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Technology, innovation  
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# Imagine 2029: Our data, our health, our care – 20th anniversary of EHTEL

## EHTEL 2019 Symposium

11:15 – 12:30 [S8]



Aula 1  
First Floor



**Breakout A: Meaningful Data Sharing and Advancing for Interoperable Health Records**

*Inspired by “EHRxF” recommendation COM(2019)800: Exploring interoperability and meaningful data.*

Session Chair: Janne Rasmussen, Medcom, Odense, Denmark

**Towards an EHR Exchange Format: Joint Steps Member States and European Commission**

Costica Dumbrava, DG CNECT - Unit H3, European Commission, Luxembourg

**InteropEHRate - Supporting EHR Exchange through ‘Data in People’s Hands’**

Francesco Torelli, Engineering, Rome, Italy

**Smart4Health - Citizen-centred EU-EHR Exchange for Personalised Health**

Afonso Duarte, Smart4Health Coordination Office, UNINOVA, Lisbon, Portugal

**International Patient Summary (IPS) in Clinical Use - Lessons Learned in InteropEHRate**

Stefano Dalmiani, FTGM “Gabriele Monasterio” Medical Research Foundation, Pisa, Italy

**Q&A and Conclusions by the Session Chair**

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# The Digital Transformation of Health and Care in the EU

## Interoperability of EHR systems

EHTEL Symposium, Barcelona, 4 December 2019

Putting people at the centre  
of **health and care**

Enabling secure access to health data across the EU

Data sharing for better research and personalised healthcare

Empowering patients with digital tools

#DigitalSingleMarket  
#DigitalHealth



**Costica Dumbrava**  
Programme Officer

**European Commission**  
**DG CONNECT – Communications**  
**Networks, Content and Technology**  
**Unit H3 – eHealth, Well-being &**  
**Ageing**

# The Digital Transformation of Health and Care in the EU

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## Priorities (EC Communication):

1. Provide better access to health data for citizens
2. Pool health data for research and personalised medicine
3. Empower citizens and foster human-centred health and care through digital tools and solutions

# Recommendation on a Electronic Health Record exchange format

## Aims

- ❑ Support Member States in their efforts to build **interoperable** EHR systems, ensuring adequate **protection and security** of health data
- ❑ Enable citizens to **access and share** their health data with healthcare professionals across borders in the EU
- ❑ Supports the digital transformation of health and care in the EU by facilitating the flow of **health data** across borders



# Recommendation on a Electronic Health Record exchange format

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A framework for the further development of a European EHR exchange format

- ❑ **Principles** governing the access to and exchange of EHRs across borders
- ❑ **Common technical specifications** for the cross-border exchange of data
- ❑ **Joint Coordination Process** for the development of the European EHR format

# Recommendation on a Electronic Health Record exchange format

## Guiding principles

- Citizen centric by design
- Comprehensiveness and machine readability
- Data protection and confidentiality
- Consent or other lawful basis
- Auditability
- Security
- Identification and authentication
- Continuity of service

## Security and Data Protection

- GDPR
- NIS Directive
- Set up National Digital Health Networks

# Recommendation on a Electronic Health Record exchange format

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## Common technical specifications (baseline)

- ❑ Initial set of **health information domains**: patient summaries, ePrescriptions, laboratory reports, medical images and reports, and hospital discharge reports
- ❑ Common list of **interoperability specifications** (existing standards and profiles)
- ❑ **Incremental and selective approach** for adopting, refining, and maintaining the specifications of the European EHR exchange format

# Recommendation on a Electronic Health Record exchange format

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## Joint Coordination Process

- ❑ Drivers – EC & Members states
- ❑ Purpose - oversee, develop and adopt the European EHRxF
- ❑ Resources - existing expertise and projects, pilots
- ❑ Stakeholders - wider engagement (relevant national authorities, clinicians, patients, industry)
- ❑ Integrated policy approach - GDPR, cybersecurity, European health data space

# European EHR interoperability

## State of play

### eHealth Digital Service Infrastructure (eHDSI)

- ❑ Enables the cross-border exchange of patient data in the EU (Patient Summary and ePrescription)
- ❑ Ongoing work to expand the scope of eHDSI
- ❑ eHN investment guidelines for MS – interoperability specifications – prerequisite for procurement of health services
- ❑ DEP funding for eHDSI (Deployment & interoperability)

# European EHR interoperability

## State of play

### Interoperability Roadmap

- ❑ Ongoing discussions with MS (eHealth Network)
- ❑ Take stock of existing projects; mobilise resources and expertise (e.g. TRILIUM II, INTEROPEHRATE)
- ❑ H2020 Coordination and Support Action (deadline for proposals 13 November 2019)- under evaluation

# European EHR interoperability

## State of play

### Stakeholder consultations

- eHealth Stakeholder Group – new mandate
- HealthTech Roundtable
- Innovation community (EIP/AAL)
- Patients Workshop on Health Data

# European EHR interoperability

## State of play

### Integrated approach on health data

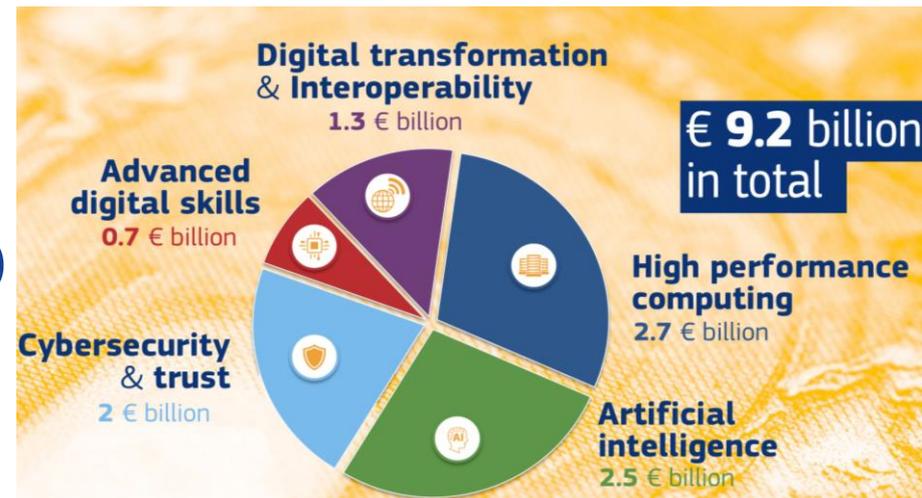
- Data protection - GDPR
- Cybersecurity and trust: NIS Directive; Health eID
- European health data space – secure access to different kinds of health data for healthcare, research and innovation (Genomics declaration; AI & imaging)
- Funding (DEP, Horizon Europe)

