

Certificate in Applied Health Informatics — Foundations of Health Informatics

Duration: 4 Weeks**Time Commitment: ~3–4 hours/week****Target Audience: (Program-defined)**

Course Description

Focuses on foundational principles of health informatics with emphasis on LMIC systems. Introduces the history, scope, and value of health informatics across clinical care, public health, and research. Emphasizes how people (workflow roles), process, and technology work together, including real-world implementation challenges; compares paper, hybrid, and digital environments, with examples from both U.S. and LMIC settings.

Learning Objectives

- By completion, learners will:
- Define health informatics and differentiate it from health IT and digital health.
- Describe core domains (clinical, nursing, public health, research), identify workforce roles and competencies
- Analyze simple case studies to identify informatics opportunities and pitfalls, recognize socio technical factors in health informatics and common challenges in diverse settings and propose practical improvements
- Explain data flow in health systems

WEEK 1: What is Health Informatics?

Topics

- Definitions, concepts & domains
- Informatics vs IT vs Digital Health
- Socio-technical perspectives
- Clinical, public health, research informatics
- Informatics = people + process + technology

Live Session Focus

- Story: Fragmented cancer patient journey
- Mapping where data is created in learners' facilities ("as-is to be")

Real-World Examples

- Paper oncology registry in Nigeria
- Excel-based patient tracking system

Assessment

Reflection: "One informatics gap in my facility"

WEEK 2: Health Systems & Data Flow

Topics

- Patient journey
- Data lifecycle
- Paper vs digital vs hybrid systems

Live Session Focus

- Draw your facility's data flow

Real-World Examples

- Referral delays due to missing records

Assessment:

Data flow mapping assignment

WEEK 3: Roles, Competencies and Workforce & Frameworks

Topics

- WHO Digital Health Workforce Framework and Career pathways
- OpenHIE overview

Live Session Focus

- Learners map informatics roles locally

Assessment:

Discussion forum (workforce gaps)

WEEK 4: Informatics in LMICs

Topics

- Infrastructure constraints
- Leapfrogging opportunities
- Case studies (Nigeria + East Africa)

Live Session Focus

- Case study analysis: Why projects fail

Assessment

Quizzes (20%)

Discussion (20%)

Reflection Paper (30%)

Final Quiz (30%)