Information and the Research and Publication Specialist (DPPI) and direct supervision of the UNICEF Health Specialist (System Strengthening), the contractor will perform the following tasks:

Deliverable 1: A road map to operationalize the national digital health strategy

The digital health ecosystem in Sierra Leone is dynamic, complex, and competitive, with many partners actively supporting the design and deployment of digital health solutions. Many digital products and solutions in support of community and facility-based programmes are deployed on a pilot basis. The implementation of these pilots has been largely fragmented and uncoordinated, with many types of tools and software solutions. The problem typically stems from: presence of too many pilots, lack of inter-operability, lack of sustainable financial/technical support models, competition among implementers, and lack of action based on data. In this context, GIZ has initiated the support to the MoHS in mapping of existing digital solutions in order to harmonize tools used for data collection, validation, and processing activities. Building on this mapping exercise, the MoHS requested UNICEF's technical assistance in developing a road map to operationalize the existing national digital health strategy. The consultant is also expected to give recommendations on how UNICEF should position itself in the digital health ecosystem in Sierra Leone. Activities will include:

- Lead Stakeholder engagement.
- Analyse governance structures and identify each partner's comparative advantages, roles, and responsibilities
- Review the mapping conducted by GIZ and collect additional information as necessary to develop a road map to operationalize a national digital health strategy.
- Develop a road map to operationalize a national digital health strategy, while ensuring strong ownership of the MoHS and engagement of all relevant stakeholders throughout the development process. The roadmap should consider:
 - health system challenges and bottlenecks affecting the attainment of national health outcomes which could be best addressed through digital solutions – both at community-based PHC level and at hospitals
 - technologically appropriate and best-fit sustainable digital health interventions/solutions that can be used to address the identified challenges and bottlenecks
 - factors in the existing digital health enabling environment (infrastructure, legislation, leadership and governance, workforce training and standards/interoperability) constraining the identified interventions/solutions from effectively contributing to the attainment of optimal health system outcomes
 - strategies and approaches that will address the above factors
 - a plan to implement the identified strategies and approaches

Deliverable 2: Design and Elaboration of a georeferenced CHW master list hosted in a registry and a CHW performance management system

Sierra Leone is currently operationalising the revised national CHW policy (2021), which aims to strengthen the linkage between CHWs and the PHUs, increase the proportion of female CHWs, prioritize hard-to-reach communities, integrate vertical programmes, and strengthen performance management system. So far, out of 8,700 CHWs planned, 8,625 (99%) were recruited. With support from Global Fund, University of Geneva, GRID3, UNICEF and other partners, the MoHS has initiated the process of: i) developing a georeferenced CHW master list, which will be linked to a georeferenced PHU master facility list and a national settlement database to allow geospatial analysis of CHW distribution; and ii) developing a CHW registry. The consultant, serving as a UNICEF's technical focal point on this ongoing Collaboratory work, is expected to provide substantial technical inputs to the process, bridging the programmatic needs and technological solutions. The consultant is also expected to further provide technical assistance to the MoHS in designing a CHW performance management system to effectively measure and manage individual CHW performance through DHIS2 platform, which will be linked to the incentive payment. Activities will include:

- Work closely with CHW Geo-spatial Working group (MoHS Directorate of Policy Planning and Information (DPPI), Directorate of Primary Health Care (DPHC), Global Fund, GRID3, University of Geneva, UNICEF and other partners) to provide technical support and advice in the process of:
 - Creation of a geo-referenced CHW master list
 - Constructing a geospatial database linking PHU master facility list, CHW master list and community coordinates
 - Developing Standard Operating Procedures (SoP) for updating and maintaining database
 - Creating maps showing locations of communities and CHW distribution of CHWs
 - Conducting analysis of CHW distribution for optimization
 - Creation of a CHW registry with SOP for updating and maintaining the registry
- Work closely with MoHS and UNICEF CO staff to design a CHW performance management system linked with CHW master list and incentive payment mechanism
- Work closely with MoHS, University of Oslo, and UNICEF to develop a module in DHIS2 to measure and manage individual CHW performance as part of the overall CHW performance management system.
- Recommend a phased plan for gradual digitalization of the data entry into DHIS2 CHW performance management module