# Digital Europe Programme

- ❑ Health & Care: key societal sector & high impact deployment area
- ❑ 5 DEP Pillars: HPC; AI; Cybersecurity; Digital skills; Deployment and interoperability

## Priorities on health (2021-2012)

- ❑ Connecting health data (eHDSI, Genomics, ERNs)
- ❑ Building trust and innovation for digital health and care
- ❑ Promoting digital skills in health and care sector



# Funding opportunities digital health 2021-2027



*Digital Europe Programme  
and Connecting Europe Facility*



*Horizon Europe*



*European Social Fund +  
and European Globalisation  
Adjustment Fund*



*European Regional  
Development Fund*



*InvestEU Programme*

# THANK YOU!

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# InteropEHRate

EHR in people's hands across Europe



## EHR EXCHANGE FOR CITIZENS

EHTEL 2019 SYMPOSIUM – DECEMBER 4<sup>TH</sup> 2019, BARCELONA

FRANCESCO TORELLI

*Engineering Ingegneria Informatica SpA - R&D Lab*

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 826106



# Who we are

## Project Acronym: **InteropEHRate**

- **Type:** Research and Innovation action
- **Grant Agreement Number:** 826106
- **Budget:** €7,192,592.50

- 1<sup>st</sup> January 2019
- 30<sup>th</sup> June 2022
- 42 months



- Engineering - Ingegneria Informatica S.p.A. (Italy)
- A7 Software (Belgium)
- EHTEL - European Health Telematics Association (Belgium)
- DTCA Hygeia - Diagnostic and Therapeutic Centre of Athens (Greece)
- University of Trento (Italy)
- University of Vienna (Austria)
- EFN - European Federation of Nurses Associations (Belgium)
- FTGM - Toscana Gabriele Monasterio per la Ricerca Medica e di Sanità Pubblica (Italy)
- CHU de Liège - Centre Hospitalier Universitaire de Liège (Belgium)
- UBITECH Limited (Cyprus)

- UPRC - University of Piraeus Research Center (Greece)
- SCUBA - «Bagdasar-Arseni» Clinical Emergency Hospital of Bucharest (Romania)
- SIVICO Romania S.A. (Romania)
- Fraunhofer ISST - Institute for Software and Systems Engineering (Germany)
- ISA - Iatrikos Syllogos Athinon (Greece)
- Byte Computer S.A. (Greece)

# cross-border exchange of health data



# EHRxF Recommendation

***“Citizens should be central to the way in which systems are designed [...]***

***(8) Member States should ensure that **citizens** are able to access and securely **share their electronic health data across borders.*** [...]**

***(9) Member States are encouraged to **give citizens the ability to choose to whom they provide access** to their electronic health data, and which health information details are shared. *[...]****

***(10) Member States should **ensure that the principles [...]** are observed when developing solutions enabling access to, and exchange of electronic health data in the Union. [...]***

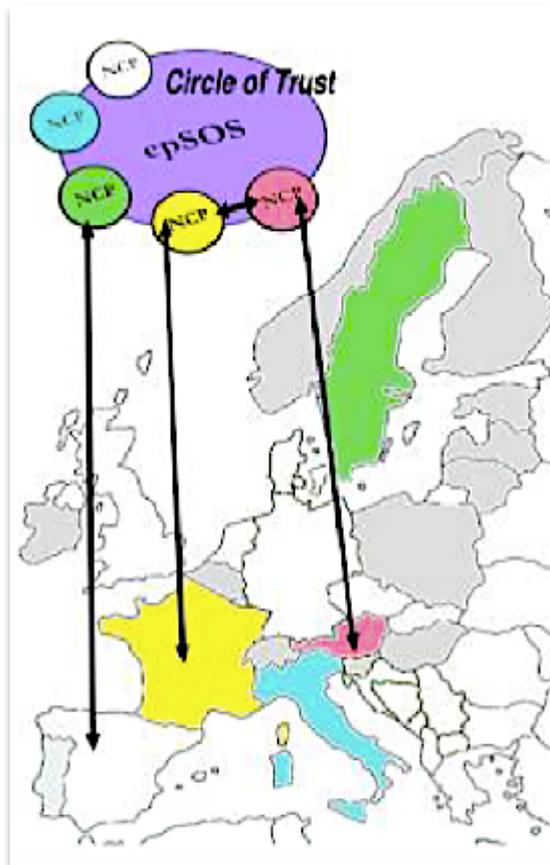
***The refinement of the exchange format should **consider the possibility offered by resource driven information models** (such as Health Level Seven Fast Healthcare Interoperability Resources (HL7 FHIR®)).***

***[...] **Data protection and confidentiality** [...] **Consent** [...] **Auditability** [...] **Security** [...] **Identification and authentication** [...]*”**



# CROSS-BORDER EHR EXCHANGE UNDER TESTING IN EU

System Architecture Specification v3.0.0, DG SANTE, CEF eHealth DSI, 2019



## eHealth DSI\* overall picture

***A circle of trust is built between NCP\*\****  
*in the "eHealth DSI abstract space",*  
*the only way a country can exchange with another country.*

\***eHDSI**: The eHealth Digital Service Infrastructure (eHDSI or eHealth DSI) is the initial deployment and operation of services for cross-border health data exchange under the Connecting Europe Facility (CEF)

\*\***NCP**: National Contact Point as referred to in Article 6 of Directive 2011/24/EU

