

Improving the modularity of openIMIS to the Nepali healthcare context for a successful UHC

Two-Sentence Overview

The primary goal of this project is to mitigate the issues of the rudimentary legacy back-end coding of the open IMIS platform to more sustainable open source languages and frameworks. The additional goal will be to enhance interoperability between existing HMIS frameworks in the country context of Nepal.

management4health (m4h) and HISP South Africa (SA) will provide counterbalancing resources for the business processes, schematic concepts, administrative modelling, financial expertise and technical whereabouts for the successful completion of the key objectives of the various components of this project.

The team has tremendous experience in developing the Social Health Insurance scheme, Digital Health Systems, Master Plan Development and DHIS2 implementation through its various international projects. Additionally, the team has immense technical experience in developing interoperable HIT products and has demonstrated success in achieving country and subnational harmonization through the establishment and maintenance of key databases such as National Data Dictionaries, minimum indicator data sets, routine information and surveillance systems.

Executive Summary

Health Insurance is a key component of the Universal Health Coverage goal, because UHC is a complex ecosystem of multiple macro and micro components. So, for a successful road map to UHC, a successful social health insurance will form a key building block. Interoperable, open-sourced platforms will ensure that the process of universal health insurance adoption, implementation and sustainability are progressive and effective. The key objective of this project is to utilize the power of open source technologies to ensure equitable access and benefits to the healthcare system of Nepal.

The resources allocated for this project will be effectively utilized for the purpose of developing interoperable modules in the open IMIS with Nepal specific detailing. Additionally, the consortium understands that key in the sustainability of this project will be the monitoring, evaluation, iteration, training and future technical support and the resources will be allocated accordingly.

The project's key goals will be to ensure that the technical expertise of the technical team will be used to create an interoperable and highly modular system, and to ensure that the level of interoperability will be good enough to use the this flexible and modular framework not only to the requirements of Nepal, but also to other countries with minimal customization. Also, to improve iteration and sustainability, the framework will be developed with the help of agile open source community of open IMIS.

Our team will base this project on these key fundamental principles:

- 1. Core concepts of developing the existing framework and migrating to complete open source tools and applications,*
- 2. Create an adequate level of interoperability among various HMIS using international open and standards-based approaches based on a Health Information Exchange (HIE) with a mediation layer like OpenHIM, interoperability adapters like HL&'s FHIR, and consuming standardized profiles such as those of Integrating the Healthcare Enterprise (IHE)*
- 3. Introduce features of sustainability like continuous iteration of the modules, training and support,*
- 4. Continue to develop a fully modular structure which can be customized to other country needs and demands*

Based on these solid backbones of the core project principles, the project can be successfully delivered through the following phases.

Phase 1: Leadership, coordination and assessment, including the development of a consensus Business Requirements Specification (BRS) document that will guide the development life cycle

Phase 2: Priority-setting and planning

Phase 3: Technical development of the modules and use of open source tools

Phase 4: Implementation and monitoring

Phase 5: Continuous evaluation, support and training.

The consortium will work through these 5 phases and will deliver the key demands and the requirements of this project and will also ensure that the users are effectively trained for sustained use in the healthcare set ups of Nepal.

Consortium Team

*In this project, **m4h as a lead will partner with HISP SA to effectively tackle the challenges and deliver the key deliverables in terms of quality and on time.***

***management4health GmbH (m4h)** is a global consulting firm based in Frankfurt, Germany, with in-house expertise working in close collaboration with an extensive global network of specialized experts to design, implement, monitor and evaluate healthcare projects and programs. It's scope of services encompasses Health Infrastructure, Health Services, Health Systems, and Health Information and Research. **HISP-SA (Health Information Systems Program South Africa)** is a Non-Profit Company (NPC) that specializes in the development and maintenance of health information systems. HISP SA has partnered with local organizations, universities, and ministries of health in Namibia, Botswana, Nigeria, Southern Sudan, Malawi, Zimbabwe, Zambia, Liberia, Uganda, DRC (in French) and in South East Asia (India and Myanmar), and through these partnerships have developed local teams of health information practitioners.*

***m4h** has been able to establish a strong track-record in the Nepalese health sector through its various projects like 'supporting the DoHS for maintenance' and 'implementing the Improvement of Maternal and Child Care in Remote Areas (IMCCR)'. **m4h** will play a key role in all the above visualized project phases (Phase 1 through 5). **HISP SA** has demonstrated success in achieving country and subnational harmonization through the establishment and maintenance of key databases such as National Data Dictionaries, minimum indicator data sets, routine information and surveillance systems. The key technical expertise of HISP will be of tremendous support during the phases 3, 4, and 5.*

Project Description

Universal Health Coverage in Nepal will require the development of a well-groomed and nationally adopted Social Health Insurance system. Adopting legacy and proprietary systems for this purpose has encountered difficulties during country wide implementation and lacked sustainability. The various modules of the openIMIS which contain shades of legacy codes needs to be migrated to complete open source codes for continuous iteration, modularity and support from the open source community. Developing modules in the Nepalese context with added modularity will enable the openIMIS to be provisioned for other countries as well.

