Digital Convergence USP2030

LEARNING BRIEF

Talking Interoperability

A dialogue series for advancing interoperability in the social protection sector

Where can we start? Entry points for interoperability between social protection and health systems

This brief summarises key learnings from the dialogue on "Where can we start? Entry points for interoperability between social protection and health systems", held on September 3, 2026. The brief is based on the presentations by Mathilde Mailfert, Technical Officer and P4H Global Focal Point – ILO; Saurav Bhattarai, openIMIS Team Lead – GIZ; Dr. Carl Leitner, Technical Officer – Digital Health & Innovation, WHO; Sokhom Sovichea, Software Engineer and Digital Transformation Specialist – National Social Protection Council (Cambodia); and Dr. Mazen Aladdin, Head of the International Cooperation Department – Universal Health Insurance Authority (Egypt). The session was moderated by Mathilde Mailfert.
Please click here to access the recording and presentation slides.

This learning brief examines how interoperability between social protection and digital health systems can help put beneficiaries at the centre of service delivery and offer support according to diverse needs and vulnerabilities of individuals and households. By reducing fragmented administrative processes, duplicate assessments and barriers to access, interoperable systems can support broader health coverage, social protection and financial protection against health-related shocks.

Mathilde Mailfert (ILO) delivered an introduction of how social protection and health systems interoperability operates across three key policy entry points (Figure 1):

1. Interface between social health protection and its interface with healthcare service delivery, including insurance coverage verification and/or eligibility checks, claims processing and monitoring of delivered services.
2. Interface between social health protection and other social protection benefits, including coordination between contributory and non-contributory schemes when it comes to beneficiary identification and coverage extension.

The DCI receives funding from the European Commission and the German Federal Ministry for Economic Cooperation and Development (BMZ). The DCI is coordinated by Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), Expertise France, Foundation for the Internationalization of Public Administrations (FIAP), the International Labour Organization (ILO), and the World Bank in strategic partnership with the International Social Security Association (ISSA).

Funders

Coordinated by

3. Interface between social protection systems, including social health protection, and health policies. This is particularly relevant for pandemic preparedness, disease surveillance and social determinants of health equity.

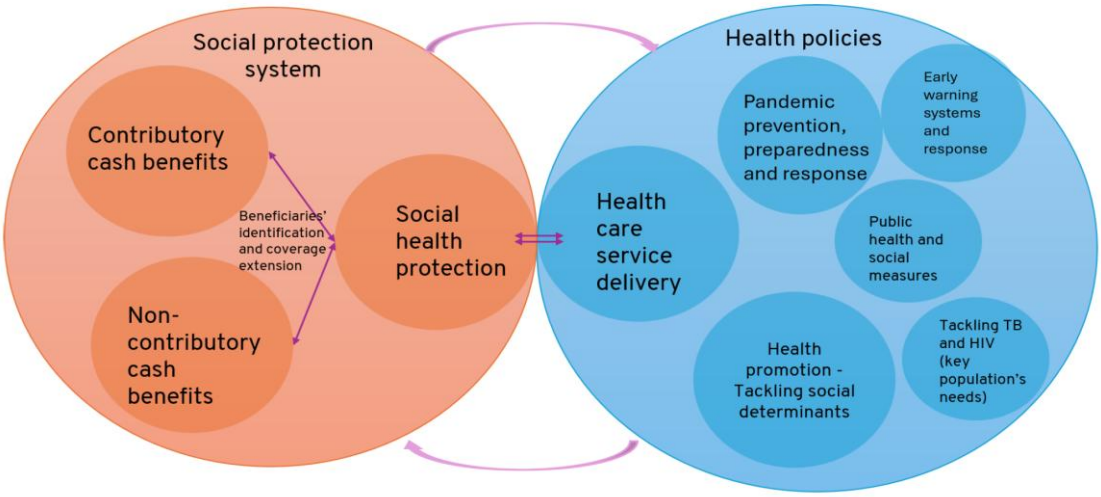


Figure 1: Entry points for interoperability between social protection and health. Source: Mathilde Mailfert – ILO.

Egypt and Cambodia: different starting points

Egypt: Automating universal health insurance enrolment for vulnerable households

Dr. Mazen Aladdin (Universal Health Insurance Authority (UHIA)) presented Egypt's reform of its Universal Health Insurance System (UHIS), which was introduced as a key instrument for achieving Universal Health Coverage.

The system is contributory, but the state subsidises contributions for people who are unable to pay. However, having a legal entitlement to subsidised health insurance did not always translate into effective coverage in the initial rollout, where vulnerable households faced barriers including limited awareness, documentation requirements, in-person enrolment, and the time and cost of travelling to administrative and health facilities. To address this gap, Egypt introduced a reform under Prime Ministerial Decree No. 4331 establishing the legal requirement for automatic enrolment of vulnerable people. It mandates periodic sharing of social protection eligibility data from the Ministry of Social Solidarity (MOSS) to UHIA through a government exchange platform, enabling eligible people to enroll in UHIS without repeating the application process.

