

TERMS OF REFERENCE (TOR) OF

Integration of PEN Plus data system into existing Electronic Medical Record (EMR) system in four PEN Plus sites supported by UNICEF Nepal Country Office

1. BACKGROUND AND JUSTIFICATION:

UNICEF Nepal, under the guidance of Ministry of Health and Population and in partnership with Kathmandu Institute of Child Health (KIOCH) is implementing PEN (Package of essential non communicable diseases) Plus program in four provinces including Madhesh, Lumbini, Karnali and Sudurpaschim provinces. The objectives of PEN-Plus program is to strengthen primary health care and referral system for prevention and management NCDs among children and adolescents including but not limited to type I and type II diabetes mellitus (DM), rheumatic heart diseases (RHDs), congenital heart diseases (CHDs), hypertension, ischemic heart diseases, chronic respiratory diseases (CRDs) and hemoglobinopathies. The implementation of PEN Plus program requires a robust information management systems to record and report data by socio-demography, patient history, diagnosis and treatment.

The PEN Plus programs are implemented in four hospitals viz. Health Service Office (HSO) Dailekh, Lahan Provincial Hospital Siraha, Bajhang Hospital Bajhang and Gulmi Hospital Tamghas. An initial assessment shows that each of these hospitals have an individual Electronic Medical Record (EMR) software system and a Memorandum of Understanding (MoU) with Government and supporting Non Government Organization. Details is provided below:

SN	Name of hospital	Name of EMR software system	Current status of MoU
1	Health Service Office (HSO), Dailekh, Karnali Province	Bahmni	MoU between Ministry of Social Development, Karnali Province and Nyaya Health to implement the software
2	Lahan Provincial hospital, Madesh Province	Medicare	MoU not completed
3	Bajhang Hospital, Sudurpachim Province	D CODE	MoU between Bajhang Hospital and D CODE Technology Pvt. Ltd to implement the software
4	Gulmi Hospital, Tamghas, Lumbini Province	Cogent	MoU between Gulmi Hospital and Nick Simons Institute (NSI)

In this scenario of multiple software being used by hospitals, UNICEF seeks to integrate PEN Plus records into the existing EMR software in each hospital, until a clear guidance on uniformity of Electronic Health Records (EHR) from the Government is received. This was also the recommendation from the PEN Plus technical committee meeting.

2. OBJECTIVE:

The objective of this TOR is to support in integration of PEN Plus health data systems into existing EMR systems in the target hospitals and to develop a dashboard that displays PEN Plus data in an analytical and integrated manner.

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3. SCOPE OF WORK:

The scope of this TOR is for the vendor to assess current EMR systems in target site hospitals, integrate PEN Plus health data system into the current EMR and develop dashboard that displays analysis of PEN Plus data.

4. METHODOLOGY:

Method of this assignment will include:

- collaboration with hospital committee and provincial government
 - build necessary API connections from all four hospitals to connect with the system using APIs and allow for future enhancement
 - agreement and signed contract with individual software companies to integrate PEN Plus health data in existing EMR
 - development of dashboard for analysis of PEN Plus data.
 - Annual maintenance for additional one year after contract ends with UNICEF
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5. ACTIVITIES, TASKS, AND EXPECTED TIMELINE

The consultancy will perform the following tasks:

1. Coordinate with the four hospitals mentioned above, to assess the status of EMR software in each hospital. Gather all relevant information, carry out review process and provide way forward in a report.
2. In each hospital, develop an interoperable system to accommodate PEN Plus recording system into the existing EMR. The system should ensure offline data entry system operable with online synchronization between systems. The consulting company is responsible for coordinating with the respective software company. All liable costs incurred during the process and management of existing MoU with government and non-governmental organizations is responsibility of the consulting company.
3. Develop a technical framework for connecting Pen-Plus clinical forms to the existing medical record system. The framework needs to provide clear guidelines on interoperability and how the system can connect and submit forms for each hospital.
4. Develop the interoperable system that all four hospitals can submit and host their data on. Build necessary API connections from all four hospitals to connect with the system using APIs and allow for future enhancements. The system should make sure all data security measures are followed and is not exploitable by commonly known intrusions.
5. Develop a dashboard/platform/system for data generation from the EMR software from four PEN Plus sites. The dashboard should allow data analysis for visualizing data more efficiently using graphs and charts when possible. The dashboard should have a filtering system to access data more easily and be responsive and compatible with devices including desktop laptops. Individual data needs to be encrypted unless they have adequate permissions to access that individual's data.
6. Elaborate software testing mechanism to pre-test the software and fix problems that arise