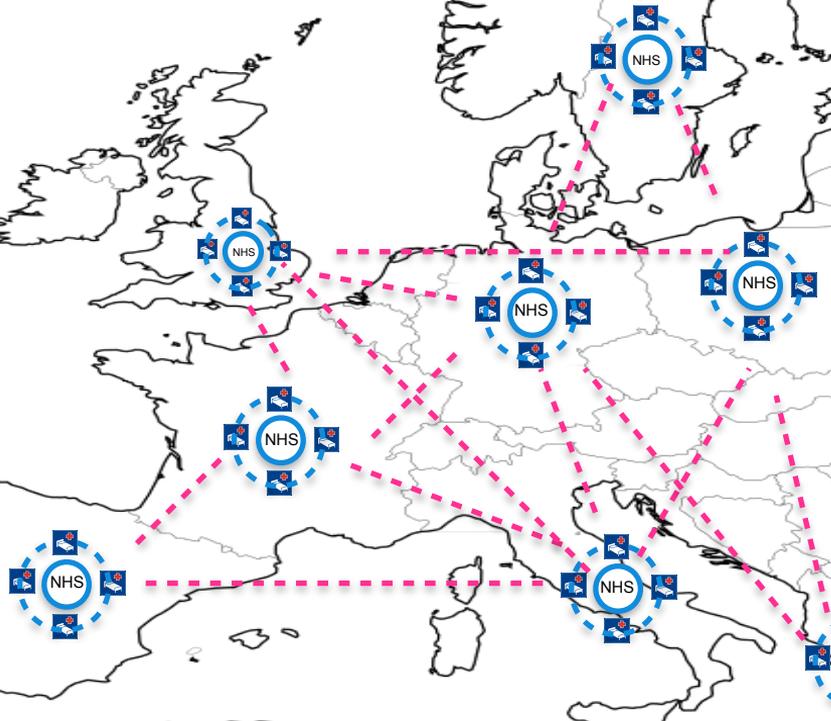
*Organisations delegated by each participating Country, acting as a bidirectional way of interfacing between the existing different national functions provided by the national IT infrastructures and those provided by the common European infrastructure, created in eHDSI.*

**NCPeH**: National Contact Point for eHealth, which may act as an organisational and technical gateway for the provision of eHealth Cross-Border Information Services.



# eHDSI approach

**Top-down approach**



# NEW CROSS-BORDER INTEROPERABILITY UNDER TESTING IN EU

## With eHDSI

- Every EU country will expose **NCPeH** (National Contact Points for eHealth) to offer to other countries the cross border exchange of **ePrescriptions** and **Patient Summaries**

## Limits

- **HCPs cannot access** to health data produced in foreign countries **without internet**
- **Citizens cannot access** to health data produced **in foreign countries**
- **Citizens** have **no control on** health data exchange
- There is **limited support for translation**
- Based on yet another API



# InteropEHRRate GOAL

*To extend eHDSI Architecture  
to support **cross-border exchange** of  
personal health data*

between **Citizens** and **health organisations**



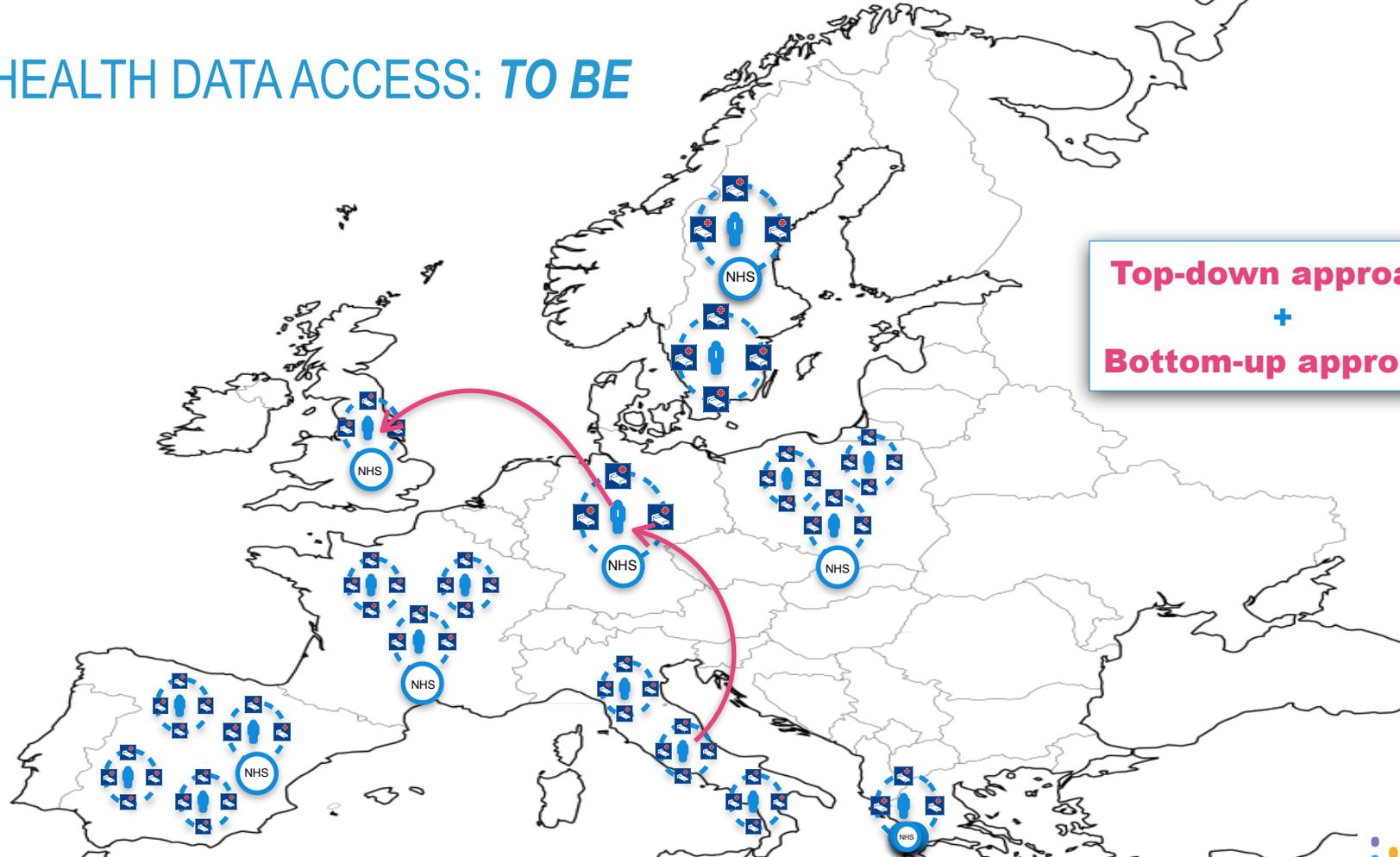
# HOW

Define, validate and promote an **open specification** to securely store health data on personal mobile apps (**S-EHRs**) and exchange health data between Citizens and HCPs or Researchers of different countries using **InteropEHRate protocols**.



