Core Dataset

Health Information Exchange Platform (HIEP)

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INTRODUCTION

Health Information Exchange (HIE) platforms serve as a crucial node in the contemporary healthcare ecosystem, streamlining the sharing and accessibility of vital health data amongst different stakeholders. These platforms collate information from diverse healthcare applications such as General Practitioners' Electronic Health Records (EHRs), Lab Information Systems (LIS), Pharmaceutical Information Systems, Consumer Applications, and Radiology Information Systems. This convergence of data sources culminates in what is referred to as a "core dataset" for the HIE platform.

This core dataset is a structured collection of health-related parameters designed to foster a comprehensive understanding of patient health, disease trends, and care outcomes. Interoperability between these systems is facilitated through the use of Health Level Seven (HL7) messaging standards future emphasis will be on adopting FHIR, a globally recognized framework for exchanging, integrating, sharing, and retrieving electronic health information. However, it is essential to acknowledge that this core dataset is not static but rather dynamic in nature, likely to evolve over time to accommodate emerging technical and data architectures or other information sharing/ analysis needs in the future. This progression is likely to be a continuous process that aligns with the evolution of healthcare delivery and the advancement of health information technology.

The adaptability of the core dataset provides the Ministry of Health with much-needed flexibility, allowing it to respond effectively to the changing healthcare landscape. Whether it's incorporating new data streams from novel healthcare technologies or adjusting to new care protocols and procedures, the evolving core dataset can ensure that the HIE platform remains relevant, robust, and capable of providing comprehensive, up-to-date, and actionable health data.

The overarching aim of this HIE platform is to make this critical health information readily accessible for continuity of care but also the Ministry of Health, enabling data-driven decision-making that can potentially shape public health policy and healthcare delivery strategies. Meanwhile, other stakeholders are granted limited access to necessary health and/or administrative data, balancing the need for business-related information with the fundamental principle of patient privacy. This integrated HIE platform thus serves multiple stakeholders, each harnessing the power of shared health data in their unique ways to better serve the health needs of the community.

INFORMATION SHARING

In the rapidly evolving healthcare landscape, the ability to exchange and interpret diverse sets of data is integral to delivering comprehensive and coordinated care. An array of information, gleaned from various healthcare systems and parameters, is shared to facilitate this process. The core dataset encompasses various categories that reflect the myriad dimensions of patient care and health system operations. These include Patient Registration, Insurance Data, Episodes of Care, Health-Related, Consultations or De-Cursus, Drug Prescriptions, Referrals, Consent, Vaccinations, Diagnostics, Hearts Consumer Application, and Death Certificate parameters.

1. Patient Registration: encapsulates basic demographic and contact information
2. Insurance Data: offers insights into the patient's coverage details
3. Episode information: Provides a snapshot of specific healthcare events or periods specifically important for NCD tracking
4. Health Related Parameters: highlight critical health markers and lifestyle habits
5. Consult / De-Cursus information: records the specifics of patient consultations according to the SOEP structure
6. Drug prescriptions: illustrate medication regimes and treatment plans for certain diagnosis
7. Referral Data: points to the patient's healthcare trajectory
8. Consent: denotes a patient's agreement to specific treatments
9. Vaccination information: document immunization data along with describing parameters
10. Diagnostic Data: tracks specific health related parameters ranging from blood values to radiology imaging
11. Hearts Consumer Application: Covers the HEARTS protocol information including Risk Factors along with a first patient portal with interactive information about the patient health data.
12. Death Certificate: All information needed by public health agencies needed concerning decease elements.
13. History Component: Several past medical parameters can be crucial for treatment, along medical, surgical but also family history.

The definition of this core dataset is predicated on a collective understanding among healthcare stakeholders concerning the type of data that should be shared between different systems. This shared information not only enhances inter-system communication and care delivery but also supports population-based statistics and reporting needs of public health authorities. As such, this approach to data sharing serves dual purposes, driving both individual patient care and broader health system intelligence.

