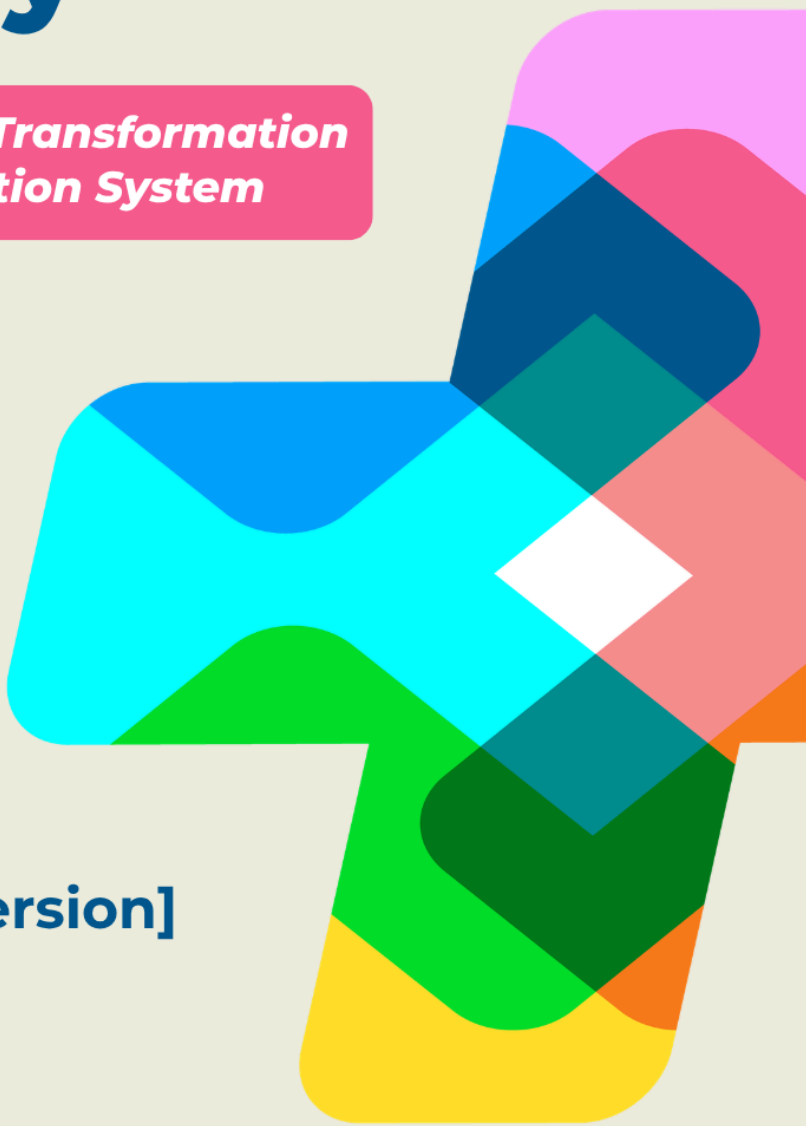
Transform Health

HEALTH **FOR ALL** IN THE DIGITAL AGE

Draft

Digital Health Investment Taxonomy

Standardised Digital Health Transformation and AI Investment Classification System



[Public Consultation Version]

A Draft Digital Health Investment Taxonomy

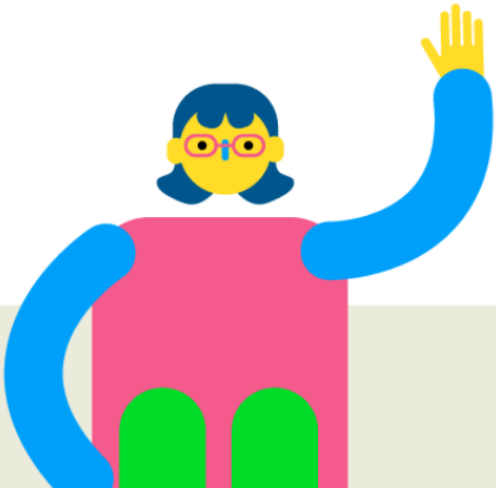
Digital health investment is growing. The challenge is whether the resources that are being committed to digital health are being directed strategically, coordinated effectively across stakeholders, and tracked in ways that allow decision-makers to learn from experience and correct course. Without a shared classification system, none of these things are straightforward. Investments remain invisible to one another, gaps go unidentified, and accountability is difficult to maintain.