# HEALTH DATA ACCESS: *TO BE*

**Top-down approach**  
+  
**Bottom-up approach**



# MAIN RESULTS OF InteropEHRate (IEHR)

## 1. InteropEHRate open specification

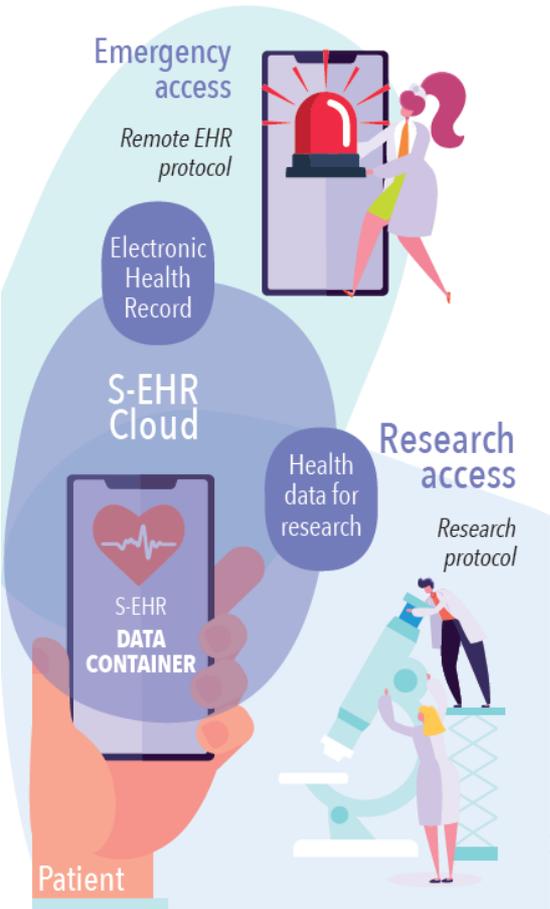
Vendor independent technologies  
to become EU standard for  
Citizen Centred mobile interoperability.

## 2. InteropEHRate Framework

The reference implementation of the  
InteropEHRate open specification.



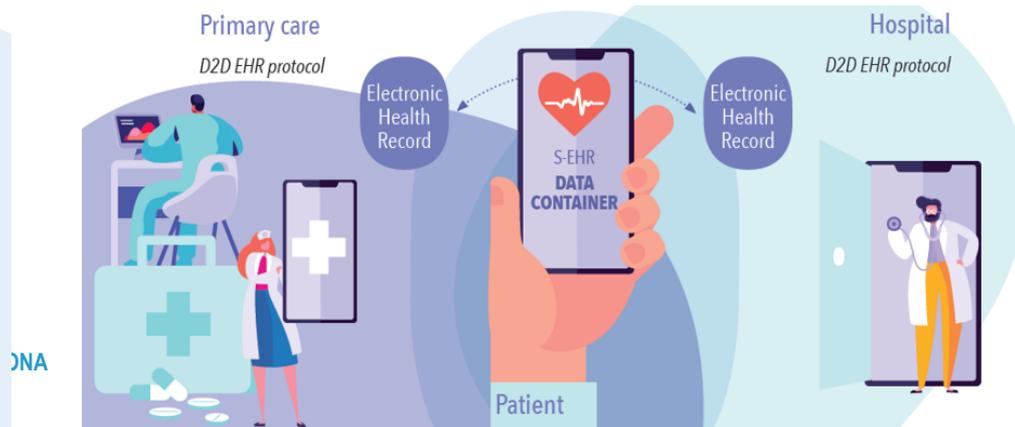
# IEHR Open specification



1. **D2D protocol** – applied to **Face to face medical visit**  
*Exchange of health data without internet connection*

2. **Remote protocol** – applied also to **Clinical emergency**  
*Access to data available on personal cloud and NCP node*

3. **Research protocol** – applied to **Research study**  
*Sharing of health data for specific research studies*



# IEHR Open specification

## 1. FHIR profiles for EHR interoperability

### Leverage

- IHE
- HL7 FHIR
- CEN IPS

## 2. S-EHR conformance levels

constraints and guidelines that S-EHRs and cloud storage must fulfil.

### Leverage

- GDPR
- Security standards

## 3. D2D protocol for healthcare

exchange among two near devices, on encrypted short range channel (Bluetooth).

## 4. Remote protocol for healthcare

health data exchange between S-EHR, NCP, S-EHR Cloud;

### Leverage

- eIDAS / CEF eID
- eHDSI

## 5. Remote protocol for Research

exchange of health data, on internet, between the S-EHR App and Research Organizations.



# Improvement in data quality

- Health data provenance is certified;
- Data are structured using specific FHIR profiles that integrate existing standards;
- Data structured according to specified FHIR profiles can be reliably translated in different user languages.

Both Citizens and consumers of Citizens' health data are guaranteed by non-repudiation.



# Improvement in interoperability & patient empowerment

- **Non proprietary protocols free** Citizens, HCPs and Researchers from specific vendors.
- Citizens are **in control** of health data exchange, give/retract **specific usage consents**.
- Citizens may use (EIDAS) **same credentials** for accessing every health data source.
- With **Remote protocol**
  - Citizens may **import** their health data at distance **into their preferred (S-EHR) mobile app**.
  - HCPs may access to health data stored in Citizen's S-EHR Cloud in **emergency**.
- With **D2D protocol** Citizens and HCPs can exchange health data without internet.
- With **Research protocol** Citizens can **share certified health data** to researchers **across Europe**.



# INTEROPEHRATE FRAMEWORK

## REFERENCE IMPLEMENTATION (PROTOCOLS IMPLEMENTATION & EXAMPLE APPS)

1. **S-EHR mobile app**: prototype of mobile app fulfilling the *S-EHR conformance levels*, able to import/share data from/with EHRs and with research centres.
2. **S-EHR cloud**: prototype of optional secure cloud service, fulfilling the *S-EHR conformance levels*, for personal cloud storage.
3. **HCP App**: prototype of secure app, used by the Health Care Professionals (HCPs) to securely exchange health data with any S-EHR or S-EHR Cloud.
4. **InteropEHRate Health Services (IHS)**: prototype of Healthcare Interoperability Services, implementing *D2D and remote protocols*.
5. **InteropEHRate Research Services (IRS)**: prototype of a Research Interoperability Service, implementing *protocol for research*.



