TERMS OF REFERENCE
TECHNICAL SUPPORT FOR THE DEVELOPMENT AND INTEGRATION OF DIGITAL PRIMARY HEALTH CARE SERVICES

I. BACKGROUND

The Government of the Kyrgyz Republic has declared digital transformation of the healthcare sector a national priority aimed at ensuring equitable access to quality medical services, enhancing efficiency in service delivery, and improving transparency and accountability. In this regard, the Ministry of Health of the Kyrgyz Republic is implementing a comprehensive digital effort within the Primary Health Care (PHC) system, recognized as the foundation of a resilient, patient-centered national health system.

As part of the Sanarip MED 2.0 Digital Development Target Model (Digital Health Strategy, adopted by the Ministry of Health), significant efforts are being made to automate key services, strengthen interagency data exchange between the health sector and related domains such as education, labor, and social protection.

One of the central platforms supporting this transformation is the “Sanarip Clinic” information system, which is being rolled out across PHC organizations nationwide. The system enables digital medical records, clinical workflows, appointment scheduling, patient management, and administrative reporting. To ensure seamless and citizen-friendly access to health services, the Ministry of Health is also leveraging the State Interagency Electronic Interaction System “Tunduk” and its associated Public Electronic Services Portal and mobile application, which serve as a unified gateway for digital public services.

In this context, the Ministry of Health has identified the need to develop and implement four digital services, which will be integrated into the “Sanarip Clinic” information system and made accessible to the public through the “Tunduk” digital platform:

- **Online Request for Doctor Home Visit Module** – enables citizens to remotely submit requests for in-home medical consultations, with automated routing to the relevant health facility.
- **Digital Medical Certificate 086/u Module** – facilitates electronic issuance and verification of medical certificates required for university admission or employment.
- **Digital Medical Certificate 095/u Module** – digitizes medical certificates of temporary incapacity for schoolchildren and students in cases of illness or quarantine.
- **Online Patient Assignment to PHC Module** – allows citizens to assign remotely with a primary health care organization based on their residence or preference.

These digital solutions are expected to:

- Improve the accessibility and responsiveness of PHC services.
- Reduce administrative burden on both citizens and healthcare providers.
- Enable real-time, verifiable access to medical documentation.
- Strengthen digital integration between health and other government sectors.
- Contribute to national e-governance efforts and accelerate progress toward Sustainable Development Goals (SDGs) on health, innovation, and inclusive public service delivery.

The World Health Organization (WHO) is providing technical assistance to the Ministry of Health in the development and implementation of these services under the Joint UN Programme "Bridging the Digital Health Divide in the Kyrgyz Republic".

II. OBJECTIVES OF THE ASSIGNMENT:

To design, develop, and deploy four digital PHC services enabling citizens to remotely access key medical services, reduce administrative burden, and strengthen real-time coordination between health and public institutions.

1st set of tasks: Online Request for Doctor Home Visit Module

Objective:
To enable online doctor home visit requests via the "Tunduk" mobile application with automatic routing in the Sanarip Clinic system.

Components:

1. Drafting the Regulation on online doctor home visits considering the digital process.
2. Development, discussion, and approval of technical requirements for the Sanarip Clinic module.
3. Creation of interface mockups.
4. Development of the module within Sanarip Clinic information system.
5. Development of API for Tunduk for:
    - Request submission.
    - Request status tracking.
6. Preparation of user manuals and video tutorials.

2nd set of tasks: Digital Medical Certificate 086/u Module

Objective:
To digitize medical certificate 086/u for applicants and job seekers, with the creation of a registry and interagency data exchange.

Components:

1. Support in drafting the Regulation on digital certificate 086/u.
2. Development, discussion, and approval of technical requirements.
3. Creation of interface mockups.
4. Development of the module in Sanarip Clinic Information System;
5. Creation of the digital certificate registry.
6. Development of Tunduk APIs for:
    - Data transfer to government IS;
    - Displaying the certificate in the Tunduk mobile app.
7. Preparation of user manuals and video tutorials.

