

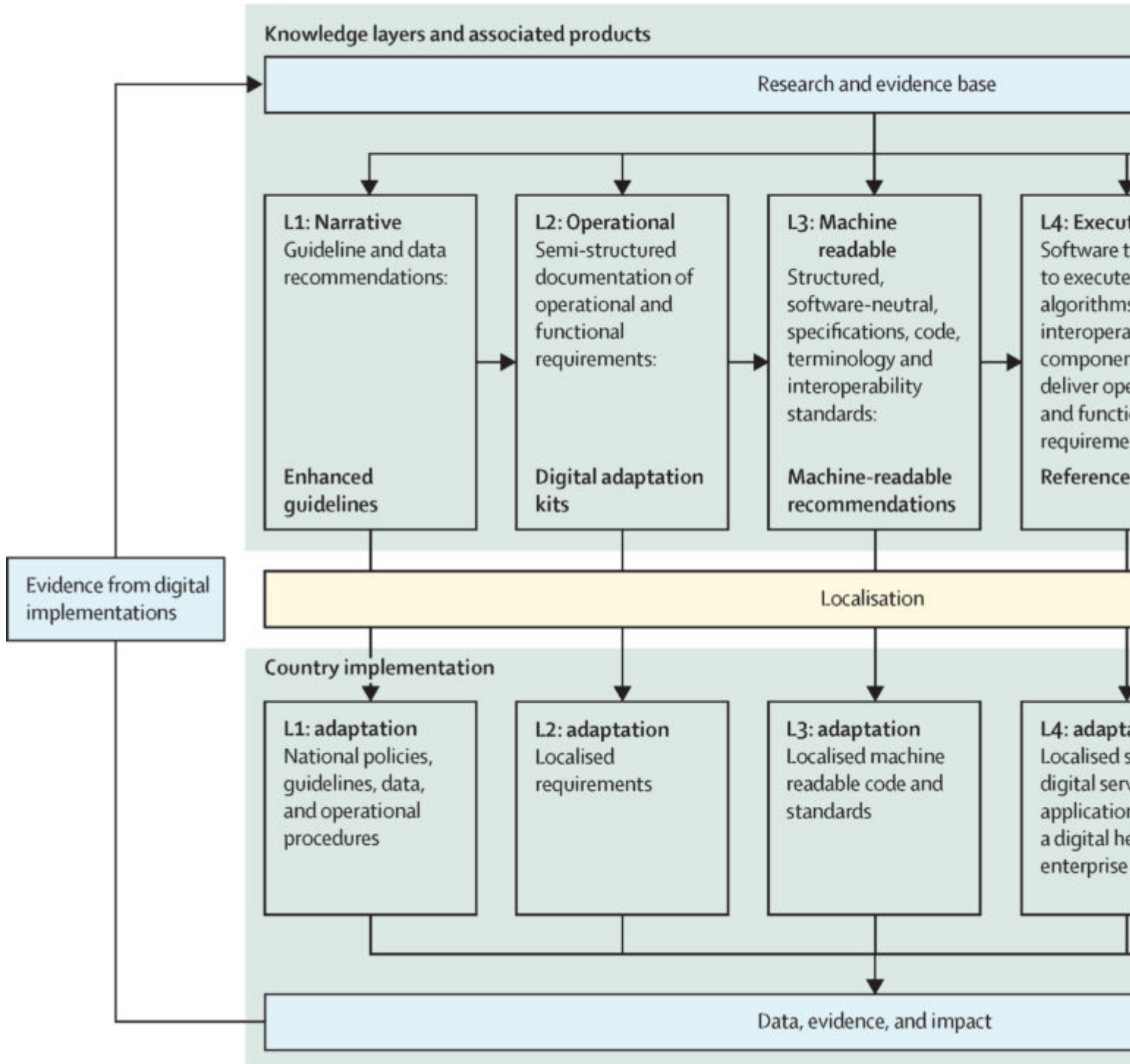
WHO SMART guidelines - standards-based, machine-readable, adaptive, requirements-based, and testable – comprise of documentation, procedures, and implementation of evidence-based recommendations through digital systems. Use of SMART guidelines results in standards-based, interoperable services and become part of stronger, more sustainable health information enterprises. In digital systems, SMART Guidelines improve quality of health content and facilitate appropriate decision support, and calculation of indicators across geographies. SMART guidelines content is, by design, software-neutral, formulated for adaptation and has elected to use, within an exchanged digital health enterprise architecture.

To support the adoption of WHO normative guidance, including evidence-based recommendations, with fidelity in digital systems. SMART guidelines are a package into a format that facilitates translation of clinical, public health, and data recommendations into digital systems. They also leverage open interoperability standards across countries' digital systems.