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7. Detailed Schedules for complete Software Development Life Cycle, Complete documentation, including software requirement specification (SRS) and Software Technical Specification, Training and Help Manual
8. Develop User Manual and Standard Operating Procedures (SOP) for each level of users to use and manage the system.
9. Provide regular ICT support to the PEN Plus clinic staff on usage and trouble shooting.
10. Develop reporting modules for the hospitals as per the necessary guidelines.
11. Conduct training for staff at hospitals and refresher for IT support staff of each of the four hospitals to maintain and operate the system.
12. Assist in developing system architecture and hardware specifications to support the entire system, if any.
13. Provide customer support and grievance handling for system outages, problems, and issues for the period of one year.
14. All the application including API development should be on an open platform as per principles for digital development.
15. Support in annual maintenance for a year, after completion of contract as per AMC (annual maintenance contract)
16. All application codes developed during the process should remain the intellectual property of UNICEF

6. **DURATION:**

{The Contract duration is 9 months from signing of contract. The expected starting date is 15 April 2024}

7. **WORKING LOCATIONS:** The service provider will and closely work with UNICEF, KIOCH team, four hospitals with PEN Plus sites, Provincial Government, NGOs and software companies, as deemed necessary. The working areas are specifically Bajhang, Dailekh, Gulmi and Siraha. Consultant may have to travel to Kathmandu (UNICEF and KIOCH offices) and provincial government offices located in headquarters of Sudurpaschim province, Karnali province, Lumbini province and Madhesh province.

8. **DELIVERABLES:**

Deliverables should be tangible and with a defined time period for submission.

No	Deliverable <i>Instruction: These deliverables should be in line with task/activities as mentioned in SN-5, activities, tasks, and expected timeline}</i>	Estimated number of days required	Estimated Completion Date
1	Inception Report	15 April 2024	Report outlining activities and estimated timelines

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2	Report on status of EMR, technical framework, way forward and timeline for integration of PEN Plus in EMR	30 April 2024	Report, Contract with software company, Completion report duly signed from all four Hospitals
3	Integration of PEN Plus in EMR	30 June 2024	Report, Completion report duly signed from all four Hospitals and KIOCH team
4	Development of dashboard, user manual and SOP	30 July 2024	Visual dashboard shared with UNICEF team, Document of user manual and SOP
5	Ongoing ICT support and maintenance	30 December 2024	Quarterly report in Oct 2024 and Dec 2024

9. PROPOSED PAYMENT SCHEDULE:

No	<i>Deliverable</i> <i>Instruction: These payment schedule should be in line with Deliverables as mentioned in SN-8}</i>	<i>Percentage of payment</i>
1	Inception Report	0%
2	Report on status of EMR, technical framework, way forward and timeline for integration of PEN Plus in EMR	10%
3	Integration of PEN Plus in EMR	40%
4	Development of dashboard, user manual and SOP	40%
5	Ongoing ICT support and maintenance	10%

The payment schedule must be based on completed deliverables which are accepted by Contract supervisor. Billing and Payment terms is mentioned in Purchase Order (30 days net upon receipt of approved invoice).

10. CONTRACT SUPERVISION:

The contract will be supervised by the Health Specialist at UNICEF Nepal Country Office. The service provider is responsible to coordinate and work with UNICEF NCO team health section and IT team, KIOCH team, Hospitals and NGOs.

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11. QUALIFICATIONS AND EXPERIENCE REQUIRED:

Company should have a minimum 5-year experience in IT (information technology) sector in Nepal and has experience of working with agencies/organization in the development sector. Preference will be given to bidders having working experience with Government of Nepal, especially in information management systems (including EHR/EMR) in hospitals and development of national and local level health data management and reporting, managing analytical systems, coordination, and networking with concern stakeholders in health contents.

The consulting firm/institution should have members who has expertise in IT, data analysis and interpretation work and have proven skills to demonstrate it with a matching academic and technical qualification and experience working with national level inter-operable systems.

Must be a legally registered company (please provide a copy for reference)

Evaluation criteria of the are as follows. The agencies/institutions must provide sufficient information to address each area of the evaluation criteria.

12. APPLICATION AND EVALUATION PROCESS:

In making the final decision, UNICEF considers both technical and financial aspects'-Screening will be done by Unicef and then the Evaluation Team first reviews the technical aspects of the offer, followed by review of the financial offers of the technically compliant vendors. The proposal obtaining the highest overall score after adding the scores for the technical and financial proposals together, that offers the best value for money will be recommended for award of the contract.

