

TERMS OF REFERENCES (TORs)

Appointment of Consultant for the Hospital Management Information System (HMIS)

Mode of assignment: Hospital Management Information System (HMIS) for Family Health Hospital (FHH)

Duration of consultancy: 60 days (starting from the signing of contract)

Requested documents: Prospective individuals/firms should provide a CV detailing their relevant skills and experience. The overall package must have following documents:

- Cover letter (Maximum 2 pages clearly demonstrating the suitability of applicant for stated assignment)
- Updated profile of the individual Consultant or a Firm supported with resume of Chief Consultant and maximum of other 3 key team members (Maximum 3 pages each)
- Proposal including cost of assignment covering all expenses
- One example of previous similar work in hard or soft copy on USB

Instructions to be followed:

- All documents must be forwarded through postal service only. Please clearly write ‘**Proposal for HMIS for FHH**’ on sealed envelope.
- Please fold details of cost of assignment in a separate envelop to send along with other documents.
- Please send your proposals to Director Monitoring Evaluation and Research (MER), RAHNUMA – Family Planning Association of Pakistan (R-FPAP), 3 A Temple Road, Lahore, 54000.

Note: R– FPAP reserves the right of disqualifying proposals with pages more than above mentioned numbers and/or if any of the above instruction is not followed adequately. Proposals sent through an email will not be considered for shortlisting.

Deadline for the submission of proposal: 13 October 2023

Payment Schedule: 10% on signing of agreement, 20% on finalization of system requirements with system design document, user acceptance testing, 30% on software deployment with source code and installation package and 40% on completion of master user training and go live.

All payments shall be made to the Consultant through cross cheque in Pak Rupees after deduction of Withholding of Income Tax, i.e.:

- i) Income Tax: 4% in case of Filer and 8% in case Non-Filer
- ii) And, Withholding of Sales Tax i.e. 16% on services as per Law of Punjab Revenue Authority (PRA).

The above rates may change if there is any amendment in tax rates by PRA & Federal Board of Revenue (FBR).

Liaison Persons from R-FPAP: Ms. Asifa Khanum, Director Monitoring Evaluation and Research, R-FPAP, 3-A Temple Road, Lahore Phone: (042) 111 22 33 66, Ext. 323. Direct line: (042) 3636 1583. Email address: asifa@fpapak.org

Purpose of this assignment

The term Hospital Management Information Systems (HMIS) refers to the part of health informatics that focuses significantly on hospital management's administrative, clinical, and financial needs. These frameworks increase the ability of healthcare experts to coordinate care by giving a patient's health data and visit history at the spot and time that it is required.

Roles and Responsibilities of Consultant

Work as a functional consultant of Hospital Management Information System (HMIS) and deploy it in the nine Family Health Hospitals (FHHs) of different cities, in coordination with our IT and Regional Office Teams, and provide ongoing support to the end users and improve the HMIS data. Automate the manual data collection process and reporting by using different tools.

Here are the Terms of Reference (TORs) or functional requirements for the development of a web-based Hospital Management Information System (HMIS) that includes cash receipts, lab fee, radiology fee, and various other functionalities:

1. User Management:

- User registration and login with role-based access (Admin, Doctor, Nurse, Receptionist, etc.).
- User profile management.

2. Patient Record Management:

- Maintain detailed patient records including personal information, medical history, and contact details.
- Ability to upload and store patient documents (e.g., ID, insurance, consent forms).
- Record patient diagnoses and treatment plans.
- Maintain a log of patient appointments, scheduling, and visit history.
- Generate and manage outpatient (OPD) and inpatient reports.
- Record and manage patient discharge information and generate discharge slips.

3. Financial Management:

- Cash receipt generation for various services, including consultation fees, lab fees, radiology fees, room rent, and operation theater charges.
- Invoice generation and management for patients, insurance companies, and third-party payers.
- Track and manage billing and payment history for each patient.
- Integration with payment gateways for online payments.
- Generate financial reports, including revenue, expenses, and profit/loss statements.

4. Lab and Radiology Management:

- Manage lab services, including sample collection, analysis, and reporting.
- Generate lab reports with test results.
- Track and manage radiology services, including X-ray fees.
- Store radiology images and reports.
- Integration with lab equipment for automated data entry.

5. Service Management:

- Ability to create, update, and delete various medical services (e.g., consultation, surgery, diagnostic tests).
- Set pricing and fee structures for services.
- Maintain a catalog of available services and their descriptions.

6. Room and Bed Management:

- Manage room allocation and availability.
- Assign beds to patients.
- Track room and bed charges.
- Generate occupancy and availability reports.

7. Reporting and Analytics:

- Generate various reports, including patient history, financial reports, and service utilization reports.
- Provide data analytics tools for decision-making.
- Export reports in different formats (PDF, Excel, etc.).

8. Security and Access Control:

- Ensure data security and compliance with healthcare regulations (e.g., HIPAA).
- Implement role-based access control for different user types.
- Audit trail for tracking user actions and data modifications.