There are 5 layers of the SMART Guidelines components:

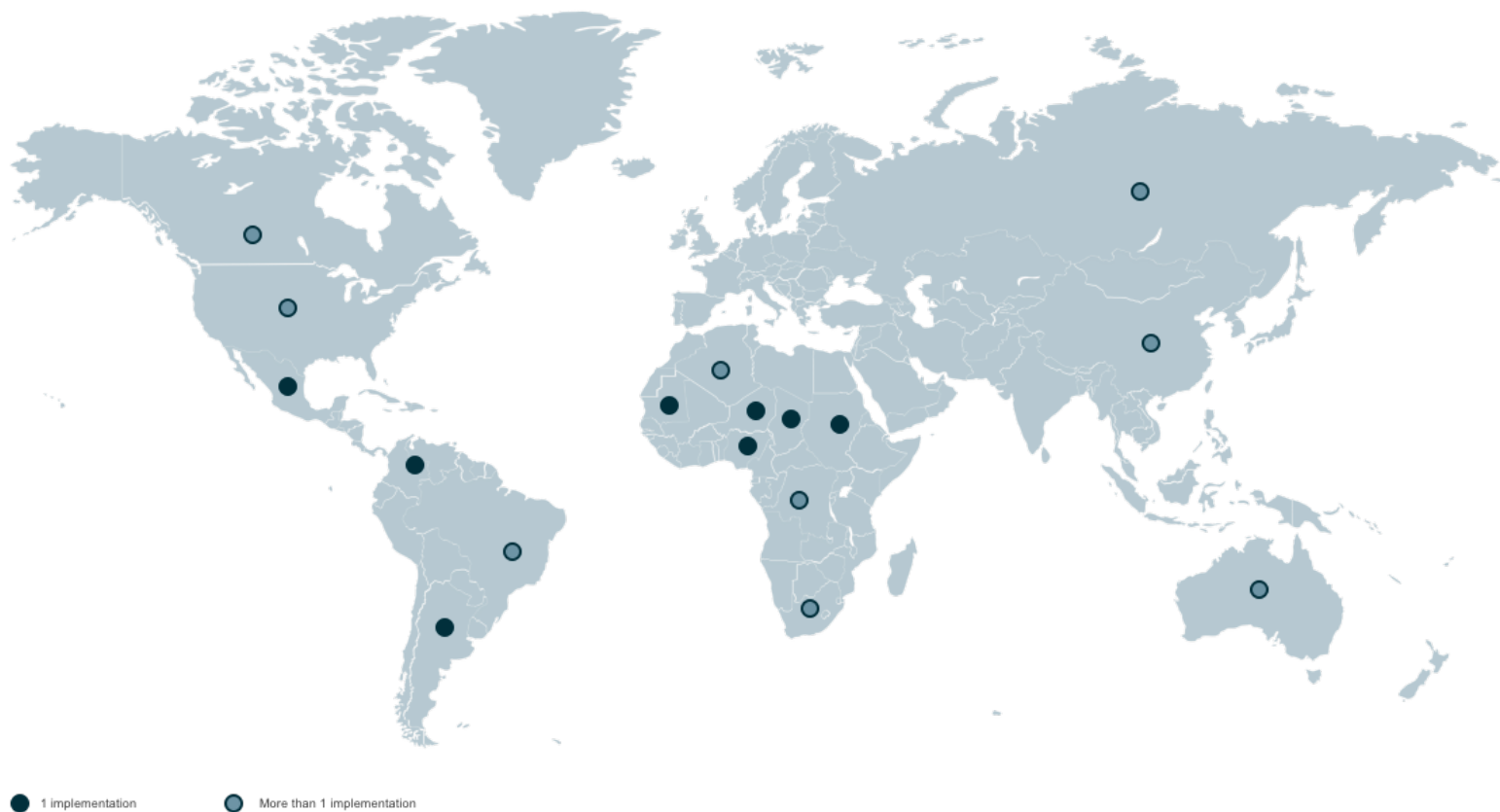
- L1: Narrative - Narrative Guidelines: Evidence-based recommendations and accompanying implementation and data guidance.
- L2: Operational - Digital Adaptation Kits: "Human readable" software-neutral documentation of operational and functional requirements (e.g. personas, workflows, algorithms, minimum data sets, priority metrics, listing of relevant health interventions, functional requirements).
- L3: Machine readable - Machine readable recommendations: Structured software-neutral specifications, code, terminology and interoperability standards.
- L4: Executable - Reference software: Software that are able to execute static algorithms and interoperable digital components to deliver the operational and functional requirements.
- L5: Dynamic - Precision health model: Executable dynamic algorithms that are trained and optimized with advanced analytics to achieve prioritized outcomes.