This taxonomy is a practical response to that problem. It provides a common language for describing digital health investments at the level of specificity that planning and coordination actually require. It does not operate at broad sector categories that obscure what is being built, but through a structured framework of pillars, categories, and investment types that reflect how digital health ecosystems are actually constructed and funded. This taxonomy does not replace any existing financial reporting system. It occupies a distinct position in the investment lifecycle: the planning and coordination phase, which existing systems were not designed to serve.

The taxonomy is most useful when it is used collectively. Its value to any single organisation increases as more organisations adopt it, because coordination depends on shared language. A government ministry that classifies its digital health strategy using this framework gains immediate analytical clarity for its own planning. When development partners working in that country use the same framework to describe their investments, the basis for genuine coordination, such as identifying gaps, avoiding duplications, and sequencing investments coherently, becomes available in a way that has rarely been possible before.

This document represents the current iteration of the taxonomy, developed through a systematic review of existing frameworks and in consultation with international and national partners. It will be refined as implementation experience accumulates and as further consultation is done. Users are encouraged to apply it, test its boundaries against real investment decisions, and contribute to its improvement. A classification system of this kind is only as good as its grounding in practice, and practice is where its value will ultimately be determined.

The development of the Taxonomy is being led by Transform Health, with guidance and inputs from a leadership steering committee including: Global Fund, OECD, UNICEF, WHO, and World Bank.



Transform Health

Part A: Introduction

Understanding Digital Health and Digital Health Investment

Digital health encompasses the use of digital technologies, including artificial intelligence (AI), to support health system strengthening, improve health service delivery, and advance health outcomes. It includes a broad spectrum of technologies and approaches, from electronic health records and telemedicine platforms to health information exchanges, mobile health applications, data analytics systems, and AI-enabled decision support systems. Beyond these visible applications, digital health also encompasses the enabling infrastructure (networks, data centres, devices), the legislative and governance frameworks and policies that guide implementation, the standards that enable interoperability, and the workforce capacity needed to make these technologies effective.

Digital health is much more than simply deploying technology. It represents a fundamental transformation in how health systems function. When implemented effectively as part of broader health system strengthening, digital health (including AI-enabled tools) can accelerate progress toward universal health coverage by improving efficiency, expanding access, enhancing quality, and strengthening resilience.

Digital health investment refers to the financial resources committed to building, operating, and sustaining the digital health ecosystem, including AI capabilities, data infrastructure, model development, validation, and governance. Investments come from diverse sources: government budgets (both health and ICT allocations), development partner funding, private sector investments, philanthropic support, and blended financing mechanisms.

The complexity of digital health investments creates significant challenges for tracking and coordination. A single digital health initiative might include diverse components that may be funded by different sources, procured through different mechanisms, and categorised differently in budget systems, making it difficult to understand the total investment or assess whether resources are being deployed optimally.

The Need for a Digital Health Investment Taxonomy

Despite growing recognition of digital health's importance and increasing investment flows, the global digital health investment landscape remains obscure. Current tracking mechanisms lack the specificity needed to answer fundamental questions about what is being invested in, by whom, the level and balance of investment, and where there is complementarity or duplication.

Without standardised categories, it becomes difficult to assess whether investments align with stated priorities or reach the populations and health system needs that matter most; to conduct rigorous comparative analysis; or to hold decision-makers and funders accountable.

During the 2024 G20, Health Ministers called for action to improve tracking of digital health investments, which was presented as one of the pillars under the Global Initiative on Digital Health (GIDH, spearheaded by WHO). Through the G20 Health Working Group, key digital health partners committed to improve tracking of digital health funding. Recognising that a key step towards this is standardising and building consensus on what and how digital health investment areas are defined and tracked, Transform Health is leading the development of a Digital Health Investment Taxonomy, with guidance and inputs from a leadership steering committee including: Global Fund, OECD, UNICEF, WHO, and World Bank.

The digital health investment taxonomy provides a common language and framework for categorising investments across all stakeholders and contexts. It enables systematic classification of investments, facilitates coordination among multiple funders, supports evidence-based investment planning, and lays the foundation for accountability and learning.

This taxonomy sits within a well-established landscape of global health financing measurement, including the System of Health Accounts 2011 (SHA 2011) and the OECD Development Assistance Committee Creditor Reporting System (DAC CRS). The SHA 2011 is the global standard for health expenditure tracking, while the DAC CRS tracks official development assistance by broad sector categories to support aid transparency and donor accountability at the portfolio level. Both systems are valuable and well-established, however, they are not designed to capture the specificity needed for digital health ecosystem planning, and they operate at different points in the investment lifecycle.