PARAMETER SET

Patient Registration

1.1	ID Number	
1.2	Temp ID Number	If 1.1 empty, 1.2 obliged
1.3	Local / Foreigner	Boolean
1.4	ID Type	If 1.3 = True
1.5	Date of Birth	
1.6	Surname	
1.7	Firstname	
1.8	Address	Residence
1.9	Village	Catalogue
1.10	City	Catalogue
1.11	District	Catalogue
1.12	Resort	Catalogue
1.13	Diseased Date	
1.14	Diseased Indicator	Boolean
1.15	Biological Gender	Catalogue
1.16	Identified Gender	Catalogue
1.17	Ethnicitiy	Genetic / Based on Grandparents
1.18	Proclaimed Ethnicity	Muller Method / Catalogue
1.19	Nationality	Catalogue
1.20	Twin / Multiple Births	Catalogue
1.21	Disability	Physical / Mental
1.22	Last Update	
1.23	Duplicate Patient	In case of merged data
1.24	Managing Org ID	ID number of organisation that uploaded data

Insurance Data

2.1	Primary insurance number	
2.2	Primary insurance company name	
2.3	Primary Leading Insurance	Boolean
2.4	Primary Insurance Type	
2.5	Primary Start Date	
2.6	Primary Expiration Date	
2.7	Primary Insuree	Party that pays for insurance
2.8	Primary Insuree relation to insured	
2.9	Primary verification date	Check of data against insurance companies
2.10	Primary Insurance contact person	
2.11	Secondary insurance number	
2.12	Secondary insurance company name	
2.13	Secondary Leading Insurance	
2.14	Secondary Insurance Type	
2.15	Secondary Start Date	
2.16	Secondary Expiration Date	
2.17	Secondary Insuree	
2.18	Secondary Insuree relation to insured	
2.19	Secondary verification date	
2.20	Secondary Insurance contact person	
2.21	Insured by company / employer	Boolean
2.22	Company Name	
2.23	Company Insurance start date	
2.24	Company Insurance end date	
2.25	Managing Org ID	ID number of organisation that uploaded data

Episode Details

3.1	Episode Unique Identifier	Internal id EHR, connect consult to episodes
3.2	Episode Name	ICPC code name
3.3	Episode Altered Name	ICPC code altered name by GP
3.4	Episode Code	ICPC code
3.5	Episode Status	Catalogue
3.6	Episode Start Date	
3.7	Episode End Date	
3.8	Managing Organisation ID	ID number of organisation that uploaded data

Consult / De-Cursus Information

4.1	Consult Unique Identifier	ID to which consult parameters are registered
4.2	Episode ID	Foreign Key to Episode
4.3	Reason For Encounter (RFE)	
4.4	Subjective	
4.5	Subjective ICPC Code(s)	Catalogue
4.6	Objective	
4.7	Evaluation	
4.8	Evaluation ICPC Code(s)	Catalogue
4.9	Policy	
4.10	Date / Time Field	
4.11	Procedure Type	Catalogue
4.12	Date / Time Field	
4.13	Procedure Result	
4.14	Managing Organisation ID	ID number of organisation that uploaded data

Health Items

5.1	Allergy Type	Catalogue
5.2	Allergy Code	Catalogue
5.3	Allergy Severity	Catalogue
5.4	Allergy Reaction	
5.5	Allergy Identification Date	
5.6	Blood Type	
5.7	Blood Type Coding System	
5.8	Body Temperature	
5.9	Body Temperature unit	
5.10	Date / Time of Measurement Body Temperature	
5.11	Body Temperature measurement method	Catalogue
5.12	Pulse Rate	
5.13	Pulse Rate Unit	
5.14	Date / Time of measurement Pulse Rate	
5.15	Pulse Rate measurement method	Catalogue
5.16	Heart Rhythm	
5.17	Strength of Pulse	Catalogue
5.18	Heart Rhythm measurement type	Catalogue
5.19	Palpation Location	If palpation is used / Catalogue
5.20	Respiration Rate	
5.21	Respiration Unit	
5.22	Respiration measurement type	Catalogue
5.23	Respiration Date / Time	
5.24	Respiration Rhythm	Catalogue
5.25	Systolic Blood Pressure	
5.26	Systolic unit	
5.27	Date / Time of measurement Systolic	
5.28	Measurement method used for systolic pressure	Catalogue
5.29	Diastolic Blood Pressure	

