

IPS Structure & Code Systems for National Electronic Health Record Encounter Summaries

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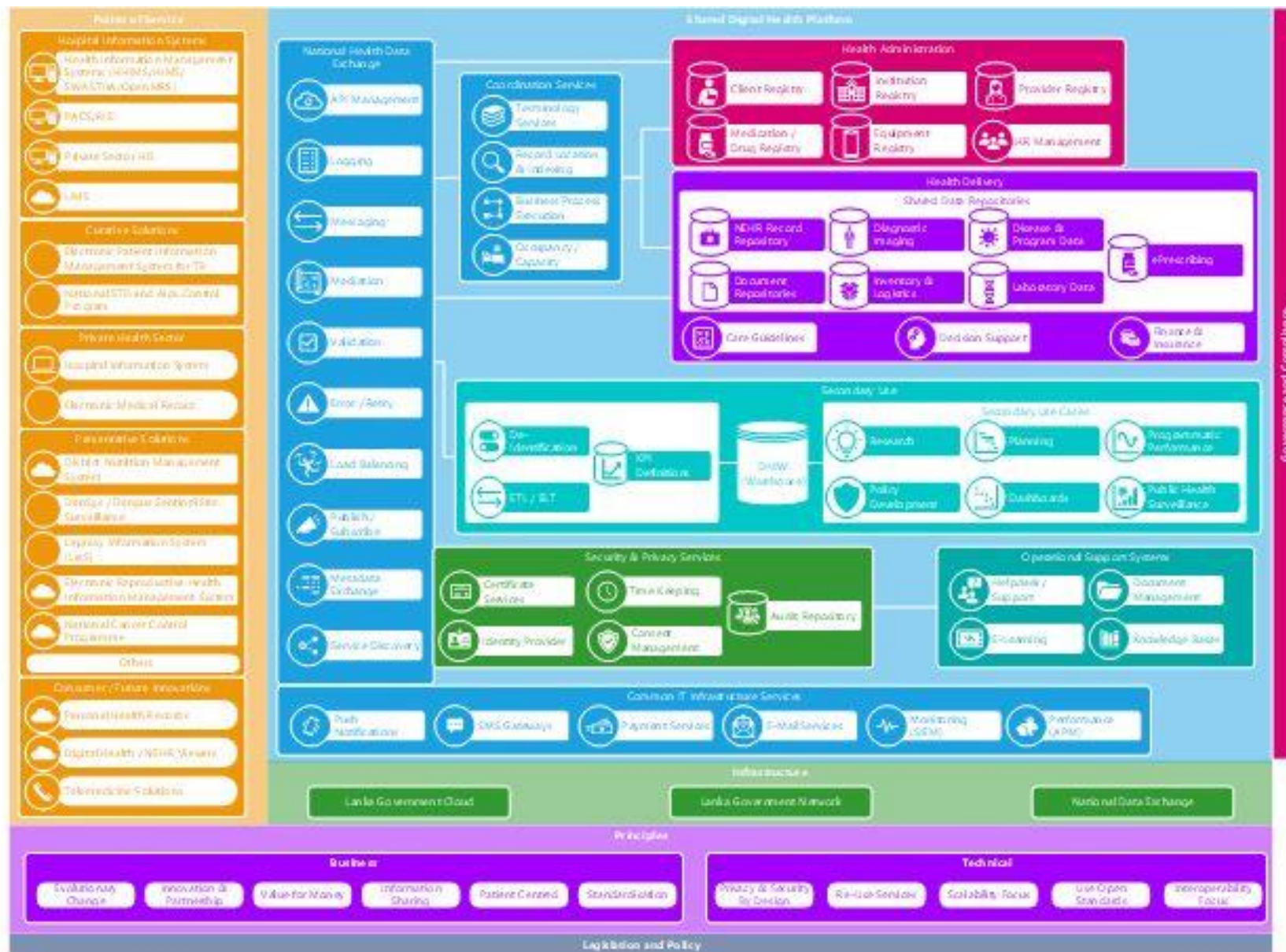


Issues of the current digital health landscape

- Millions of clinical records in **data silos** within each institutional EMR
- **No longitudinal record** for patients who move across healthcare institutions
- **Increased costs** due to the need for duplication of investigations
- **Patients not involved in the healthcare process** as they don't have access to the data stored in the EMRs (ex.: Prescription of clinic patients)
- **Poor secondary data use** for data-driven decision making



Digital Health Blueprint



National Electronic Health Record

Welcome to the National Electronic Health Record Platform.