A Planning Tool for Digital Health Investment

The digital health investment taxonomy is a tool that provides a classification system designed for digital health investment planning and coordination. Its purpose is to help governments, development partners, private sector and technical stakeholders make better decisions about where to direct digital health resources at every stage of investment planning, and how to coordinate across stakeholders. Other systems exist to record where money has flowed (SHA 2011), or to report aid disbursements to international bodies (DAC CRS). These systems serve different moments in the investment lifecycle and answer different questions. They are not in competition with this taxonomy, and users do not need to choose between them.

Different stakeholders can use this taxonomy in distinct ways:

1. **National Governments:** Ministries of Health can use the taxonomy to develop costed digital health strategies using taxonomy categories. Budget offices can use it to support and guide digital health investments as part of the budgeting process. Governments can also map their digital health strategies to taxonomy categories to identify where investments are concentrated and where critical gaps exist.

2. **Development Partners:** Bilateral donors can use the taxonomy to support and guide their investments in digital health and for portfolio management. It can also support country-level coordination, and in identifying overlaps and complementary opportunities.

3. **Multilateral Organisations:** Organisations such as WHO, the World Bank, UNICEF, Gavi, and the Global Fund can use the taxonomy to support and guide their investments in digital health and for portfolio management. It can also be used to analyse investment patterns.

4. **Implementation and Technical Partners:** These stakeholders gain clarity about investment categories when designing projects and programmes. This specificity improves project design, cost estimation, and stakeholder communication.

5. **Private Sector Actors and Impact Investors:** They can use the taxonomy for planning and prioritising of their investments in national health systems. They can also gain transparency about public sector priorities and investment gaps.

PART B: The Digital Health Investment Taxonomy Classification Framework

This section describes the structure of the digital health investment taxonomy classification framework: how it is organised, the relationship between its components, and how to apply it in practice.

Structure of the Taxonomy

The Taxonomy uses a **three-tier structure to classify areas (categories) of investment**, with the first tier representing high-level investment domains, and the subsequent tiers providing further levels of granularity (investment types and sub-types) under each domain area (pillar). The Taxonomy also includes a set of **tags to capture the type of investment and other cross-cutting dimensions** (areas that cut across the hierarchical classification). While the three-tier hierarchy answers the question '*what area of*

investment is this?', the tags answer a set of supplementary questions, such as '*what does it cost over time?', 'where does it sit in the investment lifecycle?', 'is it foundational infrastructure or a service built on top of it?', and 'does it have equity dimensions'?*.

Three-tier structure of investment areas (categories)

Tier 1: Domains of the digital health ecosystem (7 pillars)

- High-level strategic categories for budget allocation and portfolio analysis.
- Broad, strategic, and high-level enough to aid decision-making at the highest levels.
- Holistic, thereby covering almost everything that can be funded within the digital health ecosystem

Tier 2: Investment types (48 standardised types)

- Distinct investment categories within each domain.
- The granularity at this level reflects how digital health investments are actually planned, procured, and coordinated in practice.

Tier 3: Investment sub-types (150+ classifications)

- Provides the detailed investment sub-types that offer procurement-level specificity and allow precise classification of specific expenditures.

The three-tier, seven-pillar structure is designed to be specific enough to support meaningful investment analysis whilst remaining coherent enough to represent the ecosystem as a whole. The pillars are operationally interdependent, as an investment in any single pillar will typically depend on, or generate demands for, investments in others. The taxonomy is designed to make these dependencies visible.

Users working at the strategic level will primarily operate at Tier 1 and Tier 2; those conducting detailed investment analysis, costing, or gap assessment will need Tier 3.

Tier 1: Domains of the Digital Health Ecosystem (7 pillars)

The taxonomy organises digital health investment areas into seven pillars, each representing a distinct domain of the digital health ecosystem. This structure reflects the logical architecture of a functioning digital health system, in which no single component can be effective in isolation.

The seven-pillar structure draws on the WHO and ITU digital health building blocks, adapted to reflect the investment categories most relevant to planning and coordination. It is also informed by a systematic review of existing digital health frameworks, national digital health strategies, and development partner portfolio classifications.

This table provides a concise reference for each pillar and its scope. It is intended as a navigational aid rather than a comprehensive definition. The investment types and sub-types under each pillar are defined in the subsequent tables. All pillars and investment types and sub-types are also contained in the accompanying spreadsheet, which provides further descriptions for each area [forthcoming].

