Digitally Strengthened Health Financing – DPI-H Capability Mapping

Health Goal 6 · "Informed financial planning and accountability, and protection for health system users"

This mapping articulates the health financing goal: effective, equitable and sustainable health financing and public financial management, enabled and informed through digital tools, to support the intermediate UHC objectives (equitable distribution of resources, efficiency, transparency and accountability) and the final UHC goals (access in line with need, financial protection and quality of care). Following the WHO health financing framework, capabilities are organised around eight sub-goals – budget planning and oversight, sector monitoring and auditing, revenue raising, targeting and identification, pooling, purchasing, benefits design, and safeguarding – so the architecture serves every financing model rather than privileging one. (This framing replaces the source's narrower, payment-centred motivation and the contested two-layer framing.)

How to read this mapping. Columns follow the architecture layers used throughout this document: stakeholders and value (motivation); business capabilities and outcomes; application services and components; and the data and reference components they depend on. Components are named by their reference role; operational functions performed on that data are expressed as application services or functional applications rather than attributed to the components. DPI-H denotes health-specific shared components; DPI-F denotes the foundational components (identity, payments, information mediator, security and consent). Interoperability is treated as a cross-cutting property realised through the information mediator and shared terminology, not as a component in its own right.

Components introduced. Health financing generates relatively few new DPI-H components; its primary contribution is specifying health-specific requirements for shared infrastructure that already exists – the Client Registry for beneficiary identification, the Facility Registry for provider empanelment and facility-level budget execution, the Health Workforce Registry for provider credentialing, the Product Catalogue for reimbursement accuracy, and the Terminology Service for financial classification and procedure coding. The one genuinely new component is the Benefits Package Registry: an authoritative, reusable reference for benefit packages, coverage schemes and entitlement rules, without which eligibility determination and purchasing cannot operate coherently. The operational systems that execute financing functions – claims management, policy administration, billing, risk-equalisation and forecasting engines, rules engines and payment reconciliation – are functional applications that consume these components, not DPI-H components themselves.

Boundary with government public financial management. Budget execution, payroll, treasury operations and the financial ledger are owned by Ministries of Finance, not Ministries of Health. The architecture specifies the integration interface to the government IFMIS and to revenue-authority and treasury systems – the data exchange and interoperability requirements – rather than replicating them. Countries should invest in that integration interface, not in a parallel health financial-management system; the architecture does not propose a single integrated health finance information system.

Mapping

Sub-goal	Stakeholders & value (motivation)	Business capabilities	Business outcomes	Application services	Application components	Data & reference components
6.1 Budget planning, execution and oversight	Ministries of Finance and Ministries of Health: accurate, timely forecasting and budgeting; full accounting and utilisation. Health system managers: better expenditure planning and allocation. Healthcare providers: predictable, on-time payments. Civil society and media: visibility into health financing trends.	Health budget planning and forecasting (rolling forecasts, budget scenarios) Budget execution management (allocate, release, commit, track spending) Financial performance monitoring and disclosure Code and master-data management (financial classifications)	Rolling budget forecasts on schedule Budget execution reports by programme, geography and facility Provider payment schedules generated on time (linked to releases) National/Unified Health Accounts and public	Data ingestion, aggregation and normalisation Master data and code-system management Budget forecasting and scenario modelling Budget approval, workflow routing and controls	Government IFMIS and financial ledger / chart of accounts (functional; Ministry of Finance) – integration interface Health Management Information System (HMIS, DPI-H) – analytics, National Health Accounts Terminology Service (DPI-H) – financial classifications Facility Registry, Health Workforce Registry (DPI-H)	Shared foundational and domain set. Emphasis: Facility Registry for facility-level budget execution; Terminology Service for financial classifications; HMIS for accounts and dashboards. + Compare expenditure against the epidemiological profile to inform allocation. Budget execution, payroll, treasury and ledger functions remain in the government IFMIS; the architecture specifies the integration

