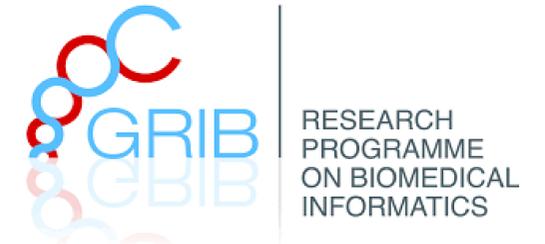# Mapping "Parc de Salut Mar" Hospitals Information System to the OMOP Common Data Model

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RESEARCH PROGRAMME ON BIOMEDICAL INFORMATICS
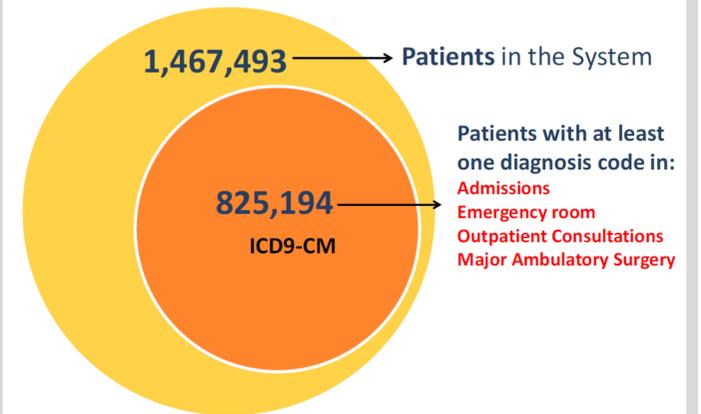
IMASIS: Electronic Health Record System

The IMASIS information system is the Electronic Health Record (EHR) system of the Parc Salut Mar **Barcelona** Consortium (Spain), which is a complete healthcare services organization

Currently, this information system includes the clinical information of two general hospitals, one mental health care center, one social-healthcare center and five emergency room settings in the Barcelona city area in Spain
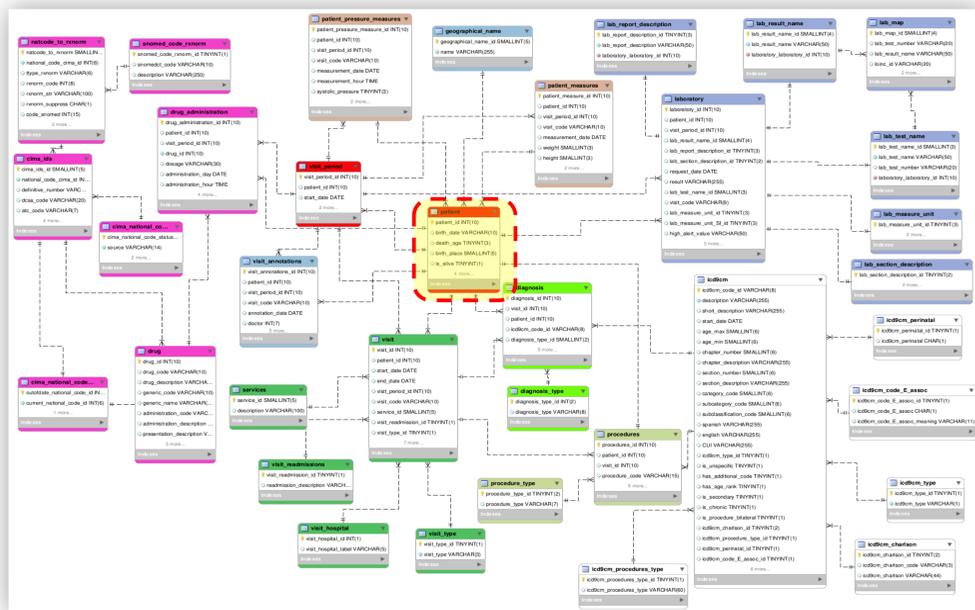
IMASIS includes clinical information from patients who have used the services of this healthcare system since 1990 and from different settings such as admissions, outpatients, emergency room and major ambulatory surgery

IMASIS-2 is the relational model database containing anonymized patient information from IMASIS used for research purposes

IMASIS-2 Database (Parc de Salut Mar)

1,467,493 → **Patients** in the System

825,194
ICD9-CM

Patients with at least one diagnosis code in:
Admissions
Emergency room
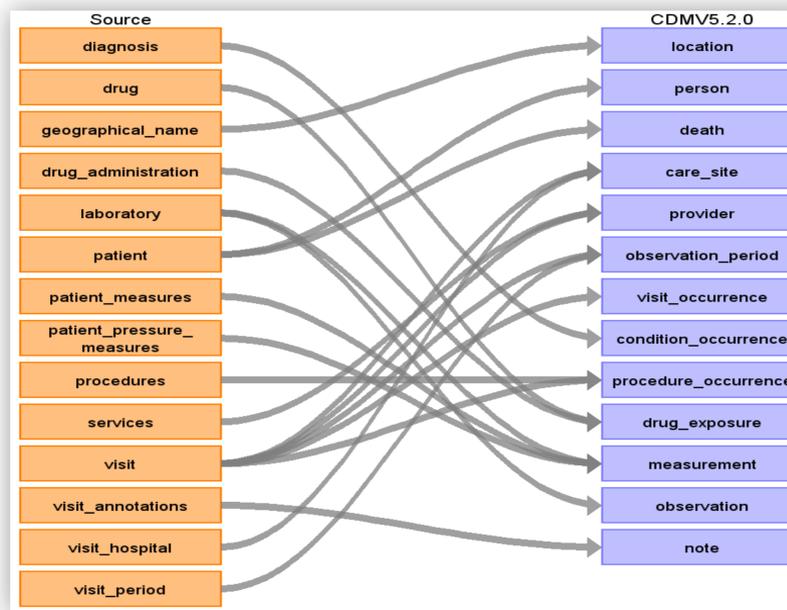Outpatient Consultations
Major Ambulatory Surgery

IMASIS-2 Database Schema and Mapping process

The **IMASIS-2 database** is based on a patient centered schema. Visit data and clinical information is directly connected to the "patient" table. Time dependent connectivity between the "visit" table and the tables containing clinical information is available through the "visit_period" table.

IMASIS-2 Mapping process to CDMV5.2.0

Source	CDMV5.2.0
diagnosis	location
drug	person
geographical_name	death
drug_administration	care_site
laboratory	provider
patient	observation_period
patient_measures	visit_occurrence
patient_pressure_measures	condition_occurrence
procedures	procedure_occurrence
services	drug_exposure
visit	measurement
visit_annotations	observation
visit_hospital	note
visit_period	

The RabbitInAHat application was used in the design of a ETL enabling the IMASIS-2 data migration into the CDMV5.2.

IMASIS-2 source vocabularies

Standard Domain:	IMASIS-2 Vocabulary:	CDMV5.2 Vocabulary:
Condition	ICD-9-CM	SNOMED
Drug	AEMPS cima	RxNorm
Measurement	LOINC	LOINC
Observation	LOINC	LOINC
Procedure	ICD-9-CM	CPT4/SNOMED

Expected impacts

The expected impacts are:

- To accelerate the access and translation of the clinical information for research purposes

- To improve the original database structure and quality of data

- To enhance the understanding of our database

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