1. Leadership & Governance

Investments in the institutional structures, planning processes, governance frameworks, and coordination mechanisms that provide strategic direction for the digital health ecosystem

2. Strategy & Investment

Investments in financial planning, resource mobilisation, financial management, innovative financing mechanisms, and sustainability planning for digital health

3. Services & Applications

Investments in the software applications and digital services that directly support health service delivery, including clinical systems, public health platforms, patient-facing applications, and administrative systems

4. Standards & Interoperability

Investments in the development and adoption of health data and technical standards, interoperability infrastructure, data governance frameworks for cross-system exchange, and certification and testing programmes

5. Infrastructure

Investments in the physical and technical foundations of the digital health ecosystem, including data centres, network and telecommunications infrastructure, end-user devices, power systems, and cybersecurity infrastructure

6. Legislation, Policy & Compliance

Investments in the legal and regulatory frameworks, policy development and implementation, compliance mechanisms, and professional licensing systems that govern the digital health environment

7. Workforce

Investments in the planning, education, training, capacity building, continuous professional development, operational support functions, and international cooperation activities that develop and sustain the digital health workforce

Tier 2: Investment Types (48 areas) & Tier 3: Investment Sub-Types (150+ areas)

Tier 1 Code: Pillar 1 - Leadership & Governance			
Tier 2 Code	Tier 2 Investment Type	Tier 3 Code	Tier 3 Sub-Type
1.1	Strategic Leadership Structures	1.1.1	National Digital Health Agencies/Authorities
		1.1.2	Inter-Ministerial Coordination Bodies
		1.1.3	Multi-Stakeholder Advisory Platforms
1.2	Strategic Planning & Priority Setting	1.2.1	National Digital Health Strategy Development
		1.2.2	Investment Cases & Business Planning
		1.2.3	Roadmaps & Implementation Planning
1.3	Governance Frameworks & Policies	1.3.1	Digital Health Governance Frameworks
		1.3.2	Data Governance Structures
		1.3.3	Ethical Review & Oversight Bodies
1.4	Monitoring, Evaluation & Learning	1.4.1	Performance Monitoring Systems
		1.4.2	Impact Evaluation Programs
		1.4.3	Knowledge Management Systems
1.5	Coordination & Alignment Mechanisms	1.5.1	Donor Coordination Platforms
		1.5.2	Program Integration & Harmonization
		1.5.3	South-South & Regional Cooperation
1.6	Change Management	1.6.1	Organizational Readiness Assessment
		1.6.2	Change Leadership & Sponsorship Development
		1.6.3	Change Communication Planning & Implementation
		1.6.4	Transition & Adoption Support

Tier 1 code: Pillar 2 - Strategy & Investment			
Tier 2 Code	Tier 2 Investment Type	Tier 3 Code	Tier 3 Sub-Type
2.1	Investment Planning & Resource Mobilization	2.1.1	Investment Strategy & Planning
		2.1.2	Costing & Financial Modeling
		2.1.3	Resource Mobilization & Fundraising
2.2	Financial Management & Tracking	2.2.1	Financial Management Systems
		2.2.2	Procurement & Contract Management
		2.2.3	Audit & Accountability Systems
2.3	Innovative Financing Mechanisms	2.3.1	Public-Private Partnership Structuring
		2.3.2	Blended Finance Instruments
		2.3.3	Sustainable Revenue Models
2.4	Sustainability Planning	2.4.1	Maintenance & Operations Budgeting
		2.4.2	Domestic Resource Mobilization
		2.4.3	Transition & Phase-Out Planning

Tier 1 code: Pillar 3 - Services & Applications			
Tier 2 Code	Tier 2 Investment Type	Tier 3 Code	Tier 3 Sub-Type
3.1	Electronic Health Record Systems	3.1.1	Hospital Information Management Systems (HIMS)
		3.1.2	Ambulatory & Primary Care EHR Systems
		3.1.3	Specialty-Specific Clinical Systems
		3.1.4	Community Health Information Systems
3.2	Clinical Decision Support Systems	3.2.1	Diagnostic Support Systems
		3.2.2	Treatment & Prescription Support
		3.2.3	Risk Prediction & Early Warning
3.3	Telemedicine & Virtual Care	3.3.1	Synchronous Telemedicine Platforms
		3.3.2	Asynchronous/Store-and-Forward Systems
		3.3.3	Remote Patient Monitoring
		3.3.4	Mobile Health (mHealth) Services