Deliverable 3: A costed plan for phased introduction of EMR system across hospitals and PHUs

In Sierra Leone, patient records are predominantly paper based, while only a few pilot projects to introduce EMR system are underway, including UNICEF-supported EMR pilot at the special care baby unit (SCBU) at Ola Doring Children’s Hospital. The transitioning from a traditional paper-based system to a digital record system is not easy as it involves complex organisational, social, legal, technical, and financial factors. In order to ensure a seamless and sustainable transaction, the country needs a well-thought plan that considers all potential challenges and opportunities. The consultant is expected to develop a costed plan for phased introduction of EMR system in the country, considering the affordability, efficiency, and sustainability. Activities will include:

- In close collaboration with MoHS, UNICEF Sierra Leone EMR consultant and other stakeholders, conduct a landscape analysis for EMR introduction. This should include the assessment of the existing EMR pilots in terms of scalability, affordability, efficiency, effectiveness and sustainability.
- Identify organizational, social, legal, technical financial factors that might inhibit the transition from paper-based system to EMR
- Propose a few scenarios for phased scale-up with cost estimates to allow MoHS decision making – e.g., horizontal scale-up (hospital-wide introduction of EMR through scale-up from SCBU to other departments), vertical scale-up (replication of EMR in SCBUs across the country), combination of horizontal and vertical scale-up, introduction of EMR at PHU level
- Develop a costed road map for phased transition from paper-based patient record system to EMR system in Sierra Leone and incorporate it as part of the road map to operationalize national digital health strategy (deliverable 1)

Deliverable 4: Digital solutions for enhanced COVID-19 vaccination data management

While Sierra Leone strives to accelerate COVID-19 vaccination efforts, poor data management (unavailability of timely and quality vaccination data) continues to be a stumbling block. Gaps identified so far in data management include: Inadequate reporting tools (e.g., tablet, screening forms, etc.); data systems not synchronized with co-existence of DHIS2 based data (backlog) and excel based programme data (fast-tracked); loss of data due to paper-based data collection and transfer to central systems; No electronic or biometric vaccination cards; Stock out of data and M&E tools (Screening forms, Vaccine cards etc.); and huge data backlog. The consultant is expected to diagnose the problem and identify and support the solutions. Activities will include:

- Assess the COVID-19 vaccination data management situation and diagnose the existing problems.
- Identify and propose the digital and non-digital solutions with cost estimates. Translate them into an action plan, in close collaboration with EPI programme and DPPI of the MoHS.
- Support the implementation of the action plan, including potentially the capacity building activities.

- Provide technical support and advice for digital solutions, as relevant

Expected Deliverables

| Deliverables | Timeframe (working days) |
|--|--|
| 1. A road map to operationalize national digital health strategy, including a costed plan for phased introduction of EMR system across hospitals and PHUs | 80 |
| 2. Design and Elaboration of a georeferenced CHW master list hosted in a registry and a CHW performance management system | 130 |
| 3. Costed action plan to enhance COVID-19 vaccination data management, and implementation support | 25 |
| 4. Documentation submitted on processes and lessons learnt (as described above) <ul style="list-style-type: none"> - Monthly technical report with supporting documentation - Final technical report with supporting documentation | 10 At the end of every month End of assignment |
| 5. Other technical support and advice | As needed |
| 6. Final technical report with supporting documentation | End of assignment |
| Total number of working days | 245 |

Management, Organization and Timeframe

The consultant will be based in Sierra Leone and will be required to travel to the field as needed. As travel dates and locations will be decided by UNICEF and partners as project progresses, UNICEF will arrange all travel for the consultant on an as needed basis.