5.30	Diastolic unit	
5.31	Date / Time of measurement Diastolic	
5.32	Measurement method used for Diastolic pressure	Catalogue
5.33	Body Weight	
5.34	Unit for body weight measurement	
5.35	Date / Time of Measurement Body Weight	
5.36	Measurement method used for body weight	Catalogue
5.37	Family Anamnesis relatives	
5.38	Type of Diagnosis relatives	Catalogue
5.39	Age of Diagnosis relatives	
5.40	Managing Organisation ID	ID number of organisation that uploaded data
5.41	Surgical History	
5.42	Surgical History Date Time	

Referral Information

6.1	Referral Type	Catalogue
6.2	Referral Priority	Catalogue
6.3	Referral Category	
6.4	Referral Reason	
6.5	Referral Status	
6.6	Referral process date	When referral was given
6.7	Referral Effective date	Date when referral becomes active
6.8	Referral Expiration Date	
6.9	Referring Provider Name	GP that gave referral
6.10	Receiving Provider Name	The referral party name
6.11	Referral Consulting Doctor	Not always is the receiving also the person conducting the consult
6.12	Managing Organisation ID	ID number of organisation that uploaded data

Drug Prescription

7.1	Medication Name	Catalogue
7.2	Medication Code	Catalogue
7.3	Total Amount	
7.4	Dosage Amount	
7.5	Unit	Catalogue
7.6	Strength	
7.7	Frequency Usage	Integer
7.8	Frequency Unit	Catalogue
7.9	Administration Instructions	Special instructions by GP
7.10	Possible Substitutions	
7.11	Delivery Form	Catalogue
7.12	Prescription Date	
7.13	Prescription Issue Date	
7.14	Side Effects	
7.15	Side Effects Status	Catalogue
7.16	Severity	Catalogue
7.17	Medication Stoppage Date	
7.18	Medication Stoppage Reason	
7.19	Medication Prescription Repeats	Integer
7.20	Medication Original Prescription ID	
7.21	Medication Repeat Date	Interval Catalogue
7.22	Managing Organisation ID	ID number of organisation that uploaded data

Prescription example:
3 times daily 2 paracetamol 500 mg for 10 days.

total amount is 60
dosage amount is 2
frequency usage is 3
frequency unit is daily
strength = 500
unit = mg

Consent Information

8.1	Non Consent Type	Catalogue
8.2	Non Consent Text	
8.3	Non Consent Status	Catalogue
8.4	Non Consent Discussion Date/Time	
8.5	Non Consent Decision Date/Time	
8.6	Non Consent End Date	
8.7	Non Consent Mode	Catalogue / How given
8.8	Non Consent Bypass Reason	

Diagnostics Data

9.1	Observation Value Name	LOINC Component
9.2	Observation Value	
9.3	Observation Unit	
9.4	Observation Property	LOINC Property
9.5	Observation Timing	LOINC Timing
9.6	Observation System	LOINC System
9.7	Observation Scale	LOINC Scale
9.8	Observation Method	LOINC Method
9.9	Reference Range	
9.10	Abnormal Flags	Catalogue
9.11	Observation Result Status	Catalogue
9.12	Observation Date / Time	
9.13	Equipment used for observation	Catalogue
9.14	Observation Notes	
9.15	Equipment Last Calibration Time	
9.16	Calibration Company / Name	
9.17	Referral ID for observation	
9.18	Managing Organisation ID	ID number of organisation that uploaded data