3.4	Public Health & Disease Surveillance	3.4.1	Disease Surveillance Systems
		3.4.2	Immunization Management Systems
		3.4.3	Non-Communicable Disease (NCD) Registries
		3.4.4	Maternal, Newborn & Child Health Systems
3.5	Laboratory & Diagnostic Systems	3.5.1	Laboratory Information Systems (LIS)
		3.5.2	Laboratory Networking Systems
		3.5.3	Point-of-Care Diagnostic Systems
3.6	Pharmacy & Supply Chain Systems	3.6.1	Pharmacy Management Systems
		3.6.2	Medical Supply Chain Management
		3.6.3	Cold Chain Monitoring
3.7	Patient Engagement & Consumer Applications	3.7.1	Patient Portals & Personal Health Records
		3.7.2	Appointment & Access Systems
		3.7.3	Health Education & Self-Management
		3.7.4	Communication & Feedback Systems
3.8	Health Financing & Insurance Systems	3.8.1	Health Insurance Management Systems
		3.8.2	Claims Processing & Payment Systems
		3.8.3	Mobile Payment & Financial Access
3.9	Administrative & Management Systems	3.9.1	Health Facility Management Systems
		3.9.2	Human Resource Information Systems
		3.9.3	Financial & Billing Systems
		3.9.4	Health Management Information Systems
3.10	Data Analytics & Business Intelligence	3.10.1	Health Data Analytics Platforms
		3.10.2	Predictive Analytics & AI Systems
		3.10.3	Performance Dashboards & Reporting

Tier 1 Code: Pillar 4 - Standards & Interoperability			
Tier 2 Code	**Tier 2 Investment Type**	**Tier 3 Code**	**Tier 3 Sub-Type**
4.1	Standards Development & Adoption	4.1.1	Clinical & Terminological Standards
		4.1.2	Data Exchange Standards
		4.1.3	Identifier Systems & Master Data
		4.1.4	Mobile & Low-Resource Standards

4.2	Interoperability Infrastructure	4.2.1	Health Information Exchange (HIE)
		4.2.2	Integration Engines & Middleware
		4.2.3	Interoperability Layer (IOL)
		4.2.4	Application Programming Interfaces (APIs)
4.3	Data Governance for Interoperability	4.3.1	Data Sharing Frameworks
		4.3.2	Consent Management Systems
		4.3.3	Data Quality & Validation
4.4	Certification & Testing	4.4.1	Conformance Testing Programs
		4.4.2	Testing Infrastructure

Tier 1 Code: Pillar 5 - Infrastructure			
Tier 2 Code	**Tier 2 Investment Type**	**Tier 3 Code**	**Tier 3 Sub-Type**
5.1	Data Centers & Cloud Infrastructure	5.1.1	Physical Data Center Infrastructure
		5.1.2	Cloud Computing Services
		5.1.3	Disaster Recovery & Business Continuity
		5.1.4	Computing & Storage Hardware
5.2	Network & Telecommunications	5.2.1	Wide Area Networks (WAN)
		5.2.2	Local Area Networks (LAN)
		5.2.3	Mobile & Wireless Connectivity
		5.2.4	Telephony & Voice Systems
5.3	End-User Devices & Equipment	5.3.1	Clinical Workstations
		5.3.2	Mobile Computing Devices
		5.3.3	Smartphones & Mobile Devices for Health Workers
		5.3.4	Peripheral Equipment
		5.3.5	Connected Medical Devices
5.4	Power & Environmental Systems	5.4.1	Power Supply Systems
		5.4.2	Environmental Control
		5.4.3	Alternative Energy Solutions
5.5	Cybersecurity Infrastructure	5.5.1	Network Security Infrastructure
		5.5.2	Endpoint Security
		5.5.3	Identity & Access Management
		5.5.4	Security Monitoring & Operations
		5.5.5	Data Protection Systems