Each valid proposal will be assessed by an evaluation panel first on its technical merits and subsequently on its price. The weight allocated to the technical proposal is 70% (i.e., 70 out of 100 points). To be further considered for the financial evaluation, a minimum score of 49 points is required. i.e., only proposals with a score of 49 or more points in the technical evaluation will be financially evaluated (i.e., the financial proposal will be opened). The further details and the distribution of points are clearly mentioned to section 14. Evaluation Weighting Criteria of this ToR.

The weight allocated to the financial proposal is 30% as per the following: the maximum number of 30 points will be allotted to the lowest technically compliant proposal. All other price proposals will receive points in inverse proportion to the lowest price. Commercial proposals should be submitted on an all-inclusive basis for providing the contracted deliverables as described in the TOR.

The proposal(s) obtaining the overall highest score after adding the scores for the technical and financial proposals is the proposal that offers best value for money and will be recommended for award of the contract.

Pre-screening/Responsiveness Evaluation:

The proposals will be reviewed on the basis of completion for following documents:

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- Submission of Proposal (Technical & financial) in two separate file/ attachment. And to assure that Vendors have not including any financial price in their technical proposal.
- Legal Company Registration / Business Registration
- VAT registration (only for national firm/NGO/INGO (legally authorized to provide business services)
- Tax clearance certificate of last Fiscal Year or extension of timeline for VAT clearance certificate
- Power of Attorney to submit proposal-(applies when joint partner)
- Vendor Registration form (for new vendor)
- Declaration Form (page 3 -5 in the bid form) filled in. (all boxes must be ticked / answered)
- Financial Audit Report for last 2 years.
- Validity of Proposal is provided as per UNICEF Solicitation requirement

Proposals who have passed the pre-screening process will be forwarded for Technical Evaluation.

The Technical Proposal should include but not be limited to the following:

- **Methodology**
Detailed Methodology / approach to requirement detailing how to meet or exceed UNICEF requirements for this assignment
- **Company Profile**
- *Ensure to include information related to the experience of the company as required (Copy of the company registration)*
- **References**
Details of similar assignments undertaken in last *three* years including the following information:
 - Title of Project
 - Year and duration of project
 - Scope of Project
 - Outcome of Project
 - Reference / Contact persons
- **Work Plan**
Proposed work plan showing detailed sequence and timeline for each activity and person days of each proposed team member. The proposed work plan should be consistent with the technical approach and methodology, showing your understanding of the TOR and ability to translate them into a feasible working plan. A list of the final documents (including reports) to be delivered as final output(s) should be included here. **(see attached Annex for sample of template)**
- **Team Composition**
Title and role of each team member. It is estimated a team of 3-5 core members and additional non-key staffs to complete this assignment within stipulated timeline.
- **CV's**
CV of each core team member (including qualifications and experience)

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Ensure to include information related to the qualifications and experience of each proposed team member as required.

- Recent Financial Audit Report

Report should have been carried out in the past 2 years and be certified by a reputable audit organization.

Work Experience/ Reference Documents:

Please, mention and attach the relevant work experience and Reference documents as per technical evaluation Criteria.

- Any project dependencies or assumptions**The Financial Proposal should include but not be limited to the following:**

Bidders are expected to submit a lump sum financial proposal to complete the entire (as per instruction given under Section xx). In order to arrive at the lump sum offer for a given sample size, the firm may work out the budget detail as below:

- Resource costs

Daily rate multiplied by number of days of the experts involved in the study. This shall be determined by the sample size to be surveyed at the field. The cost should indicate cost per 100 households to be interviewed so as to allow costing for field work.

- Conference or workshop costs (if any)

Indicate nature and breakdown if possible

- Travel Costs

All travel costs should be included as a **lump sum fixed cost/ as per actual.**

For all travel costs, UNICEF will pay as per the lump sum fixed costs provided in the proposal.

A breakdown of the lump sum travel costs should be provided in the financial proposal. Please note that i) travel costs shall be calculated based on economy class fare regardless of the length of travel and ii) costs for accommodation, meals, and incidentals.

- Any other costs (if any)

Indicate nature and breakdown

Full marks are allocated to the lowest priced proposal. The financial scores of the other proposals will be in inverse proportion to the lowest price.