A key implementation obstacle is semantic rather than merely technical. The Ministry of Social Solidarity and UHIA define and structure the 'head of household' differently. This blocked the initial loading of beneficiary records into UHIA's Beneficiaries Management System and created difficulties where a married woman or child was recorded as the programme cardholder.

Key lessons: The Egypt example highlights that connecting existing systems around a specific enrolment problem requires alignment of data definitions and administrative processes, as well as a binding legal mandate. It also showed that phased implementation allows administrative issues to be addressed before scaling while digital enrolment must be complemented by community-level engagement.

Cambodia: Building a shared digital backbone

Sokhom Sovichea (National Social Protection Council - NSPC) presented Cambodia's efforts in overcoming health schemes fragmentation. Before digital interoperability, coverage was split by scheme rather than integrated around the beneficiary. Each scheme issued its own physical card and maintained a completely independent MIS.

Most critically, dual coverage was completely invisible: when an IDPoor beneficiary obtained formal employment and paid monthly contributions to the National Social Security Fund (NSSF), hospitals continued billing the government-subsidised Health Equity Fund because system silos could not detect their active NSSF membership. To resolve fragmentation, Cambodia constructed the Social Protection Registry (SPR) as a shared identity layer. The SPR assigns every citizen a lifelong 10-digit Social Protection ID (SPID), supports identity verification and deduplication, and checks identity records against the Ministry of Interior database. Exchanges with connected programme systems use CamDX, Cambodia's secure national data exchange infrastructure. The SPR is designed to hold core identity data and is not a central copy of every programme's benefits, claims or clinical records. The Digital Social Protection Platform provides shared digital infrastructure for registration, identity verification, eligibility checks and reporting.

Key lessons: The Cambodia example highlights the importance of institutional arrangements, political mandates (from the National Social Protection Council), legal rules defining who can share which information and technical agreements on common identifiers and exchange standards. It also shows the value of maintaining one verified record as a single source of truth, and the premium on using existing registries and channels where possible.

Five practical questions for getting started

1. **Choose a specific first use case:** Starting with a limited, valuable use case; testing it with real service users before expanding. **Question to consider:** Which concrete service-delivery problem would information exchange address first? Some **potential use cases** discussed during the webinar:

➢ **Civil registration and vital statistics (CRVS) and dynamic registries**: birth and death notifications from health facilities help update CRVS records.	➢ **Maternal health and conditional cash transfers:** health and social protection registries are used to verify cash program eligibility.
➢ **Disability management information systems (DMIS):** Clinical disability assessments informs DMIS and social registries.	➢ **Social insurance and employment injury insurance (EII):** workplace accident incident is transitioned from a healthcare facility to wage compensation program.

2. **Check identifiers and data definitions:** Aligning identifiers, data definitions and exchange standards before technical integration. **Question to consider:** Do the institutions use compatible definitions of individuals, households and eligibility?
3. **Establish institutional and legal arrangements:** Establish institutional mechanisms for intersectoral collaboration. **Question to consider:** Who is authorised to share information, resolve data errors and maintain the connection?
4. **Reuse existing systems where appropriate:** Reusing open standards, existing registries and exchange infrastructure where appropriate, rather than building new standalone systems. **Question to consider:** Which registries, interfaces or shared channels already exist?

5. **Plan for accessible implementation:** Combining automation with community outreach and accessible grievance redress. **Question to consider:** How can people seek assistance or correct records when automated processes do not work for them?

Reference architectures, standards and resources

The WHO perspective, presented by Dr. Carl Leitner, further emphasises that technical connections need to sit within sustainable digital architectures based on shared standards, trusted data foundations and clear health-sector use cases. Foundational cross-sectoral Digital Public Infrastructure - such as digital IDs, payment rails and enterprise service buses - is necessary but insufficient for health systems. Health systems require shared semantics to ensure consistent interpretation of clinical data, rules to determine entitlements and reimbursements, and mechanisms to serve non-citizens, refugees and unregistered populations without formal national IDs.

In health, the Open Health Information Exchange (OpenHIE) links health registries (client, facility, health worker, terminology, product registries) through a central interoperability layer.

In social protection, the DCI develops Standards for linking social protection information systems. World Bank's Digital Social Protection Delivery Systems (DSPDS) framework positions dynamic (continuously updated) social registries and integrated beneficiary registries at the core, connecting sectoral Beneficiary Operations Management Systems.

The joint WHO–International Telecommunication Union (ITU) Technical Working Group developed the **Reference Architecture Guidance for Digital Public Infrastructure for Health (DPI-H).** Drawing on enterprise architecture methodologies (TOGAF), standardised modelling (ArchiMate), OpenHIE community principles, and international data exchange standards (HL7 FHIR), the guidance provides a technology-neutral blueprint and reference for developing interoperable, reusable, and country-owned digital public infrastructure.

Additional resources can be found here:

- Webinar recording
- DCI Standards
- Designing information systems for public health insurance | ILO | Social Protection
- Presentation slides
- Universal Health Insurance Schemes | International Labour Organization
- Interoperable information systems for public health insurance | ILO | Social Protection