The National Electronic Health Record (NEHR) is a key enabler for Sri Lanka's strategic vision of "One Patient, One Health Record".

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What is National Electronic Health Record (v1)?

- A countrywide, **'womb-to-tomb' electronic health record**.
- NEHR consolidates clinical data from all institutional Electronic Medical Records to create a **longitudinal health record to each person in the country**.
- Captures a **Minimum Data Set** defined in the National Digital Health Guidelines and Standards.
 - **'Healthcare recipient demographic data'**
 - Healthcare recipient demographic data
 - **'Discharge summary' dataset**
 - Healthcare encounter output
 - Allergies & adverse reactions
 - Past Medical History
 - Regular Medication
 - Past Surgical History
 - Immunizations
 - Obstetric summary
 - Behavioral Risk factors
 - Health risk assessment
 - Investigation request
 - **'Death declaration' dataset**
 - Prescription
 - Follow-up care plan
 - Laboratory test result
 - *Imaging examination results*
 - Medication administration
 - Procedure
 - Medication dispensing

International Patient Summary (IPS)

- A Patient Summary is a standardized set of basic clinical data that **includes the most important health and care related facts** required to **ensure safe and secure healthcare**
- Provide health professionals with the **essential information** they need to provide care in the case of an **unexpected or unscheduled medical situation** (e. g. emergency or accident)
- It can also be used to provide planned medical care, e. g. in the case of citizen movements or cross-organizational care paths, or even as a crystallization point for health records
- IPS is a **summarized version** of the patient's clinical data

Why IPS Structure and Code systems for the NEHR?

1. Encounter records needs to “**include the most important health and care related facts** required to **ensure safe and secure healthcare**”.
2. IPS aligned well with the **Minimum Data Set** identified in the NDHGS
3. Possibility of using/customizing already available FOSS viewers for rendering the encounter data

National Electronic Health Record

The image displays the National Electronic Health Record (NEHR) patient portal interface. On the left, the main dashboard shows summary statistics for Encounters (120), Lab Reports (24), Prescriptions (21), and Allergies (3). Below these are navigation tabs for Record Home, My PHNs, My Communications, Access History, and Privacy and Access. A Medical History sidebar lists various encounter types like OPD Encounters, Admission Summary, HLC Screenings, Lab Reports, Appointments, and Vaccinations. The main content area shows a list of encounters with details such as hospital name, date, time, and encounter type. A red arrow points from the first encounter to a detailed view on the right. This detailed view includes patient information (Martha, DeLarosa), document composition (Patient Summary as of December 11, 2017 14:30), allergies and intolerances (penicillin structure and antibacterial mechanism of action), and a diagnosis (Menopausal flushing (finding)).

NEHR FAQ Contact Us Select Language AB

Record Home My PHNs My Communications Access History Privacy and Access

Account Settings Account Settings Sign Out

Encounters **120** Lab Reports **24** Prescriptions **21** Allergies **3**

Medical History

- OPD Encounters
- Admission Summary
- HLC Screenings
- Lab Reports
- Appointments
- Vaccinations

Asiri Surgical Hospital
Nov 10, 2:31PM • HCL Screenings
#1234

General Hospital, Colombo
Nov 10, 2:31PM • OPD Encounter
#1236

Asiri Surgical Hospital
Nov 10, 2:31PM • HCL Screenings
#1236

General Hospital, Colombo
Nov 10, 2:31PM • OPD Encounter
#1236

Asiri Surgical Hospital
Nov 10, 2:31PM • HCL Screenings
#1236

Patient

Birth Date: 1972-05-01
Name: Martha, DeLarosa

Document (Composition)

Patient Summary as of December 11, 2017 14:30
Summary Date: 2017-12-11T14:30:00+01:00

Allergies and Intolerances

allergy - medication - Critically High
Substance with penicillin structure and antibacterial mechanism of action (substance) (373270004)

Critically undefined
undefined (no-known-food-allergies)