The challenges during this project will be effectively tackled by the team following a 5-phase phased approach. The team will be planned, and resources will be allocated in line with this 5-phased approach: Phase 1: Leadership, coordination and assessment, Phase 2: Priority-setting and planning, Phase 3: Technical development of the modules and use of open source tools, Phase 4: Implementation and monitoring and Phase 5: Continuous evaluation, support and training.

Each of the 5 phases mentioned above will be tactically performed by performing these steps - Convening stakeholders and undertaking performance assessments, Identifying requirements and indicators, Describing requirements and tools at different levels and modules, Matching requirements to data sources, Ensuring the quality of open IMIS modules, Synthesizing, analyzing and using information. m4h will closely liaise with HISP SA in effectively executing these steps and utilizing their core technical expertise for effective outcomes.

The team understands the key importance of not only the development and the implementation of the required modules, but also puts a lot of emphasis on the evaluation and monitoring of the modules. The team will closely monitor and assess the degree to which there is improved coordination between country's stake holders, the users, beneficiaries and the other external partners. This will be performed through a series of roundtables, conferences and workshops. The team also plans to provide a greater coherence in overall information demands. This will lead into a renewed cycle of prioritization, planning and implementation. A national workshop will also be convened to finalize and endorse the reprogrammed action plan.

The key deliverables will be the migration of the legacy patches in the openIMIS platform, effective, implementation, training, sustainable, scalable and modular interface satisfying all the key requirements of the country, continues iteration and technical support for the users. These key phases will be successfully delivered over a period of 15 to 18 months and will be supported and monitored for an additional 6 months to ensure sustainability.

Because of the involvement of a variety of stake holders and the open source community, a major risk for the successful completion of this project will be conflicted communication and decision making. As with our other projects, our project charter for this project will present a well-structured communication matrix with well-defined and structured members and their roles in the project communication. The project charter that we will develop will 'SMART' ly define the project scope in terms resources, timelines and activities. Stakeholders might lose interest in the development process and this will be mitigated by conducting a series of roundtables and sessions with experts and stake holders. Technical risks like poor UX, vulnerabilities etc., will be effectively tackled by our technical team.

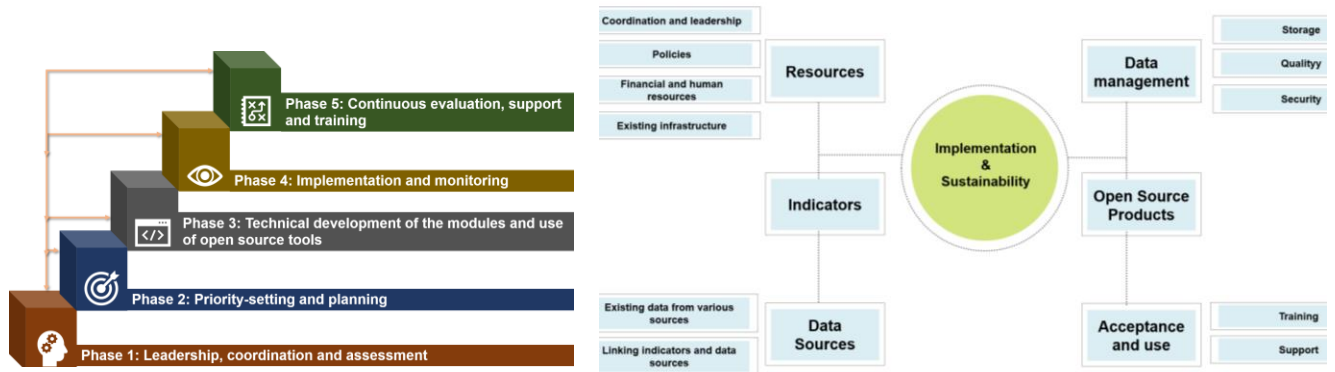


Figure 1,2:- Key phases of the project and the intertwined activities for successful and sustainable implementation