Tier 1 Code: Pillar 6 - Legislation, Policy & Compliance			
Tier 2 Code	Tier 2 Investment Type	Tier 3 Code	Tier 3 Sub-Type
6.1	Legal & Regulatory Framework Development	6.1.1	Digital Health Legislation
		6.1.2	Data Protection & Privacy Legislation
		6.1.3	Digital Signature & Authentication Laws
		6.1.4	Intellectual Property & Licensing
6.2	Regulatory Frameworks & Standards	6.2.1	Medical Device Regulation
		6.2.2	Telemedicine & Virtual Care Regulation
		6.2.3	Health Information Exchange Regulation
		6.2.4	AI & Algorithm Regulation
6.3	Policy Development & Implementation	6.3.1	National Digital Health Policies
		6.3.2	Interoperability & Standards Policies
		6.3.3	Cybersecurity & Information Security Policies
		6.3.4	Ethical & Equity Policies
6.4	Compliance & Enforcement Mechanisms	6.4.1	Regulatory Compliance Programs
		6.4.2	Regulatory Sandbox & Innovation Programs
		6.4.3	Grievance & Dispute Resolution
		6.4.4	Enforcement Infrastructure
6.5	Professional Licensing & Accreditation	6.5.1	Professional Licensing Frameworks
		6.5.2	Facility & Service Accreditation
		6.5.3	Continuing Education Requirements

Tier 1 Code: Pillar 7 Workforce			
Tier 2 Code	Tier 2 Investment Type	Tier 3 Code	Tier 3 Sub-Type
7.1	Workforce Planning & Strategy	7.1.1	Digital Health Workforce Assessments
		7.1.2	Role Definition & Career Pathways
		7.1.3	Recruitment & Retention Strategies
7.2	Academic & Pre-Service Education	7.2.1	Curriculum Development & Integration
		7.2.2	Specialized Degree Programs

		7.2.3	Faculty Development
		7.2.4	Student Programs
7.3	In-Service Training & Capacity Building	7.3.1	Basic Digital Literacy Training
		7.3.2	System-Specific Application Training
		7.3.3	Advanced Clinical Informatics Training
		7.3.4	Community Health Worker Digital Training
		7.3.5	Leadership & Management Training
7.4	Technical & Specialized Workforce Development	7.4.1	Clinical Informatics Specialists
		7.4.2	Health Data Science & Analytics
		7.4.3	Software Development & Engineering
		7.4.4	Systems & Infrastructure Specialists
		7.4.5	Implementation & Project Management
7.5	Continuous Professional Development	7.5.1	Certification & Recertification Programs
		7.5.2	Online Learning & E-Learning Platforms
		7.5.3	Conferences, Workshops & Seminars
		7.5.4	Peer Learning Networks
7.6	Support Services & Enabling Functions	7.6.1	Technical Support & Helpdesk Services
		7.6.2	Super-User & Champion Programs
		7.6.3	Knowledge Management & Documentation
		7.6.4	Workforce Management Systems

Classification Guidance

This section sets out guidance for how to classify the area(s) of investment. Every investment should receive a single primary classification: one Tier 1 pillar, one Tier 2 investment type, and, where precision is required, one Tier 3 investment sub-type. The primary classification should reflect the investment's dominant purpose: what it primarily does, rather than what it might also affect.

The single-primary-classification rule is important for maintaining analytical coherence. If investments are classified across multiple pillars simultaneously, it becomes difficult to aggregate investment totals by pillar, conduct gap analyses, or compare investment profiles across countries or programmes. Where an investment genuinely spans multiple pillars: for instance, a project that bundles electronic health record (EHR) implementation, connectivity infrastructure, and health worker training, the recommended approach is to disaggregate the investment into its component parts and classify each separately.

Tags for Investment Type and and Cross-Cutting Dimensions

The Taxonomy includes a set of tags to capture the type of investment and other dimensions that cut across the hierarchical classification. The tags capture dimensions of investment beyond its primary area/category classification. The tags enable users to analyse investment portfolios across multiple dimensions simultaneously. They operate across three tag areas: a) analytical tags, b) equity tags, and c) contextual tags. Further explanations of these areas and tags are provided after the table.