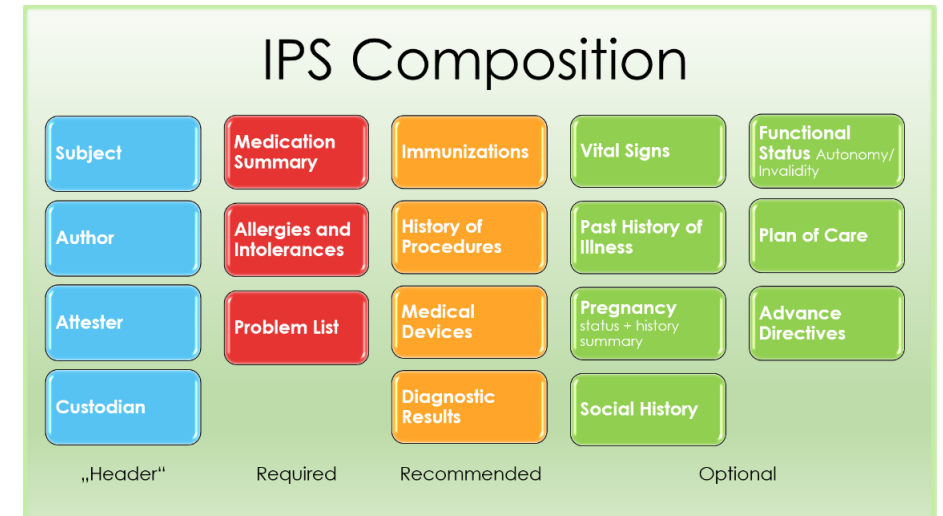
Problems / Diagnoses

2015 [http://snomed.info/ct](#) Menopausal flushing (finding) (198436008)

Current Medications

IPS Structure Challenges

- At the end of an Out-patient and Clinic visits, only the Medication and Service Requests are available. Some take their medication from external pharmacies or do not take the services recommended/requested.
- **MedicationRequest** and **ServiceRequest** are not in the IPS structure
- Also, for some types of visits (CVD/DM Risk assessments) mandatory IPS data would not be elicited (Eg: Allergies and Intolerances)



Code System Challenge

- Limited standardisation of codes across the multiple EMR/HIS systems
- Standardisation effort require prolonged stakeholder consultations, which was not feasible.
- Collection of codes ‘as it is’ could result in;
 - Difficulty in visualizing
 - Difficulty in analytics/secondary data use
- Mapping existing codes to IPS codes was challenging

HHIMS summary to be shared with Jembi

File Edit View Insert Format Data Tools Extensions Help

100% 123 Default...

medicationCodeableConcept

Category	Data elements	Remarks	UI Label Display (if useful)	Data type	IPS Code or concerns	IPS binding strength	Available in Source System?	Mandatory in Source System?	Cardinality (low bound)
Patient Registration	PHN		Personal Health Number	text			Yes	Mandatory	Mandatory
	ID number		National ID number	text			Yes	Optional	Optional
	Name (Surname)			text			Yes	Mandatory	Optional
	Initials			text			Yes	Mandatory	Optional
	Full name (Initials + Surname)	GENERATED		text			Yes	Mandatory	Optional
	Gender	(M/F/Ambiguous)		Coded Data	male female other unknown	0 - 1 - Required	Yes	Mandatory	Mandatory
	DOB	(Age)		date			Yes	Mandatory	Mandatory
	Mobile no.			text			Yes	Optional	Optional
	Address (line1, line2, village)	data quality issues + in all institutions		text			Yes	Optional	Optional
	Allergies			text			Yes	Optional	Optional
OPD Encounter	Date time			date	The IPS code set options for uncategoryed does not cater to our needs ?		Yes	Mandatory	Optional
	Reason for encounter	(ICPC2/free text)		Coded Data	** ICPC2 - RFE/Diagnos/Process code (PS - Condition/Diagnos) The IPS code set options for uncategoryed does not cater to our needs ?	Condition code 1-1 - Preferred	Yes	Optional	Optional
	Providers (Location) name		??ID from provider registry	text			Yes	Mandatory	Optional

Sheet1 HHIMS for IPS



Ayobowan
Thank you