# INTEROPEHRATE FRAMEWORK

## INTEROPEHRATE HEALTH TOOLS (IHT)

### **Data schema conversion**

Mapping local DB schemas to the InteropEHRate FHIR profile  
Conversion of records according to the mapping

### **Semantic codes conversion**

Mapping local terms to international codes  
Conversion of codes according to the mapping

### **Information extraction**

Extraction of codes and structured content from unformatted content (e.g. interpretation of equivalent expressions to represent the dosage of medicines)

### **Language translation**

Presentation of coded and extracted information into the language of the user  
Integration with external services for free text translation

*IHT is integrated within IHS, but is also reusable independently.*



# PILOTS

Pilot site	Country	Medical Visit	Emergency	Research
<b>FTGM</b> (FONDAZIONE TOSCANA GABRIELE MONASTERIO PER LA RICERCA MEDICA E DI SANITA PUBBLICA)	Italy	X	X	X
<b>CHU Liege</b> (CENTRE HOSPITALIER UNIVERSITAIRE DE LIEGE)	Belgium	X	X	X
<b>DTCA Hygeia</b> (DIAGNOSTIKON KAI THERAPEFTIKON KENTRON ATHINON YGEIA ANONYMOS ETAIREIA)	Greece	X		X
<b>SCUBA</b> (SPITALUL CLINIC DE URGENTA BAGDASAR-ARSENI )	Romania		X	X



# GOVERNANCE AND EVOLUTION MODEL

## **Cover the right requirements is not sufficient.**

Managing the Human Factor and put the basis for the future is fundamental for acceptance, creation and survival of an eco-system

### **An agile model of governance defining:**

- a standardisation process
- rules to enter the eco-system
- how to manage the evolution of protocols
- strategy of collaboration with policy and legislation makers



# AN EU ROADMAP FOR EHR EXCHANGE MEDIATED BY CITIZENS

1. **Open specifications**;
  - a. FHIR based APIs covering Citizens' requirements
  - b. FHIR profiles integrating standards (also for **digital consents**)
2. Vendors and standardisation bodies **engagement**;
3. **EU endorsement** of open specifications;
4. **EU Certification** of SW products (mobile apps, services, systems);
5. **EU Services** (e.g. for official translation of standard terminologies);

**ACHIEVEMENT:** Reliable cross border exchange of health data.



# THANK YOU



[www.interopehrate.eu](http://www.interopehrate.eu)

InteropEHRRate project is co-funded by the  
European Union (EU) Horizon 2020 program  
under Grant number 826106





## **Citizen-centred EU-EHR exchange for personalised health**



## General objective

*Smart4Health will develop, test and validate a platform for the Smart4Health citizen-centred health record with integrated abilities for aggregation of data, for data sharing and for data provision/donorship to the scientific community.*

# Call objectives

- *Topic: SC1 -DTH-08-2018 - Prototyping a European interoperable Electronic Health Record (EHR) exchange (April 2018)*
- *Objectives:*
  - **1) Citizens' secure access to electronic health records and the possibility to share it across borders,**
  - **2) Supporting data infrastructure, to advance research, disease prevention and personalised health and care**
  - **3) Facilitating feedback and interaction between patients and healthcare providers, to support prevention and citizen empowerment as well as quality and patient-centred care.**

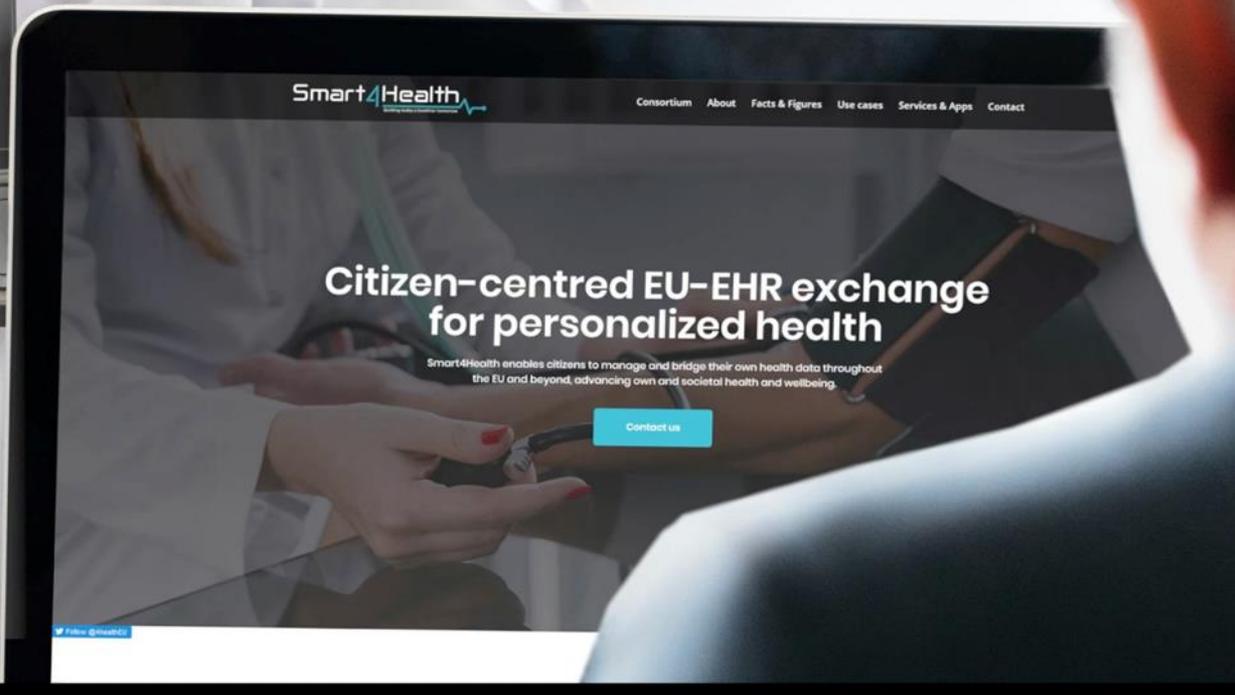


This project has received funding from the European Union's Horizon 2020 research and innovation programme under the grant agreement No. 826117.

