

TERMS OF REFERENCE

Digital Health Systems and Interoperability Consultant (Multi-country)

CONTRACT MODALITY	Individual Consultancy
DUTY STATION	Digital Health Transformation, Access and Equity (DHx) Section, Health Practice, Nairobi COE, Kenya & Flexible location (home-based), with regular in-person engagement in Bangkok and Asia and the Pacific; see Working arrangement
DURATION OF CONTRACT	23 months

Purpose of Assignment

Purpose of Activity/Assignment (*Consultants may be engaged only when the assignment is of a temporary nature; based on payment for services or work with defined deliverables and outputs that are specific and measurable, to be performed and completed within a specified period of time. Consultants must not be engaged to perform staff functions or other functions that are not based on defined deliverables or outputs*):

Most governments in low- and middle-income countries are planning or negotiating significant health sector financing from the World Bank, regional development banks and global health partners, and a growing share of that financing is intended for digital health. Yet digital components are often designed late in operation preparation, costed thinly and procured before functional and interoperability requirements are documented, so financing that could build national systems frequently produces another generation of disconnected applications. Where country offices can bring government-endorsed requirements and costed roadmaps into these operations early, while their design is still open, the terms of the investment change.

UNICEF's Health Practice is implementing Digital Health: High-Impact Solutions for Scale, a two-year programme (September 2026 to August 2028) designed to change how digital health investment reaches national scale. Much of the funding that has gone into digital health over the past two decades, UNICEF's included, has paid for pilots that prove a tool in a few districts and then stall, because nothing in their design connects them to the national budgets and large-scale financing on which scale and sustainability depend. The programme is not another pilot. It uses a modest, time-bound investment to influence how much larger government, IFI and global health partner financing is spent, so that national systems are designed around documented requirements, costed before they are procured and built on shared foundations that later investments can reuse.

The programme works along two lines. In eight countries, country offices are supporting governments to prepare investment-ready digital health blueprints (costed, government-endorsed roadmaps carrying the functional and interoperability requirements that finance ministries and lenders need), timed to the financing windows and preparation cycles of the World Bank, regional development banks and Gavi. In three further countries, the programme funds health information exchange enabling layers, such as registries, terminology services and interoperability components, without which point-of-care applications end up joined through workarounds and duplicated databases at high and recurring cost. The model has precedent: technical groundwork of this kind in the Pacific preceded a USD 245 million World Bank lending commitment with USD 30 million of UNICEF-managed implementation, and costed roadmap engagements with ten countries under Gavi's health systems and immunization strengthening support were followed by more than USD 50 million in health system financing.

Success is measured by the financing that follows and the national systems it builds. Country offices hold the government relationships and programme accountability throughout, with technical backstopping from the Health Centre of Excellence and a set of institutional technical partners, and UNICEF's role shifts from implementing on

behalf of governments to accompanying them as a trusted technical adviser through the design, financing and early delivery of systems they steward, whatever the mix of financing behind them.

This consultancy strengthens what those country offices can do, and it has two purposes. The first, which accounts for most of the assignment, is to give the participating country offices the analysis, technical input and coordination that most of them do not have in-house, since few have a dedicated digital health lead and some have limited health programme staffing. The second is to build UNICEF's credibility and working relationships with international financial institutions (IFIs), including regional development banks such as IDB, CAF, ADB and AfDB, using the participating countries to demonstrate a model of technical accompaniment that can extend to other countries with comparable financing opportunities, including through regional public goods financed jointly by governments and IFIs. UNICEF staff hold these relationships at headquarters, regional offices and country offices, among Health Section colleagues in Panama, Nairobi and Bangkok, and the consultant's role is to prepare, facilitate and follow through on that engagement.

The consultant leads on digital health systems and interoperability, with emphasis on the health information exchange enabling layers being established in the three implementation countries, together with requirements and architecture input to investment blueprints across the programme and support to financing window analysis. The post works closely with Health Section colleagues in the COEs, particularly in Bangkok, and requires periodic face-to-face engagement there and working hours that overlap substantially with Bangkok's.

Scope of Work

The consultant supports the UNICEF country offices taking part in the HIE component of the programme, currently Honduras, Namibia and Sri Lanka, and provides requirements and architecture input to the eight countries in the costed blueprint component, currently Botswana, Ecuador, Ethiopia, Lao PDR, Madagascar, Mexico, Panama and Tajikistan. The split of countries between the programme's two multi-country consultancies is agreed in the inception work plan and reviewed as the programme progresses. The consultant will coordinate routinely with the companion multi-country consultant to avoid duplication and ensure consistent methods across the programme. Coverage changes only through a formal contract amendment, which may add countries or units to the deliverables already in this ToR but does not add new types of work.

Subject to progress in the approved programme countries, the consultant may spend around a fifth of their time supporting countries outside the programme that fit one or more of the following criteria:

- a health operation with a digital component in preparation or early implementation with the World Bank or a regional development bank, or a comparable financing window expected within the next two years;
- a government request for support to plan or finance digital health investment, including through UNICEF's technical assistance channels;
- membership of a group of countries where shared digital health infrastructure could be financed jointly by governments and IFIs as a regional public good.