Tag area	Tag sub-categories	Tag options	When applied
1) Analytical tags	1a) Expenditure type	• Capital investments (one time cost) • Recurrent investments (ongoing operational costs) • Mixed (where both elements are substantial)	Always
	1b) Investment phase	• Design/planning • Procurement • Implementation • Operations • Evaluation • Mixed	Always
	1c) Digital public infrastructure	• Foundational investments • Service layer investments	Always
2) Equity, diversity and inclusion tags		• Access • Gender • Inclusion • Accessibility • Literacy • Data • Rights • Algorithmic • Participation **Multiple tags may apply. Do not apply to investments with general population benefit only.*	When the investment has an explicit equity objective or equity materially shapes its design.
3) Contextual tags	3a) System maturity	• Pilot • Scale-up • Maintenance • Replacement • Greenfield	When the maturity stage is relevant to planning or coordination. Omit where maturity is unclear or not applicable.
	3b) Level of the health system at which the investment operates	• National • Sub-national • District • Facility • Community • Multi-level • Regional • Multi-country	When the operational level shapes implementation, financing or coordination. Apply Multi-level where the investment deliberately spans two or more levels.
	3c) Expected financing source	• Government Budget • Grant • Loan • PPP • Blended Finance • Private/Commercial Finance • Vertical Program • Community-Based • Civil Society • Mixed	When the financing source is known or can be reasonably estimated. Flag Grant financing with Recurrent expenditure type as a sustainability risk.
	3d) Primary technology approach	• Cloud-Based • On-Premise • Hybrid • Mobile-First • AI-Assisted • AI-Autonomous • Open Source • Proprietary • Mixed	When the technology approach is material to implementation, sustainability, or risk. Omit for non-technical investments such as legislation or governance.
	3e) Health priority area served	• MNCH • NCD • Communicable Disease • Pandemic Prep • Emergency Response • Multi-disease	When the investment is predominantly associated with a specific health priority. Omit for investments that serve all health priorities equally.
	3f) Geographic or deployment context	• Rural/Remote • Urban • FCAS • Island/Archipelago • Regional • Global	When geography is a primary design consideration. Do not apply simply because an investment is located in a particular context.

1) Analytical Tags

Three analytical tags describe the financial and structural character of an investment. These are the dimensions most consistently needed for budget analysis and should be applied to every investment.

1a) Expenditure Type - distinguishes capital investment from recurrent expenditure.

- ***Capital investments*** - one-time costs: building or procuring a system, deploying infrastructure, or developing a new institutional framework.
- ***Recurrent investments*** - ongoing operational costs: licensing, staffing, maintenance, and support.
- ***Mixed*** - applies where both elements are substantial

1b) Investment Phase - describes what a specific investment is currently doing in its lifecycle (independent of system maturity), including: ***Design/planning; Procurement; Implementation; Operations; Evaluation; Mixed.***

1c) Digital Public Infrastructure (DPI) - distinguishes investments in shared, system-wide foundational infrastructure from investments in service applications built on top of that foundation.

- ***Foundational investments*** *- health information exchanges, national identity and patient registry infrastructure, base network connectivity, and shared data standards. These function as public goods whose benefits extend across the entire health system.*
- ***Service Layer investments*** *- applications that depend on and consume that foundation. This distinction matters because foundational investments entail different financing logic and typically require public or pooled funding, even when service-layer investments attract private or blended finance.*

2) Equity, Diversity, and Inclusion Tags

Equity considerations arise across all pillars of the taxonomy rather than within any single investment domain. The taxonomy reflects this by treating equity as a cross-cutting tagging layer. A single investment may carry more than one equity tag where its scope genuinely spans multiple dimensions. This approach ensures that equity dimensions embedded within infrastructure, application, workforce, and governance investments are captured, not only those explicitly framed as equity interventions.

- **Access:** Tagged on investments targeting geographic, economic, or structural barriers to digital health access e.g. rural and remote connectivity, last-mile infrastructure, and subsidised access programmes.

- **Gender:** Tagged on investments addressing gender-based gaps in digital health participation or benefit, including gender-responsive design, tools for women health workers, and systems supporting gender-based violence screening.
- **Inclusion:** Tagged on investments serving marginalised, minority, or socioeconomically excluded populations, including indigenous and minority population applications and investments specifically designed for fragile or conflict-affected settings.
- **Accessibility:** Tagged on investments in accessible design and assistive technology for persons with disabilities, including screen reader compatibility, universal design implementation, and accessibility standards programmes.
- **Literacy:** Tagged on investments in digital and health literacy for underserved communities, including low-literacy interface design, icon and voice-based systems, and community literacy programmes.
- **Data:** Tagged on investments in data systems designed to monitor or address health inequities such as disaggregated data collection, equity dashboards, social determinants of health data integration, and equity impact assessment frameworks.
- **Rights:** Tagged on investments in digital rights frameworks, patient advocacy, and community accountability infrastructure for marginalised populations.
- **Algorithmic:** Tagged on investments in bias auditing, fairness-aware algorithm development, and the governance of automated decision-making in health contexts.
- **Participation:** Tagged on investments in community co-design, participatory governance, and community feedback and grievance mechanisms.

3) Contextual Tags

Contextual tags record features of an investment that are relevant to planning and coordination but do not determine its primary classification.

3a) **System maturity:** The lifecycle stage of the system or initiative being invested in, from first instance through to replacement of an existing system.

3b) **Health system level:** The level of the health system at which the investment operates or is managed, from community level to multi-country.