Bidders are requested to provide a detailed cost proposal – Financial Proposal, factoring in all cost implications for the required services. A special discount or lower rates can be offered for this specific assignment, if applicable.

13. EVALUATION WEIGHTING CRITERIA:

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The ratio between the technical and financial criteria depends on the relative importance of one component to the other.

Cumulative Analysis will be used to evaluate and award proposals. The evaluation criteria associated with this TOR is split between technical and financial as follows:

Weightage for Technical Proposal = 70 %

Weightage for Financial Proposal = 30 %

Total Score = 100%

a. Technical Proposal:

The technical proposal should address all aspects and criteria outlined in this Request for Proposal.

The Technical Proposals will be evaluated against the following:		
REF	CATEGORY	POINTS
1	Overall response: <ul style="list-style-type: none"> • Completeness of response- mandatory (failure of submitting required documentation mentioned in the ToR lead to incompleteness) • Overall concord between RFP requirements and proposal 	Pass/Fail Pass/Fail
2	Institutional Capacity (Company/key personnel/Individual Consultant): Range and depth of experience: <ul style="list-style-type: none"> • expertise in ICT especially EHR/EMR • working experience in health data management and analytics in hospitals Sample of previous work: <ul style="list-style-type: none"> • Samples of at least 2 previous similar work reports (supplementing Request for Proposal is mandatory. Please attach the relevant samples to the technical proposal) References: <ul style="list-style-type: none"> • References (of the two agencies and personnel to be given clearly) Key personnel: <ul style="list-style-type: none"> • Key personnel: relevant experience and qualifications of the proposed team for the assignment (Team Leader –7 years' experience in developing software systems, ICT system expert – 7 years' experience in system designing, UI/UX expert – 5 years experience in UI/UX, Database designer – 5 years' experience in Database design, Programmer – 3 years experience in programming) 	10 10 10 10
3	Proposed methodology and approach: <ul style="list-style-type: none"> • Detailed proposal with main tasks, including sound methodology to achieve key outputs (Annex B has to be fully understood and reflected in the proposal) • Proposal presents a realistic implementation timeline 	20 5
4	Service Provider's accountability towards Sustainable Procurement:	5

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	<ul style="list-style-type: none"> Employment Generation by maintaining Gender balance (more than 50% female staffs (1.5 points) Having Policy regarding Labour rights (1 points) Rules/ policy regarding social inclusion including disable (1 points) Rules/ policy regarding Waste Management (1.5 points) <p>Bidder has to provide supporting documents to specific initiatives that they have undertaken in the area of environmental protection, employee welfare and community development.</p>	
Total Technical		70
Only proposals which receive a minimum of 49 (including bonus) points (60 or 70% of technical scores) will be considered further.		

b. Financial Proposal

The total amount of points allocated for the price component is 30. The maximum number of points will be allotted to the lowest price proposal that is opened and compared among those invited firms/institutions which obtain the threshold points in the evaluation of the technical component. All other price proposals will receive points in inverse proportion to the lowest price, e.g.:

$$\text{Score for price proposal X} = \frac{\text{Max. Score for price proposal} * \text{Price of lowest priced proposal}}{\text{Price of proposal X}}$$

Instructions for Financial Quote (Proposal)

Please prepare table of expected costing, below is an example of price tables

Description of Activity/Item	Proposed Person (Job title/function)	All-inclusive rate (Personnel)	No. of days proposed	Total Cost in NRs
1. Item 1:				
1.1 Personnel				
1.2 Other				
Subtotal Expenses:				
2. Item 2:				
2.1 Personnel				
2.2 Other				
Subtotal Expenses:				
2.3 Reimbursable Travel Cost*				
2.3. Other				
Subtotal Expenses				
3. Item 3:				
3.1 Personnel				
3.2 Editorial				

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Subtotal Expenses:				
3.3 Reimbursable Travel Cost*				
Subtotal Expenses:				
Subtotal fixed cost:				
Subtotal reimbursable cost				
Grand Total**				

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**TEMPLATE OF
WORK SCHEDULE AND PLANNING FOR DELIVERABLES**

SN	Deliverables	Months												
		1	2	3	4	5	6	7	8	9	n	TOTAL	
D-1														
D-2														
D-3														

TEMPLATE FOR

TEAM COMPOSITION, ASSIGNMENT, AND KEY EXPERTS' INPUTS

SN	NAME	Expert's input (in person/month) per each Deliverable							Total time-input
		POSITION	D-1	D-2	D-3	D-4	D-5		
			HOME						
			FIELD						