Work for non-participating countries is capped at 20 per cent of input days and limited to the expansion deliverables in the table below. It covers only countries agreed in writing with the contract manager in the work plan, and it builds on analysis already undertaken for participating countries (for example, an IFI operation or National Health Compact that spans several countries). The consultant draws on desk analysis and on engagement led by UNICEF staff and does not open new engagement with governments. The weightings below are indicative, and the allocation of effort is set in the work plan.

1. Health information exchange enabling layers (about 35%)

- Produce national requirements and architecture packages for the HIE enabling layers in the three implementation countries, covering facility, health worker and client registries, terminology services and FHIR-

based interoperability components, aligned with an HIE reference architecture and WHO SMART Guidelines, and revise each package following national validation coordinated through the country office.

- Produce technical review notes on deliverables from institutional partners, covering technical quality, standards compliance and fit with national architecture.

2. Requirements and architecture input to investment blueprints (about 20%)

- Produce digital health maturity and architecture assessments for the eight blueprint countries, using the framework agreed in the inception report (the Global Digital Health Monitor, or the national framework where a country already uses one).
- Produce the requirements, architecture and sequencing content of the eight blueprints, so that foundational infrastructure is costed and sequenced ahead of application-layer investment.

3. Country analysis and technical advisory (about 15%)

- Produce situation analyses for the three implementation countries covering current digital health systems, their governance and gaps in foundational infrastructure.
- Produce technical advisory notes in response to requests from any of the eleven participating country offices, prioritised by the contract manager.

4. Programme reporting and coordination (about 10%)

- Produce quarterly progress reports, including country inputs to the financing window register and technical content for IFI briefs prepared with the companion multi-country consultant.
- Produce a final learning and handover report, including the technical documentation institutional partners need.

5. Expansion and regional public goods (about 20%)

- Produce technical inputs, with documented recommendations, to the digital components of IFI operations in non-participating countries agreed with the contract manager.
- Produce technical design notes for shared multi-country infrastructure that could be financed jointly as regional public goods, specifying the architecture, governance arrangements, financing models and opportunities.

Deliverable standards, reporting and performance

Deliverable standards. Each unit of a deliverable is a discrete written product in English, in the format and indicative length set out in the deliverables table, with country products also in Spanish or French where the country office requires it. A unit is accepted when the contract manager clears it, and the contract manager will respond within ten working days of submission. Fees are paid per accepted unit at the rate agreed for that deliverable. Where a blueprint section may be drafted either by the consultant or by an institutional partner, the inception report records, country by country, who drafts and who reviews, and the consultant remains accountable for the quality of that section in either case.

Reporting. The consultant submits a quarterly progress report of no more than three pages to the contract manager, covering deliverables completed and accepted, the schedule for the next quarter, risks and the performance indicators below, and contributes to the programme Steering Committee materials. The consultant agrees methods and country inputs with the companion multi-country consultant to avoid duplication.

Performance is assessed against the following indicators:

- Requirements and architecture packages submitted for national validation for two implementation countries by 31 May 2027, and for the third by 31 July 2027.
- Eight maturity and architecture assessments accepted by 31 July 2027.
- Requirements, architecture and sequencing content accepted for seven of the eight blueprints by 15 December 2027, and for the eighth by 15 June 2028.
- Each technical review note returned within ten working days of receiving the partner deliverable.

Boundaries of the role

UNICEF staff hold the relationships with governments, IFIs and partners at headquarters, COE Health Section, regional offices, and country offices. The consultant prepares, facilitates and follows through on that engagement but does not represent UNICEF or make commitments on its behalf, does not manage contracts with institutional partners and does not supervise UNICEF personnel. All outputs are cleared by the contract manager before they are shared outside UNICEF.

Work Assignments Overview	Deliverables/Outputs	Delivery deadline (in weeks/months) and input days to complete the deliverable
Inception	Inception report (no more than 10 pages): work plan, country allocation and methods agreed with the companion consultancy, country-by-country division of drafting and review with institutional partners, and the maturity assessment framework.	31 March 2027 12 days
Country analysis and technical advisory	Three situation analyses for the implementation countries (10 to 15 pages each).	30 April 2027 15 days
HIE enabling layers I	One national requirements and architecture packages for the HIE enabling layers, each revised following national validation coordinated through the country office.	31 May 2027 15 days
HIE enabling layers II	One national requirements and architecture packages for the HIE enabling layers, each revised following national validation coordinated through the country office.	31 May 2027 15 days
HIE enabling layers III	One national requirements and architecture packages for the HIE enabling layers, each revised following national validation coordinated through the country office.	31 July 2027 15 days
HIE enabling layers IV	Fourteen technical review notes on institutional partner deliverables (2 to 4 pages each), each within ten working days of receipt.	Final note by 31 July 2028 28 days
Requirements and architecture input to blueprints I	Four digital health maturity and architecture assessments for blueprint countries (8 to 12 pages each).	31 May 2027 10 days
Requirements and architecture input to blueprints II	Four digital health maturity and architecture assessments for blueprint countries (8 to 12 pages each).	31 July 2027 10 days
Requirements and architecture input to	Requirements, architecture and sequencing content for eight investment blueprints, drafted or reviewed as recorded in the	Seven by 15 December 2027 21 days