# Smart4Health

Building today a healthier tomorrow

*Project Officer:*  
*Dr. Saila Rinne*  
*Coordinator: UNINOVA*  
*Scientific coordinator: HPI*  
*Start: 1<sup>st</sup> January 2019*  
*End: 28<sup>th</sup> February 2023*  
*Duration: 50 months*



# Smart4Health Consortium

Building today a healthier tomorrow



Instituto de  
Desenvolvimento  
de Novas Tecnologias



Hasso Plattner  
Institute



Data4Life

Healthmetrix

HealthMetrix GmbH



University of  
Vienna



University Hospital  
Aachen



Maastricht University  
Hospital



Information  
Technology for  
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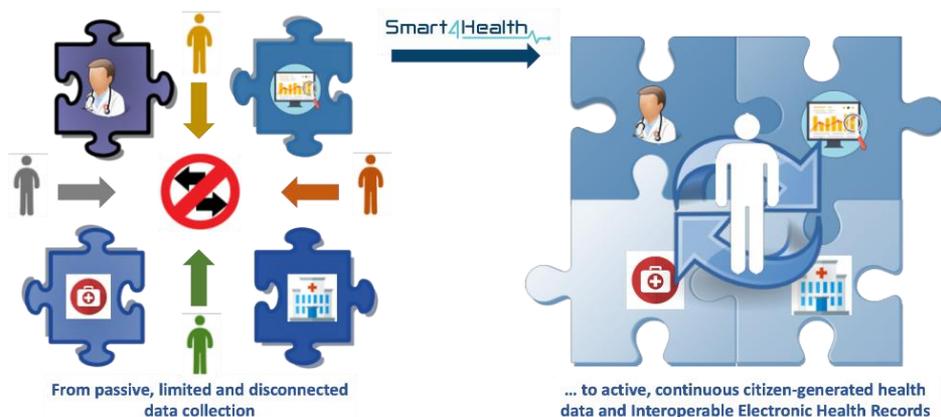


# Smart4Health Concept

- *Centred around the citizen and its health-related environment.*
- *Citizen empowerment addressed by mirroring citizens' **needs, desires, preferences, norms and values** around two Leitmotifs:*

**I am supported in managing my own health**

**I can help others by donating data**

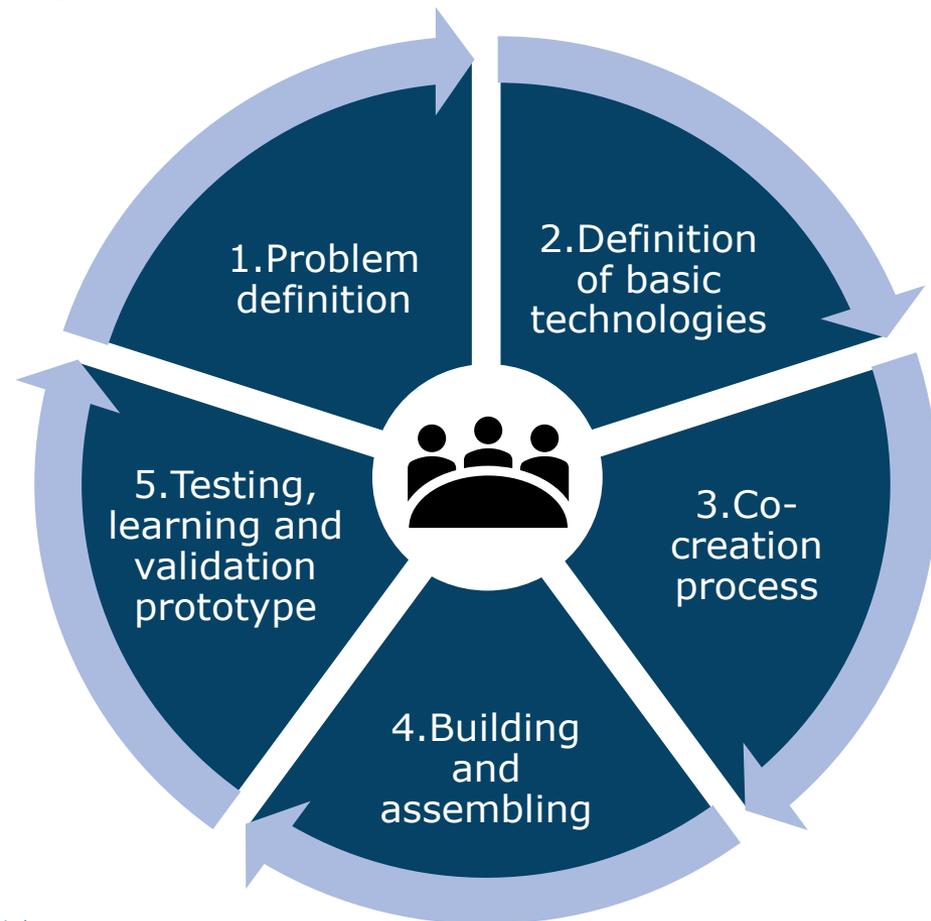


# Specific objectives

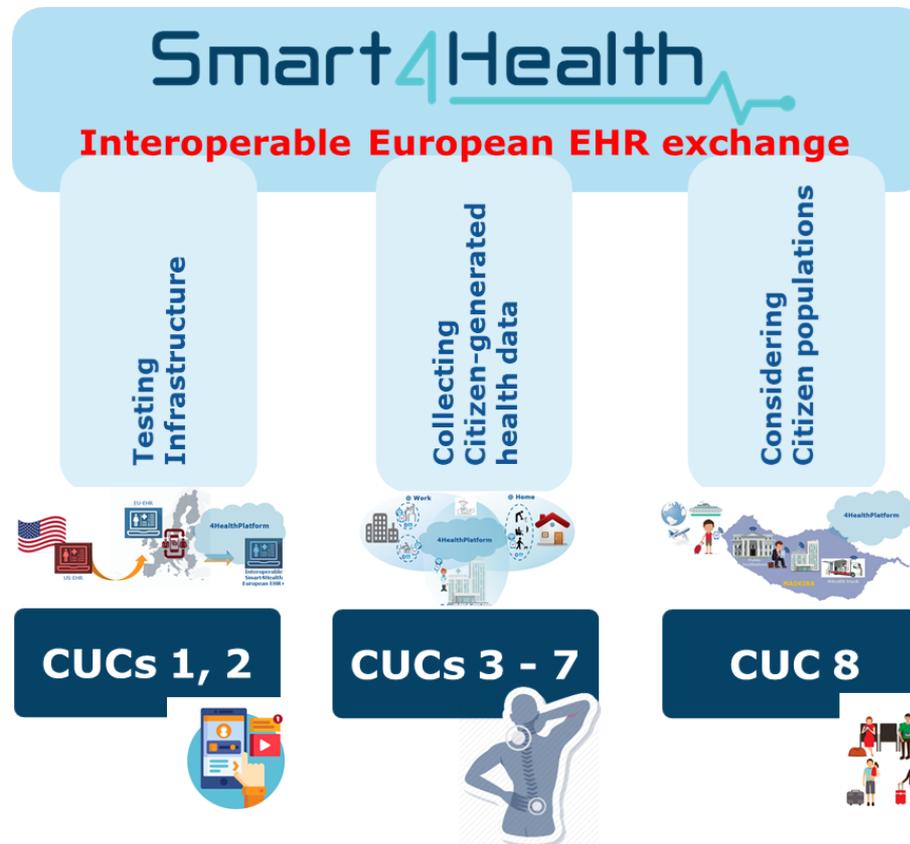
- *Citizen empowerment*
  - **Management of own health data**
  - **Citizen decision on what/whom to share health data**
- *Interoperable and transnational infrastructure*
  - **All citizens throughout Europe**
  - **Citizen with secure access to own health information**
- *Data Donation for research and innovation*
  - **Infrastructure supporting Citizen to donate data for research and innovation**