Vaccination Information

10.1	Vaccination ID nr	Connect Side effects
10.2	Administered Vaccine	Catalogue
10.3	Administered Amount	
10.4	Administered Unit	
10.5	Administered Dosage Form	Catalogue
10.6	Date Time start of Vaccination	
10.7	Date Time end of vaccination	
10.8	Vaccination Substance Lot Nr	
10.9	Vaccination Substance Expiration Date	
10.10	Vaccination Manufacturers Name	
10.11	Route Identifyer	Catalogue
10.12	Route Text	Catalogue
10.13	Administered Site Identifyer	Catalogue
10.14	Administered Site Name	Catalogue
10.15	Side Effects	
10.16	Type Side Effects	Catalogue
10.17	Location Side Effects	
10.18	Severity Side Effects	Catalogue
10.19	Outcome Side Effects	Catalogue
10.20	Managing Organisation ID	ID number of organisation that uploaded data

HEARTS Consumer Application Information

11.1	Risk Factor Type	Catalogue *
11.2	Exposure Details	
11.3	Start Date	
11.4	End Date	
11.5	Regularity	Catalogue
11.6	Onset Date	
11.7	Notes	
11.8	Sport Activity	Boolean
11.9	Sport Hours p/wk	Catalogue
11.10	Hearts Consumer App Registration	Boolean
11.11	Appointment Type	Catalogue
11.12	Appointment Date / Time	
11.13	Managing Organisation ID	ID number of organisation that uploaded data

* Risk Factors list contains at least: Drinking, Smoking, Drugs, Obesity, Premature Birth, Asbestos

History Parameters

12.1	History Type	Catalogue *
12.2	Start Date	
12.3	Onset Date	
12.4	Diagnosis	Catalogue (ICPC) / Optional
12.5	Procedure	Catalogue (ICPC) / Optional
12.6	Other Medical	Optional
12.7	Description	
12.8	Treatment	
12.9	Status	
12.10	Additional Info	
12.11	End-Date	(also resolution date)

* history types are: Medical History, Surgical History, Family History, Ongoing Condition

Death Certificate Information

13.1	Cause of Death (ICD 11 Code)	Catalogue (ICD11)
13.2	Cause of Death Text	
13.3	Cause of Death Time Interval	From onset to death
13.4	Chain of events (b)	
13.5	Chain of events (b) Date / Time	From onset to death
13.6	Chain of events (c)	
13.7	Chain of events (c) Date / Time	From onset to death
13.8	Underlying Cause	
13.9	Underlying Cause Date / Time	From onset to death
13.10	Other Significant Conditions contributing to death (ICD 11)	Catalogue (ICD11)
13.11	Other Significant Conditions contributing to death (Text)	
13.12	Other Significant Conditions Date / Time	
13.13	Surgery performed in last 4 weeks	Catalogue
13.14	Date of Surgery	
13.15	Reason for Surgery code	Catalogue
13.16	Reason for Surgery Text	
13.17	Autopsy Requested	Catalogue
13.18	Autopsy Findings used in certificate	Catalogue
13.19	Manner of Death	Catalogue
13.20	Description of external cause	
13.21	Place of Occurance	Catalogue
13.22	Other place	
13.23	Multiple pregnancy	
13.24	Stillborn	Boolean
13.25	Deceased N Hours after birth	
13.26	N weeks of pregnancy	
13.27	Birth Weight	
13.28	Mothers Age	
13.29	Perinatal Death, Mothers Conditions	

13.30	Deceased while pregnant	Boolean
13.31	Pregnant 42 days before death	Boolean
13.32	Pregnant 43 to a year before death	Boolean
13.33	Pregnancy contributed to death	Boolean

Other Information

14.1	Health Statement	
14.2	Sickday Reason	
14.3	Amount of Sickdays	
14.4	Sickdays start date / time	
14.5	Sickdays end date / time	
14.6	Health issue restrictions on work	
14.7	Patient Occupation	
14.8	Patient Education Level	
14.9	Primary Care Provider Name	
14.10	Primary Care Provider Facility	
14.11	Managing Organisation ID	ID number of organisation that uploaded data