WHO SMART guidelines approach



Geographic Reach & Impact

SMART Guidelines are intended for a global audience and have reach to all countries. They have also been localized, adapted and implemented at a global scale across various regions and countries. Countries that we are aware of, that have included or referenced the content as part of their Digital Health strategy or related framework, digital transformation roadmaps, or have begun the adoption of SMART Guidelines content into their digital health systems, or have included the content as part of training programs include: Zambia, Zimbabwe, Malawi, Nigeria, Kenya, Ethiopia, Ghana, Rwanda, Iraq, Cameroon, India, Burkina Faso and Brazil. In addition, we are aware that 96 countries have adopted the Digital Documentation of COVID-19 Certificates guidance.



Standards & Interoperability

The content includes information on health standards in the form of the WHO guidelines and publications. The content also includes information on interoperability standards for data exchange, specifically WHO-FIC (including ICD-11), HL7 FHIR, SNOMED GPS and LOINC and supports conformance testing of IHE workflows and profiles, namely mADX.

All WHO SMART Guidelines are reviewed by health content experts (i.e. individuals who developed the WHO Guidelines) within a clinical or public health domain. Similar to all guidance development processes, WHO SMART Guidelines are also reviewed by external reviewers (e.g., health experts from other agencies) and/or experts in health interoperability standards.

STANDARDS

ADX, HL7 FHIR, ICD-11, LOINC, SNOMED

OPENHIE COMPONENT

Not Applicable

Maturity

All maturity model assessments are self-reported by the funded organization leading the content development of the global good.

Maturity Matrix: 2023

Global Utility

Country Utilization	High
Country Strategy	High
Classifications Mapping	High
Content Accessibility	High
Sustainability and ongoing support	Medium

Community Support

Organizational & Community engagement	Medium
Content Governance	Medium
Content Roadmap	Medium
Resources to support use	Medium
Multilingual support	Medium

Software Maturity

Content Productization	Medium
Reuse & adaptability	Medium
Alignment to global normative agencies	High

Resources

WHO SMART Guidelines overview

<https://www.who.int/teams/digital-health-and-innovation/smart-guidelines>

WHO SMART Guidelines

<https://smart.who.int/>

SMART Implementation Guide Starter Kit

<https://github.com/WorldHealthOrganization/smart-ig-starter-kit/wiki>

Digital Adaptation Kit for HIV

<https://www.who.int/publications/i/item/9789240054424>

Digital Adaptation Kit for Family Planning

<https://www.who.int/publications/i/item/9789240029743>

Digital Adaptation Kit for Antenatal Care

<https://www.who.int/publications/i/item/9789240020306>

Community

The SMART Guideline community includes 200+ technology developers and technology partners who have contributed to building tools to author SMART Guidelines content, as well as the community of developers contributing to the SMART ecosystem related to country uptake and adaptation. It consists of WHO experts, technology developers, representatives from international organizations and donors, and individuals across the globe including individuals from United States, Canada, Switzerland, Nigeria, India, South Africa, Kenya, Indonesia, Ethiopia, Ghana, Cameroon, Zambia and many others.

The community is intended to inform and provide feedback to WHO on the mechanisms of authoring and implementing SMART Guidelines. Further, the community is intended to share lessons learned with each other on the challenges and paths forward for authoring SMART Guidelines.

Please contact SMART@who.int for more information.

COMMUNITY CALLS / FORUMS

The SMART Guidelines community is primarily engaged through weekly community of practice calls focused on authoring and implementing machine readable SMART Guidelines content. Additionally, the community is engaged through in-person community of practice meetings. Further, individual members of the community are engaged based on their individual expertise in WHO technical consultations.

Please email SMART@who.int to be included in the weekly working group calls.

EVENTS & CONFERENCES

WHO hosted a meeting on the sidelines of the HELINA conference in Cape Town, South Africa in November 2023 on the SMART Guidelines work. Additional events are planned.

Sustainability

All WHO SMART Guidelines are considered official WHO publications and normative guidance. WHO Headquarters is in Geneva, Switzerland, and WHO has regional and country offices around the world. The creation of content is supported through grant funding. The implementation of content is supported through a combination of donor funding and implementation funding. Over the past 5 years, the key funders/ investors include Bill & Melinda Gates Foundation, United Nations Population Fund, The Global Fund, Rockefeller Foundation, Botnar Fondation, US Centers for Disease Control and Prevention, GAVI and USAID.

Kigali Hackathon in 2023