# Citizen empowerment

- *European citizens are in the center stage: conceptually and methodologically*
- *Co-creation and co-design framework*



# Citizen Use Cases and Use Design Cases



# Citizen Use Cases and Use Design Cases

**Testing  
Infrastructure**

**Collecting  
Citizen-generated  
health data**

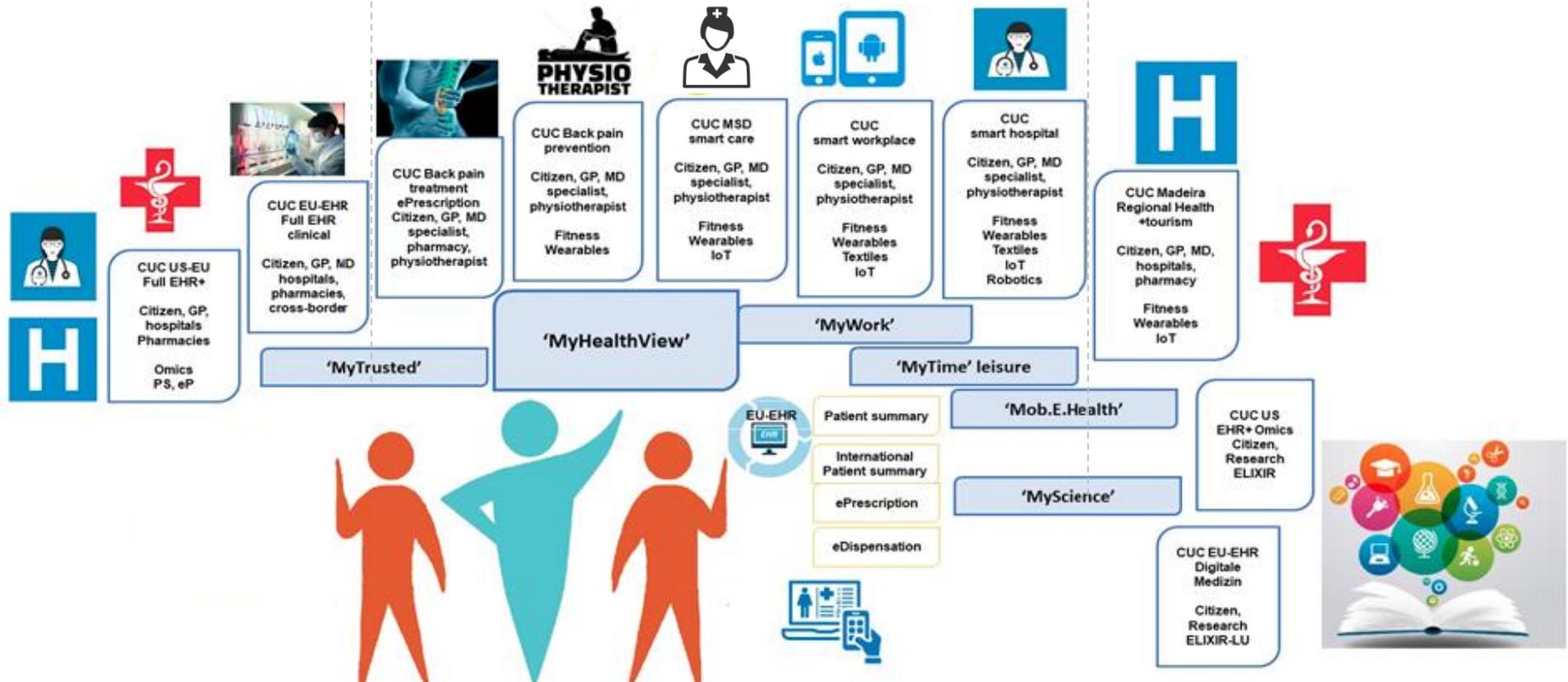
**Considering  
Citizen populations**

# Citizen Use Cases and Use Design Cases

Testing Infrastructure

Collecting Citizen-generated health data

Considering Citizen populations



## Citizen Use Cases and Use Design Cases

- *Empower citizens' data access, portability, control, sharing and provision.*
- *Co-create the Social Science and Humanities Framework for citizen/user.*
- *Engage user groups throughout the project*
- *Ensure attention theft avoidance.*

# Interoperable and transnational

- *Support to the Fast Healthcare Interoperability Resources of the HL7*



- *Using the European standards*
  - **Connecting Europe Facility (CEF) Building Blocks**
  - **IHE (Integrating the Healthcare Enterprise) profiles**



# Architecture

Data sources

Data Collection

Data Ingestion

Services and Applications

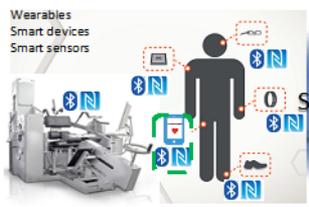
Data donation

Laboratory results  
Medicines  
Discharges

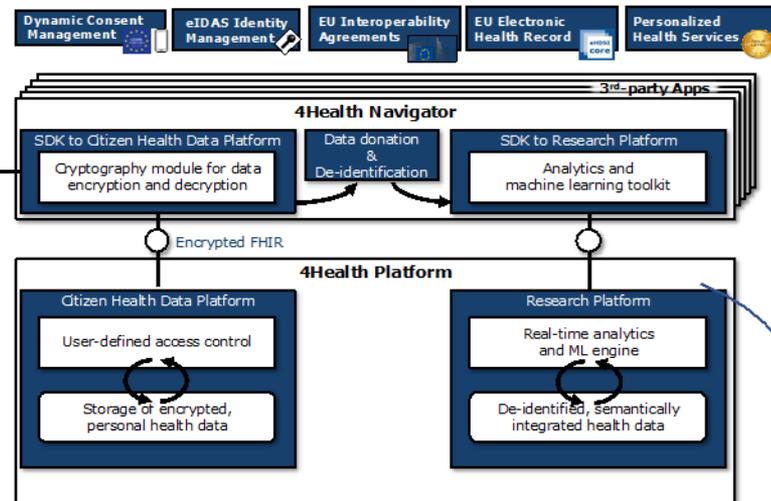
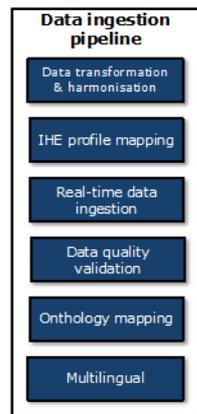