The position will be managed and supervised by the UNICEF Health Specialist (HSS) and DPPI Senior M&E and Research and Publication Specialists. The consultant will provide monthly updates on the activities implemented and deliverables achieved. The fees of the consultant will be processed by UNICEF with submission of his/her progress report of deliverables certified by the supervisors.

The duration of the consultancy is 245 days.

Start date: 1 June 2022

End date: 15 May 2023

Child Safeguarding

Is this project/assignment considered as "Elevated Risk Role" from a child safeguarding perspective?

YES NO If YES, check all that apply:

Direct contact role YES NO

If yes, please indicate the number of hours/months of direct interpersonal contact with children, or work in their immediately physical proximity, with limited supervision by a more senior member of personnel:

NA

Child data role YES NO




If yes, please indicate the number of hours/months of manipulating or transmitting personal-identifiable information of children (name, national ID, location data, photos):

More information is available in the [Child Safeguarding SharePoint](#) and [Child Safeguarding FAQs and Updates](#)

| Work Assignment Overview | | | |
|--|--|--|-----------------|
| Tasks/Milestone: | Deliverables/Outputs: | Timeline | Estimate Budget |
| Develop a road map to operationalize a national digital health strategy, while ensuring strong ownership of the MoHS and engagement of all relevant stakeholders throughout the development process. | A road map to operationalize national digital health strategy, including a costed plan for phased introduction of EMR system across hospitals and PHUs | 30 Sep 2022 (80 days) | |
| Develop a costed road map for phased transition from paper-based patient record system to EMR system in Sierra Leone and incorporate it as part of the road map to operationalize national digital health strategy | | | |
| Provide technical inputs to CHW Geo-spatial working group activities | Design and Elaboration of a georeferenced CHW master list hosted in a registry and a CHW performance management system | 31 Jan 2022 (130 days) | |
| Design a CHW performance management system linked with CHW master list and incentive payment mechanism, and develop a CHW performance management module in DHIS2 | | | |
| Recommend a phased plan for gradual digitalization of the data entry into DHIS2 CHW performance management module | | | |
| Assess the COVID-19 vaccination data management situation, identify and propose the digital and non-digital solutions with cost estimates. Support implementation of the action plan. | Costed action plan to enhance COVID-19 vaccination data management, and implementation support | 31 July 2022 (25 days) | |
| Document processes and lessons learned | Monthly technical report and documentation Final technical report and documentation | 31 Mar 2023 At end of contract (10 days) | |

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| Provide other technical support and advice related to digital health | | As needed | As needed | - |
| Budget Year: 2022 | Requesting Section/Issuing Office: <i>Health and Nutrition Section</i> | Reasons why consultancy cannot be done by staff: The intervention requires high technical expertise and time investment in policy and strategy domain of digital health systems strengthening. Digital health systems strengthening is an emerging area and a priority of the Sierra Leone government. UNICEF ongoing support in the information systems strengthening space has generated significant interest and demand from the MoHS – culminating in a request to UNICEF for technical support. UNICEF staff does not have required technical capacity and time to deliver this assignment. | | |
| Included in Annual/Rolling Workplan: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No, please justify: | | | | |
| Consultant sourcing: <input type="checkbox"/> National <input checked="" type="checkbox"/> International <input type="checkbox"/> Both | | Request for: <input checked="" type="checkbox"/> New SSA – Individual Contract <input type="checkbox"/> Extension/ Amendment | | |
| Consultant selection method: <input type="checkbox"/> Competitive Selection (Roster) <input checked="" type="checkbox"/> Competitive Selection (Advertisement/Desk Review/Interview) | | | | |
| If Extension, Justification for extension: | | | | |
| Supervisor: Royston Wright, Health Specialist (HSS) | Start Date: 1 June 2022 | End Date: 15 May 2023 | Number of Days (working): 245 days | |

