

資源受限環境下的 MaHIS 文件標準化與 AI 工具開發

MaHIS Document Standardisation and AI-Assisted Tool Development in a Resource-Constrained Setting

實習單位：LUKE INTERNATIONAL IN MALAWI

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Background and Challenge

1. Policy and Document Analysis

I reviewed Malawi's health policies and MaHIS documents to understand their roles in service delivery, data governance, and public health decision-making, while identifying problems in document structure and traceability.

2. Document Standardisation and BPMN Development

The OPD and IPD documents were reorganised, and their workflows were converted into BPMN diagrams. This made requirements, staff roles, and information flows clearer, with the aim of supporting more efficient communication, document revision, and healthcare workflows.

3. AI Testing and Local Comparison

AI outputs were repeatedly tested and developed into two reusable Skills for document standardisation and BPMN development. Field observations were used to compare the documents with actual workflows and consider whether the outputs were suitable for a resource-limited setting.

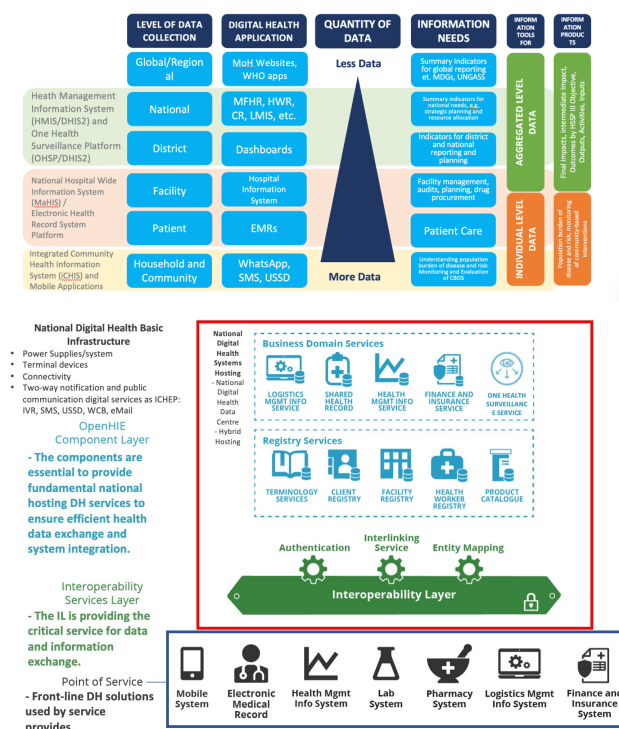
Health Information System in Malawi

In the past, many digital health tools in Malawi were developed separately by different disease programmes and partner organisations. These tools were used for clinical services, data collection, monitoring, and evaluation. However, this also led to fragmented systems, repeated functions, and difficulties in exchanging health information.

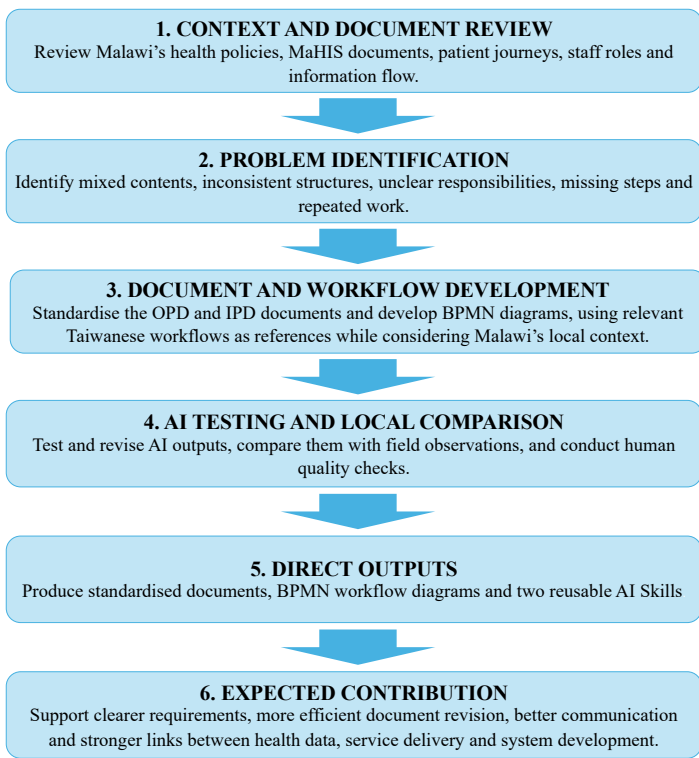
To reduce this fragmentation, the Malawi Ministry of Health is developing the Malawi Healthcare Information System (MaHIS). The aim is to build an integrated, interoperable, and country-led health information system that connects health services and data across different levels:

- **Community level:** Community health services and outreach activities
- **Health facility level:** Outpatient, inpatient, laboratory, pharmacy, and administrative services
- **District level:** Service coordination, quality management, and disease control
- **National level:** Policy planning, monitoring and evaluation, and resource allocation

Malawi HIS Architecture & Digital Health Application Standards for Health Services and HSSP3, 2022



Process and Output



Local Observation | Public Health Issues

During the internship, I noticed that public health problems were closely connected with daily infrastructure and available resources.

- **Waste management:** Rubbish was sometimes left by the roadside or burned in open spaces. These practices may have worked differently in the past, but modern plastic waste creates new environmental and health risks.
- **Health information:** Paper Health Passports and digital systems were used together. This helps services continue when technology is unavailable but may also cause repeated work or missing information.

These were personal observations rather than results from a formal study, but they showed how infrastructure, environment and communication can shape health services in a resource-limited setting.

