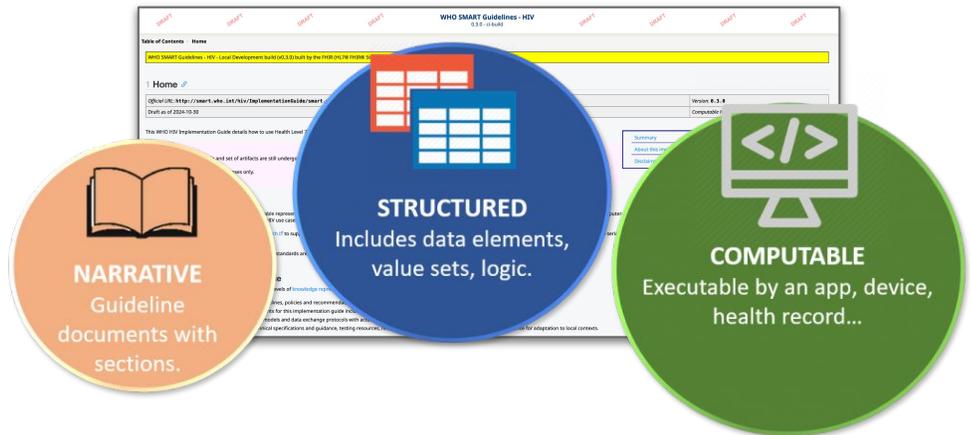


## WHO SMART Computable Care Guidelines for HIV



### GOAL

These machine-readable guidelines are designed to streamline the process of implementing HIV clinical recommendations into digital health information systems that collect client/patient data. By doing so, we aim to enhance the efficiency and accuracy of data collection and management, ultimately improving patient care and health outcomes. The guidelines for HIV cover a range of issues necessary logic for indicator generation and clinical decision support (CDS). Logic is expressed in CQL, a platform agnostic language for operationalizing FHIR resources and objects, reference terminologies, and indicator calculations.

### CREATING SMART GUIDELINES

DIGI led the technical development of HIV SMART Guidelines development with technical expertise and documentation from the World Health Organization (WHO), current WHO SMART implementation partners (working in other disease areas such as ANC and Immunization), other global good platforms (such as Open Concept Library and Open Health Stack) and with feedback from in-country HIV implementation partners.

Components that have been developed in coordination with DIGI include:

- 1) Tools for automating updates from structured guidelines into a FHIR Implementation Guide, CQL for indicator generation and CDS, and the generation of appropriately mapped terminologies in a format that works with the Open Concept Lab.
- 2) Testing harness for ensuring logical consistency

indicators and CDS



Scan to view HIV SMART  
Computable Care Guidelines

### COLLABORATORS

HIV SMART is funded by the World Health Organization (WHO). DIGI is supporting HIV SMART development of L3 (machine readable guidelines) through publication of a HIV SMART Implementation Guide (IG), CQL generation, logic testing, terminology management, and user guidance. DIGI is also supporting the development of L4 (executable guidelines) through piloting CDS in DIGI-stewarded OpenMRS platforms. UW DIGI is also collaborating with various technical and implementation partners, as well as Ministries of Health (MoH), in HIV SMART implementation.

### INSIGHTS & IMPACT

For indicators, correct and consistent calculations enables true comparability of progress towards controlling the HIV epidemic at local, national, and global levels. Using FHIR for data storage and CQL for indicator generation logic standardizes how data will be counted. Guidelines can be controlled through centralized, routine updates to ongoing guidance while ensuring flexibility for localization to fit specific country contexts.

For CDS, standardized rules for patient treatment ensure that system implementing the SMART Guidelines are able to give clinical workers appropriate guidance at key points in patient care. Examples of rules include checks for appropriateness of PEP and PrEP, rules that, if certain conditions are present, ensure that the patient is checked for comorbidities, and rules related to ART treatment safety.

To learn more about DIGI,  
visit [uwdigi.org](http://uwdigi.org) or  
[healthinformationexchange.org](http://healthinformationexchange.org)



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### ABOUT DIGI

The Digital Initiatives Group at I-TECH (DIGI) envisions a world where health workers, clients, and communities are empowered with information that improves the quality, equity, and efficiency of health care services. DIGI brings a seasoned, multi-disciplinary team with a love of learning and with experience in strengthening national-scale health information systems and implementing digital health interventions around the world. We are committed to collaborating with global communities of practice to develop and enhance digital tools and provide technical assistance for effective implementation and sustainability.

### DIGI MISSION

- > Deliver innovative, appropriate, and user-centered digital health solutions that accelerate improved health outcomes
- > Improve access to information and support decision-making by health workers, clients, and communities
- > Collaborate with global communities of practice to develop and enhance digital tools
- > Provide technical assistance for effective implementation and sustainability

### PORTFOLIO FOCUS AREAS

#### DIGITAL HEALTH SYSTEMS

- > Digital health planning, implementation, and management
- > Digital health and mHealth design, engineering, quality assurance, and security
- > eHealth (enterprise) architecture and interoperability design, engineering, implementation, and management
- > National data repositories and secondary data use pipelines
- > Data analysis and data visualization
- > Technical project management

#### WORKFORCE DEVELOPMENT

- > Informatics and technical upskilling, capacity strengthening
- > Instructional design and training, fellowship, and academic program development
- > Informatics leadership strengthening

#### GOVERNANCE

- > eHealth strategic planning
- > Digital health / eHealth technical working group formation, management, and facilitation
- > Digital health guidelines and policy development
- > HIS and informatics standards development and application
- > Quality Assurance programs
- > Conformance planning, execution, and management
- > Budgeting and costing support for digital health and informatics projects

#### EVALUATION and ASSESSMENT

- > Impact and process evaluation for digital health and informatics projects
- > Quality improvement development and implementation
- > Program evaluation (M&E) development and execution
- > HIS / Digital health product assessment