| Estimated Consultancy fee | | 245 days | |
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| Travel International (if applicable) | | | |
| Travel Local (please include travel plan) | As per actual | | |
| DSA (if applicable) | As per actual | | |
| Total estimated consultancy costs¹ | | | |
| <p>Minimum Qualifications required:</p> <p><input type="checkbox"/> Bachelors <input checked="" type="checkbox"/> Masters <input type="checkbox"/> PhD <input type="checkbox"/> Other</p> <p>Enter Disciplines: An advanced university degree is required</p> | <p>Knowledge/Expertise/Skills required:</p> <p>At least 7 years of professional experience. Proven experience in the mHealth field – especially on the deployment of information systems and mHealth solutions, such as decision support and client communication tools. Significant experience in providing technical assistance and thought leadership surrounding the design and implementation of digital health for system strengthening. Significant experience with project management and proven ability to translate complex ideas from various areas into unified, clear guidance is a must. Advanced degree in a relevant field or equivalent related practical experience.</p> <p>Additional Experience and Knowledge:</p> <ul style="list-style-type: none"> • Excellent written and verbal communication skills • Experience working in, designing, or deploying digital health solutions in/for low-resource settings • Extensive experience working with the mHealth/eHealth community • Knowledge and experience in community health/primary health care programmes is essential • Experience designing and supporting digital health projects with Government (esp. Ministries of Health) • Knowledge and experience with DHIS2, OpenMRS, iHRIS, OpenHIE, MoTECH, CommCare, OpenSRP, etc • Familiarity with open-source technology • Experience with processing large amount of information and synthesizing it • Ability to work in a team and in a diverse work environment. • Knowledge of United Nations – particularly UNICEF – processes and work streams is an asset <p>Languages: Fluency in English</p> | | |
| <p>Administrative details:</p> <p>Visa assistance required: <input checked="" type="checkbox"/></p> <p>Transportation arranged by the office: <input type="checkbox"/></p> | <p><input type="checkbox"/> Home Based <input checked="" type="checkbox"/> Office Based:</p> <p>If office based, seating arrangement identified: <input type="checkbox"/></p> <p>IT and Communication equipment required: <input checked="" type="checkbox"/></p> <p>Internet access required: <input checked="" type="checkbox"/></p> | | |

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| <p>Request Authorised by Section Head/Hiring Manager <i>Royston Wright – Health Specialist</i></p>  <p>22.04.2022</p> | <p>Request Verified by HR: <i>Vivian Amanquah - HR Manager</i></p>  <p>22.04.2022</p> |
| <p><i>Approval of Chief of Operations (if Operations):</i> _____</p> <p><i>Approval of Deputy Representative (if Programme)</i>  <i>Yuki Suehiro as OIC-Dep Rep (Prog)</i></p> <p><i>Representative (in case of single sourcing/or if not listed in Annual Workplan)</i> _____</p> | |

¹ Costs indicated are estimated. Final rate shall follow the “best value for money” principle, i.e., achieving the desired outcome at the lowest possible fee. Consultants will be asked to stipulate all-inclusive fees, including lump sum travel and subsistence costs, as applicable.

Payment of professional fees will be based on submission of agreed deliverables. UNICEF reserves the right to withhold payment in case the deliverables submitted are not up to the required standard or in case of delays in submitting the deliverables on the part of the consultant

Text to be added to all TORs:

Individuals engaged under a consultancy or individual contract will not be considered “staff members” under the Staff Regulations and Rules of the United Nations and UNICEF’s policies and procedures, and will not be entitled to benefits provided therein (such as leave entitlements and medical insurance coverage). Their conditions of service will be governed by their contract and the General Conditions of Contracts for the Services of Consultants and Individual Contractors. Consultants and individual contractors are responsible for determining their tax liabilities and for the payment of any taxes and/or duties, in accordance with local or other applicable laws.