Sub-goal	Stakeholders & value (motivation)	Business capabilities	Business outcomes	Application services	Application components	Data & reference components
		Unified/National Health Accounts compilation and reporting	dashboards published on schedule		Product Catalogue (DPI-H) Information Mediator (DPI-F); Payments (DPI-F)	interface, not a parallel health finance system.
6.2 Health sector monitoring and auditing	All stakeholder groups: enhanced accountability. Civil society and media: auditable use of funds and visibility into trends. Policy makers and regulators: compliance and oversight. Ministries of Finance: traceable budget execution. Healthcare providers: a clear audit trail.	Auditability and non-repudiation (end-to-end traceability of financial events) Compliance monitoring and regulatory reporting Open reporting and disclosure (appropriate public views)	Immutable audit trails for financial events Regulatory and audit reports on schedule Public transparency dashboards Faster anomaly detection	Secure audit logging Event signing and trusted timestamping Compliance reporting and dashboards Open data / public dashboards	Security and Consent (DPI-F) – append-only audit logging, PKI, digital signature and timestamping Health Management Information System (HMIS, DPI-H) – analytics, public dashboards Open data portal (functional) Information Mediator (DPI-F)	Shared foundational and domain set. Emphasis: Security and Consent for append-only audit logging and trusted timestamping; HMIS for disclosure dashboards.
6.3 Revenue raising	Ministries of Finance and Ministries of Health: a sustainable and equitable revenue base. Individuals and care recipients: simplified payments. Revenue authorities: simplified collection and enforcement.	Contribution and tax policy and rate-setting (stratified/differentiated) Revenue collection and enforcement (bill, collect, track, manage arrears) Revenue performance analytics (yield, leakage, compliance)	Differentiated contribution structures, repeatable Reduced administrative costs Faster, more accurate revenue processes Improved collection performance (coverage, compliance, reduced leakage)	Data aggregation and consolidation Contribution performance analytics Payment flow monitoring and reconciliation Compliance and leakage analysis	Revenue-authority and treasury systems (functional; government, outside health) – integration interface Health Management Information System (HMIS, DPI-H) – revenue analytics Payments (DPI-F) – collection rails and reconciliation Facility Registry, Product Catalogue (DPI-H) Information Mediator (DPI-F)	Shared foundational and domain set. + Revenue collection and enforcement rely on revenue-authority systems, and fiscal expansion on treasury systems – both outside health; the architecture specifies the integration interface.
6.4 Targeting and identification	Individuals and care recipients: affordable and equitable access to health services. Financial entities (purchasing agencies and health coverage scheme managers): accurate enrolment and entitlement decisions. Healthcare providers: certainty of coverage at point of service.	Enrolment and coverage-scheme discovery Eligibility and entitlement determination (consistent benefit rules) Identity confirmation at point of service (proportionate to risk) + Self-registration for the formal sector	Improved targeting (lower inclusion/exclusion errors) Faster enrolment; real-time eligibility at point of service Eligible populations enrolled with proof Reduced out-of-pocket expenditure for eligible groups	Scheme discovery and guided enrolment Policy administration and entitlement management Eligibility verification and prior authorisation Identity confirmation at point of service	Client Registry (DPI-H) and National Identity (DPI-F) – identity confirmation Benefits Package Registry (DPI-H) – entitlement rules Scheme policy administration / registration application (functional) Eligibility rules engine (functional) Facility Registry, Health Workforce Registry, Product Catalogue (DPI-H) Security and Consent (DPI-F); Information Mediator (DPI-F)	Shared foundational and domain set. Emphasis: Client Registry for identity; Benefits Package Registry for entitlement rules; consent via Security and Consent. + Broaden targeting to all population segments – vulnerable, informal and formal – not only vulnerable groups. ▸ ***Distinguish identity confirmation (ID) from targeting and eligibility, aligning with social protection delivery approaches.***