blueprints III	inception report. (7 total)	
Requirements and architecture input to blueprints IV	Requirements, architecture and sequencing content for eight investment blueprints, drafted or reviewed as recorded in the inception report. (1 total)	Eighth by 15 June 2028 3 days
Country analysis and technical advisory	Ten technical advisory notes responding to requests from participating country offices, prioritised by the contract manager (2 to 5 pages each).	Final note by 31 July 2028 15 days
Programme reporting and coordination I	Three quarterly progress reports (no more than 3 pages, reporting against the performance indicators), including country inputs to the financing window register prepared with the companion consultant.	30 June, 30 September and 31 December 2027 7.2days
Programme reporting and coordination II	Two quarterly progress reports (no more than 3 pages, reporting against the performance indicators), including country inputs to the financing window register prepared with the companion consultant.	31 March and 30 June 2028 4.8 days
Expansion and regional public goods I	Two technical inputs, with documented recommendations, to the digital components of IFI operations in non-participating countries agreed in writing with the contract manager (4 to 6 pages each).	Two by 31 December 2027 8 days
Expansion and regional public goods II	Two technical inputs, with documented recommendations, to the digital components of IFI operations in non-participating countries agreed in writing with the contract manager (4 to 6 pages each).	Two by 30 June 2028 8 days
Expansion and regional public goods III	Technical design notes for shared multi-country infrastructure as regional public goods, specifying architecture, governance arrangements, financing models and opportunities (no more than 15 pages).	31 October 2027 12 days

Expansion and regional public goods IV	Technical design notes for shared multi-country infrastructure as regional public goods, specifying architecture, governance arrangements, financing models and opportunities (no more than 15 pages).	30 April 2028 12 days
Programme reporting and coordination	Final learning and handover report, including technical documentation needed by institutional partners (no more than 20 pages plus annexes).	31 July 2028 8 days
Travel	Travel is undertaken only on missions approved in advance by the contract manager and is reimbursed on actual costs in line with UNICEF policy for consultants (economy class by the most direct route, with daily subsistence allowance at prevailing UN rates). For the financial proposal, candidates provide an indicative travel budget, itemised by trip and calculated from their place of residence, against the planned missions below, each of about one week (five working days at the destination plus travel days). The indicative budget is used to compare proposals and is not a lump sum; actual missions, destinations and frequency are set in the work plan and may change.	As approved, to 31 July 2028

Payment Schedule:

Payment will be made on submission and acceptance of 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.

Important Notes

- 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.
- The selected candidate is solely responsible for ensuring that the health insurance (and visa if applicable) required to perform the duties of the contract are valid for the entire period of the contract. Selected candidates are subject to confirmation of fully-vaccinated status against SARS-CoV-2 (Covid-19) with a

World Health Organization (WHO)-endorsed vaccine, which must be met prior to taking up the assignment. It does not apply to consultants who will work remotely and are not expected to work on or visit UNICEF premises, programme delivery locations or directly interact with communities UNICEF works with, nor to travel to perform functions for UNICEF for the duration of their consultancy contracts.

- UNICEF offers reasonable accommodation for consultants with disabilities. This may include, for example, accessible software, travel assistance for missions or personal attendants. We encourage you to disclose your disability during your application in case you need reasonable accommodation during the selection process and afterwards in your assignment.

QUALIFICATIONS / SPECIALIZED KNOWLEDGE / EXPERIENCE/ COMPETENCIES (CORE/TECHNICAL/FUNCTIONAL) / LANGUAGE SKILLS REQUIRED FOR THE ASSIGNMENT

Minimum requirements:

Education: Master' in Health informatics, information systems, computer science, engineering, public health with an informatics focus, or a related field. A first-level university degree with two additional years of relevant experience may be accepted in place of an advanced degree.

Work Experience: At least eight years designing or implementing digital health systems in low- and middle-income countries, including at least five years on national-scale interoperability (requirements and enterprise architecture, facility, health worker and client registries, terminology services and health information exchange), with experience working with ministries of health on national digital health architecture and with vendors on technical specifications and acceptance of deliverables.

Skills: Hands-on FHIR experience, including profiling and implementation guides.

- Working knowledge of WHO SMART Guidelines and digital adaptation kits, HIE reference architectures and digital health maturity assessment.
- Ability to translate architecture into requirements that governments, vendors and financiers can act on.

Language Requirements: Fluency in English is required. Spanish or French is an advantage.

Desirables: Experience in one or more regions of the participating countries.

- Experience with digital components of IFI-financed operations or with digital health costing.
- Experience integrating with digital public infrastructure such as identity and payments.
- Experience designing shared multi-country infrastructure.
- Experience with UN agencies.