3c) **Expected financing source:** The expected or typical source of funding for the investment, important for sustainability and donor coordination analysis.

3d) **Primary technology approach:** The dominant technology architecture or approach, including hosting model, device type, AI use, and licensing model.

3e) **Health priority area served:** The primary health programme or disease priority the investment serves, where one predominates.

3f) **Geographic or deployment context:** The geographic or contextual conditions that materially shape the investment's design and implementation requirements.

Three contextual tags warrant specific note:

FCAS (Fragile, Conflict-Affected and post-crisis Settings): is applied when an investment is specifically designed for these contexts, which typically require different implementation approaches and distinct financing instruments from those in standard development contexts.

Climate Resilience-Integrated: flags investments that incorporate climate risk screening or climate resilience design. This requirement is becoming increasingly important, particularly for infrastructure, power, and connectivity investments.

Sequencing: flags mandatory prerequisite investments in other pillars using the format Depends on: [category code]; this tag supports gap analysis by making visible the knock-on implementation failures that arise when a foundational investment is absent.

Known Classification Boundaries

Four boundary cases appear consistently in practice and require explicit guidance.

Cybersecurity: Technical cybersecurity measures: firewalls, intrusion detection systems, encryption infrastructure, security operations centres, belong in Pillar 5 (Infrastructure, category 5.5). Policy and compliance obligations: cybersecurity strategies, legal frameworks governing data breaches, and incident reporting requirements, belong in Pillar 6 (Legislation, Policy & Compliance, category 6.3). The classification rule is: if the investment creates or operates a technical control, classify it in Pillar 5; if it establishes a policy, legal, or regulatory obligation, classify it in Pillar 6.

Data governance: Governance frameworks established at the institutional level, such as data sovereignty policies, national data sharing agreements, ethics committee oversight, belong in Pillar 1 (Leadership & Governance, category 1.3). Data governance as it applies to cross-system interoperability: data exchange protocols, metadata standards governance, consent management infrastructure, belongs in Pillar 4 (Standards & Interoperability, category 4.3). The classification rule is: if the investment governs how the health system as a whole manages data as a strategic asset, classify in Pillar 1; if it governs how data flows between specific systems, classify in Pillar 4.

Pillar 1 and Pillar 2: Both pillars involve planning functions, and the boundary can appear ambiguous. Pillar 1 covers the institutional architecture that provides strategic direction — the committees, frameworks, monitoring systems, and coordination mechanisms through which digital health is governed. Pillar 2 covers financial planning and resourcing — investment plans, resource mobilisation mechanisms, costing frameworks, and sustainability strategies. An investment in developing a national digital health strategy belongs in Pillar 1 (category 1.2); an investment in costing that strategy and developing a financing plan belongs in Pillar 2 (category 2.1).

Support Services & Enabling Functions (category 7.6): This category covers operational support services directly tied to workforce performance: helpdesk and technical support services, super-user and champion programmes, knowledge management and documentation, and workforce management systems. These are workforce-enabling investments, i.e., the human and organisational dimensions of keeping digital health systems usable. The technical infrastructure on which support services run belongs in Pillar 5; software platforms that constitute knowledge management tools belong in Pillar 3. The classification rule is: if the investment primarily builds or maintains people's capacity to support and use digital systems, classify it in 7.6; if it primarily builds or operates a technical system, classify it elsewhere.

Cross-Cutting Themes

Three themes recur across multiple pillars and require a consistent approach to primary classification. In each case, the principle is the same: classify by the investment's primary function and apply the relevant tag to preserve cross-pillar visibility.

Artificial intelligence: AI investments appear across the taxonomy in several forms. The classification rule is to classify by the primary function of the AI application, not by the fact that it uses AI. An AI-powered clinical decision support tool is first and foremost a clinical decision support investment (Pillar 3). Investments that are primarily about governing AI: regulatory frameworks, liability standards, certification schemes for AI medical devices, belong in Pillar 6.

Capacity building and training: Training components appear across the taxonomy. When training is the primary purpose of an investment, classify it in Pillar 7. When it is a distinct, separately scoped component of a broader investment, disaggregate and classify it in Pillar 7. Where it is incidental to implementation, classifying it with the primary investment is acceptable, provided it is noted in the boundary notes field.

Equity and inclusion: Equity considerations arise across all seven pillars rather than within any single investment domain. Investments with specific equity objectives or design features are classified under their primary pillar as usual and identified by an equity tag in the spreadsheet.