9. Integration and Compatibility:

- Integrate with external systems (e.g., insurance providers, pharmacies).
- Ensure compatibility with different devices and browsers.

10. Support and Maintenance:

- Provide ongoing technical support and maintenance services.
- Regularly update the system to address bugs and security vulnerabilities.

11. Training and Documentation:

- Provide training for hospital staff on how to use the system.
- Create comprehensive user and administrator documentation.

12. Backup and Disaster Recovery:

- Implement regular data backups and a disaster recovery plan.

13. Scalability:

- Design the system to accommodate future growth and additional features.

These TORs provide a comprehensive outline for the development of HMIS. The software development company should consider these requirements as a foundation and work closely with the healthcare facility to customize and refine the system based on their specific needs

Additional Terms of Reference (TORs) to address multi-tenancy:

To support multiple hospitals nationwide with individual hospital login and management, we will need a multi-tenancy feature in our Hospital Management Information System (HMIS). This feature will allow each hospital to have its own separate instance within the system while sharing common functionalities.

1. Multi-Tenancy Support:

- Implement a multi-tenancy architecture to support multiple hospitals or healthcare facilities.

2. Hospital Registration and Management:

- Enable individual hospital registration within the system.
- Allow designated administrators from each hospital to manage their hospital's information.
- Hospital-specific customization for billing details.

3. User Management for Hospitals:

- Hospital administrators can manage users and roles specific to their facility.
- Users from one hospital should not have access to data from other hospitals.

4. Data Isolation:

- Ensure strict data isolation between hospitals to maintain patient confidentiality.
- Hospital-specific patient records, financial data, and reports.

5. Super Admin Role:

- Create a super admin role with the ability to oversee all hospitals and their administrators.
- Super admin can assign roles and permissions to hospital administrators.

6. Centralized Reporting:

- Provide a centralized reporting dashboard for the super admin to access aggregated data and reports across all hospitals.

7. Hospital-Specific Reporting:

- Each hospital should have access to its own customized reports and analytics.

8. Billing and Accounting by Hospital:

- Separate billing and accounting for each hospital's financial transactions.
- Generate financial reports for each hospital individually.

9. Integration with Hospital Systems:

- Ensure seamless integration with each hospital's existing systems and workflows.

10. Centralized Updates and Maintenance:

- Implement a system for central updates and maintenance across all hospitals.
- Schedule maintenance during off-peak hours to minimize disruption.

11. Scalability for New Hospitals:

- Allow for easy onboarding of new hospitals as our network expands.
- Streamline the setup process for adding new facilities.

12. Disaster Recovery and Data Backup per Hospital:

- Implement individual disaster recovery plans and data backup for each hospital.

13. Compliance and Regulations:

- Ensure that the system complies with healthcare regulations and standards in each region where hospitals are located.

14. Support for Hospital-Specific Workflows:

- Customize the system to accommodate specific workflows and processes of each hospital.

15. Training and Support by Hospital:

- Provide training and support tailored to the needs of each hospital.

17. Cross-Hospital Data Sharing (if needed):

- Allow for secure data sharing between hospitals for cases where patient transfers are required.

18. Role-Based Access Control by Hospital:

- Ensure that each hospital can define its own role-based access control policies.

By incorporating these additional TORs, our web-based HMIS will be equipped to support multiple hospitals nationwide with individual hospital login and management capabilities. This will enable each hospital to have autonomy over its data and operations while benefiting from shared functionalities and centralized oversight where necessary.

Implementing partner experience:

Following are some key expertise and experience requirements for a development company:

Custom Software Development:**Technology Stack & Experience:**

- Preferably Laravel (backend), Node.js, Vue.js and MSSQL (database)
- Hospital Management Information System (HMIS) development/deployment company must have at least 3 years of working experience in Hospital management solutions development.
- Deployment company must have at least 3 HMIS development/deployments, additional development/deployments will be given preferences
- Implementation references must be provided in bid/tender document
- HMIS should be LAN/WAN based system

Security Expertise:

- Healthcare systems deal with sensitive patient data, so the development company must have expertise in building secure applications and adhering to data protection standards.

UI/UX Design:

- A good user experience is critical in healthcare applications. Looking for a company that can design user-friendly interfaces.

Testing and QA:

- The development company should have a robust testing and quality assurance process to ensure the reliability and accuracy of the HMIS.

Client References:

- References and case studies from previous healthcare projects to gauge the company's success and client satisfaction.

Support and Maintenance:

- Ensure that the development company will provide ongoing support and maintenance services to address issues and updates after the system is live.

Project Management:

- The development company should have effective project management practices to ensure timely delivery and efficient communication.

Software copy rights

- All software codes and copy rights shall be transferred to RFPAP for HMIS solution.
- DB Table references shall be shared in manual
- All software documentation including functional and source code details shall be property of RFPAP
- Implementing party shall share source code and software maintenance complete documentation with FPAP