Sub-goal	Stakeholders & value (motivation)	Business capabilities	Business outcomes	Application services	Application components	Data & reference components
6.5 Pooling of funds	Ministries of Health and government: equitable, predictable allocation of resources. Financial entities (purchasing agencies and health coverage scheme managers): predictable funding aligned to population health risk. Individuals and care recipients: improved financial protection and continuity of coverage.	Scheme-level fund management Risk assessment (population-level health and cost risk) Risk allocation / risk equalisation (allocation formulas) Health expenditure forecasting (system level)	Risk equalisation / allocation formulas defined and applied Population-based allocation models published and periodically reviewed Medium-term expenditure projections Reduced inequities in per-capita allocations across regions and programmes	Risk assessment and stratification Allocation and risk-equalisation calculation Expenditure forecasting Allocation scenario modelling	Risk-equalisation / allocation engine (functional; rule-based or ML-assisted) Forecasting and scenario-modelling engine (functional) Health Management Information System (HMIS, DPI-H) – aggregated financial and population data Client Registry, Facility Registry (DPI-H) Information Mediator (DPI-F)	Shared foundational and domain set. Emphasis: operates at population level, consuming outputs from purchasing and claims – it is not a claims system. + Expand the underlying population and disease-burden/risk data and its linkages to foundational components.
6.6 Purchasing (contracting, provider payments, claims, benefits specification)	Financial entities (purchasing agencies and health coverage scheme managers): cost control and value-based spending; improved allocation; reduced turnaround. Healthcare providers: clear rules and predictable reimbursement. Individuals and care recipients: reliable service coverage. Ministries of Health: increased transparency and trust.	Contracting and contract execution monitoring Benefits specification and rules management Claims adjudication and reimbursement management Tariff management Financial data exchange (financial and clinical references for payment accuracy) Fraud and anomaly detection	Provider payment plans executed on time Claims reimbursed within SLA; reduced turnaround High match-rate of payments to rendered services Accurate, timely reconciliation; reduced disputes Claims expenditure monitored against pooled resources; early warning of fund depletion	Provider onboarding and credentialing Contract, benefit and tariff authoring and versioning Claims intake, validation and adjudication Payment calculation, disbursement and reconciliation Provider statements and remittance advice	Claims management / billing application (functional) Contract, benefit and tariff management application; rules engine (functional) Benefits Package Registry (DPI-H) – covered services and entitlement reference Health Workforce Registry, Facility Registry (DPI-H) – credentialing and empanelment Product Catalogue (DPI-H) – reimbursement accuracy Payments (DPI-F); Terminology Service (DPI-H); Information Mediator (DPI-F)	Shared foundational and domain set. Emphasis: claims verification depends on the Health Workforce Registry (credentialed providers); reimbursement accuracy on the Product Catalogue; eligibility on the Benefits Package Registry. Payment is realised through DPI-F Payments; the registries and catalogue provide reference, not the payment act.
6.7 Benefits design	Financial entities (purchasing agencies and health coverage scheme managers): coherent, machine-readable benefit definitions across schemes. Ministries of Health, policy makers and regulators: defined entitlements and access conditions; coherence across schemes. Individuals and care recipients: clear, equitable coverage entitlements.	Benefit package definition (covered services and populations) Access conditions (price and non-price) Cross-scheme coherence and versioning Machine-readable, governed entitlement rules	A centrally governed, interoperable benefit package reference, queryable in real time Coherent entitlements across coverage schemes Benefit definitions accessible to eligibility and purchasing systems	Benefit package authoring and versioning Entitlement rule management Cross-scheme coherence checking	Benefits Package Registry (DPI-H) – authoritative benefit package, scheme and entitlement reference Terminology Service, Product Catalogue (DPI-H) – coded services and products Information Mediator (DPI-F)	Shared foundational and domain set. Emphasis: the Benefits Package Registry provides the governed benefit and entitlement reference; eligibility and purchasing consume it. + The source deferred benefits design to purchasing; it is articulated here around the Benefits Package Registry, the new component this goal introduces.

Sub-goal	Stakeholders & value (motivation)	Business capabilities	Business outcomes	Application services	Application components	Data & reference components
6.8 Safeguarding	Individuals and care recipients: secure payments and privacy. Financial entities (purchasing agencies and health coverage scheme managers): risk control. Ministries of Health and Ministries of Finance: fraud reduction and trust in schemes.	Identity and access management (users, roles, access) Strong authentication Fraud detection and prevention Security operations (monitor and respond to incidents) Data protection and privacy enforcement	Authenticated and authorised transactions Reduced fraud losses Faster detection and response to incidents Verified privacy controls; audit-ready posture	Authentication and authorisation Digital signing and verification Fraud, risk scoring and anomaly detection Security monitoring, alerting and incident response	Security and Consent (DPI-F) – IAM, strong authentication, PKI, security monitoring, data protection, consent Health Management Information System (HMIS, DPI-H) – fraud and anomaly analytics Information Mediator (DPI-F)	Shared foundational and domain set. Emphasis: Security and Consent provides identity and access, authentication, signing and monitoring; fraud and anomaly detection is an analytical function on financial data. ▸ ***Whether fraud detection and cybersecurity should be separate sub-goals is a deliberate country design choice (different stakeholders, capabilities and responses).***

References

1. World Health Organization. Health financing for universal health coverage – revenue raising, pooling and purchasing functions.
2. OpenHIE / Joint Learning Network. Health financing workflows (functional reference for the financing interventions).
3. + System of Health Accounts (SHA 2011) / National Health Accounts framework, for unified health accounts.
4. + World Bank. Social protection delivery and targeting guidance (for targeting and identification).
5. Terminology standards: ICD-11 and procedure, intervention and financial classification coding.
6. World Health Organization. Classification of digital health interventions, v1.0. Geneva: WHO; 2018. (Functional reference for the digital health interventions underlying these capabilities.)