3rd set of tasks: Digital Medical Certificate 095/u Module

Objective:
To digitize certificate 095/u on temporary incapacity (sick leave certificate) for students and children in schools and preschools.

Components:

1. Support in drafting the Regulation on digital certificate 095/u.
2. Development, discussion, and approval of technical requirements.
3. Creation of interface mockups.
4. Development of the module in Sanarip Clinic Information System.
5. Creation of the digital certificates register.
6. Development of API to Tunduk Intergancy Electronic Interraction System for:
    - Transmission to educational institutions.
    - display in the Tunduk mobile app.
7. Preparation of user manuals and video tutorials.

4th set of tasks: Online Patient Assignment to PHC Module

Objective:
To ensure remote registration of citizens to PHC organizations via the Tunduk mobile application with automatic data synchronization.

Components:

1. Support in drafting the Regulation on online patient registration to PHC;
2. Development, discussion, and approval of technical requirements for the Sanarip Clinic module;
3. Creation of interface mockups;
4. Implementation of the module in Sanarip Clinic;
5. Development of Tunduk integration services for:
    - citizen data verification.
    - confirmation or rejection of registration.
    - notifications to citizens.
6. Preparation of user manuals and training videos.

III. DELIVERABLES

D1: Report on completion of 1st set of tasks and Acceptance by the Ministry of Health
D2: Report on completion of 2nd set of tasks and Acceptance by the Ministry of Health
D3. Report on completion of 3rd set of tasks and Acceptance by the Ministry of Health
D4: Final Report on completion of all 4 sets of tasks and Acceptance by the Ministry of Health

IV. TECHNICAL REQUIREMENTS

Technologies:

- Programming language: C#
- Platform: .NET Core
- Database: PostgreSQL
- Frontend: Vue.js.
- Web services and API: RESTful API.

Security and data protection:

- All data transmitted and stored in the system must be protected using modern security standards.
- Use of authentication through secure mechanisms.
- Protection of services from SQL injections.
- Measures to prevent automated queries.

Performance and scalability:

- The developed components and modules must be adapted to possible high load, support scalability for processing large amounts of data (for example, requests for generating certificates).
- Using caching to improve performance.
- Ensuring stability, load balancing, and fault tolerance of the on-prem system installed in the internal data center.

Integration with external systems:

- The systems must be integrated with the Public Electronic Services Portal «Tunduk» and mobile application “Tunduk” using secure APIs.
- Use of the HTTPS protocol to ensure the security of data exchange between the developed modules of the system with users.
- The modules must be part of the current information systems of the Ministry of Health of the Kyrgyz Republic and should be integrated with the state platform Tunduk.

Code quality:

- The code must be written in compliance with clean code principles.
- It is necessary to provide unit tests using modern testing methods.

Support:

- 6-month post-deployment support.
- Monitoring logs and system performance.

V. QUALIFICATION REQUIREMENTS FOR THE ORGANIZATION

Experience:

At least 2 years of relevant experience in the following areas:

- Development and implementation of information systems or digital services.
- Design and deployment of web-based platforms and mobile applications using modern technologies (e.g., .NET Core, PostgreSQL, Vue.js).
- API development and integration with national platforms such as Tunduk or similar interagency system.
- Ensuring information security, data protection, and system interoperability in government or health sector projects.
- Experience working with WHO or other international organizations shall be an asset.

Skills/knowledge:

- Understanding of the country's health IT systems.
- Capacity to deliver clean, maintainable code.
- The team must include at least one staff member with prior experience working in public sector institutions.

Other requirements:

- Ability to conduct at least 2 on-site visits to medical institutions in Kyrgyzstan to collect the necessary information. Such travel expenses must be included in the financial proposal.
- Documentary support for the work performed within the framework of the assignment (development of guidelines, directives, standards, technical conditions, draft orders of the Ministry of Health, etc.).

Languages:

- Staff of the organization shall be fluent in Russian.
- Staff of the organization shall be fluent in Kyrgyz.