Clinical Data

Wearables  
Smart devices  
Smart sensors



Self collected health and wellbeing data



Ευχαριστώ  
GoRaibhMaithAgat  
D'akujem  
Thanks Obrigrado  
Tänan  
Merci  
Dank  
Gracias  
Mulțumesc  
Tack  
Děkuji  
Grazie  
Ačiū  
Grazzi  
Paldies  
Dzięk  
Hvala  
Danke  
Köszönöm  
Благодаря  
Kiitos

# Smart4Health

*Building today a healthier tomorrow*

Smart4Health is coordinated by



## **Contacts:**

Ricardo Goncalves: [rg@uninova.pt](mailto:rg@uninova.pt)

Maria Marques: [mcm@uninova.pt](mailto:mcm@uninova.pt)



MEANINGFUL DATA SHARING AND ADVANCING FOR INTEROPERABLE HEALTH RECORDS

## *INTERNATIONAL PATIENT SUMMARY (IPS) IN CLINICAL USE - LESSONS LEARNED*



STEFANO DALMIANI – HEAD ICT DPT.

FTGM - "G. MONASTERIO" FOUNDATION RESEARCH HOSPITALS

EHTEL 20TH ANNIVERSARY, 3-4 DECEMBER 2019 - BARCELONA

This project has received funding from the European  
Union's Horizon 2020 research and innovation  
programme under grant agreement No 826106





PISA Hospital



MASSA Hospital



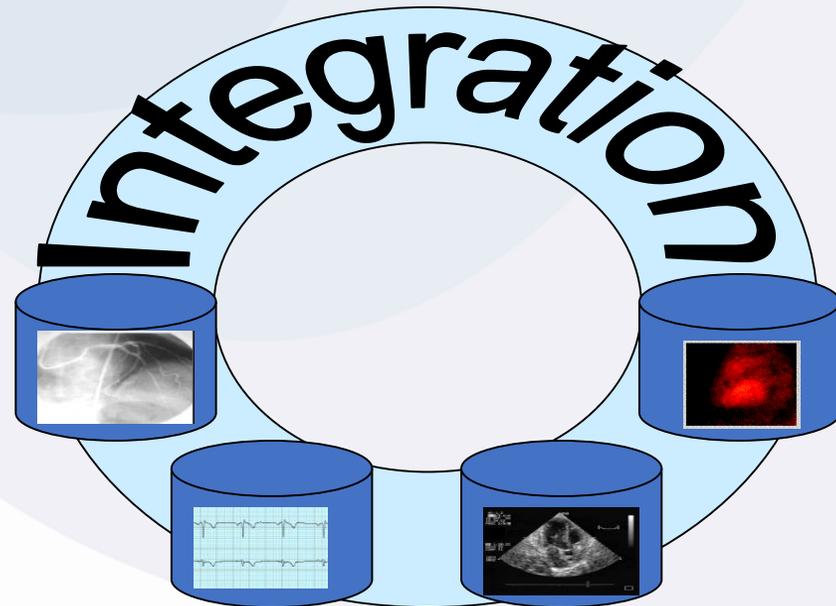
- Cardiology
- Pediatric Cardiology
- Pulmonology
- Adult Cardiac Surgery + ICU
- Pediatric Cardiac Surgery + ICU
- Newborn ICU
- Advanced diagnostic and procedural Imaging
- Interventional Cardiology
  - (1<sup>st</sup> in Italy for PTCA volume)



- ICT Translational BioInformatics
- AI research units
- CFD Simulation and in-silico models
- Epidemiology, BioStatistics
- Clinical Research:
  - Clinical Pathophysiology
  - Experimental Surgery
  - Info-bio-nano Technology

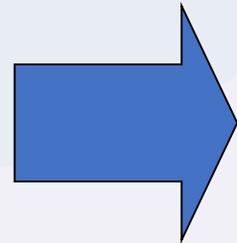
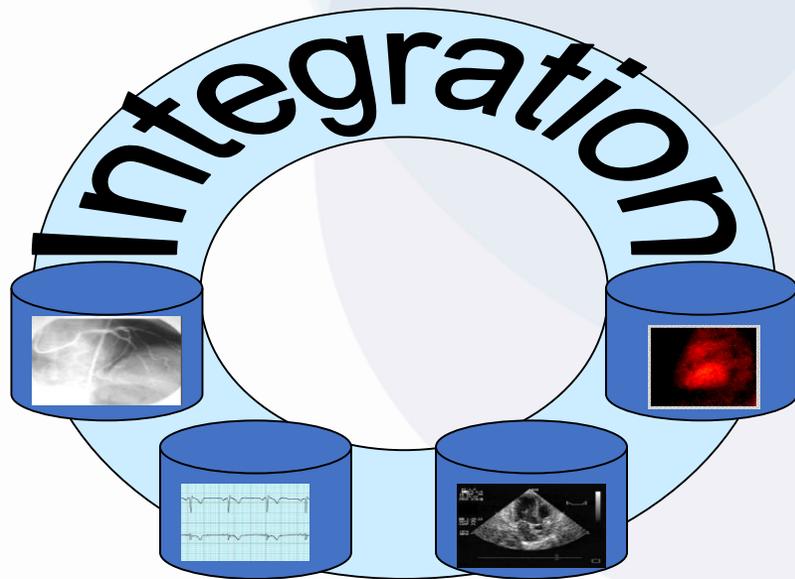
# SYSTEMS INTEGRATION STRATEGIES

Since early 2000 we promoted in Italy, among healthcare software developers industries, use of communication bus as a middleware and the use on this of standard protocols (HL7, DICOM) to ensure the integration of managed information into the Hospital information system

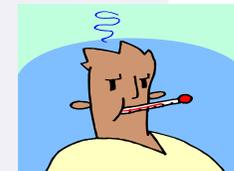


# DATA MANAGEMENT

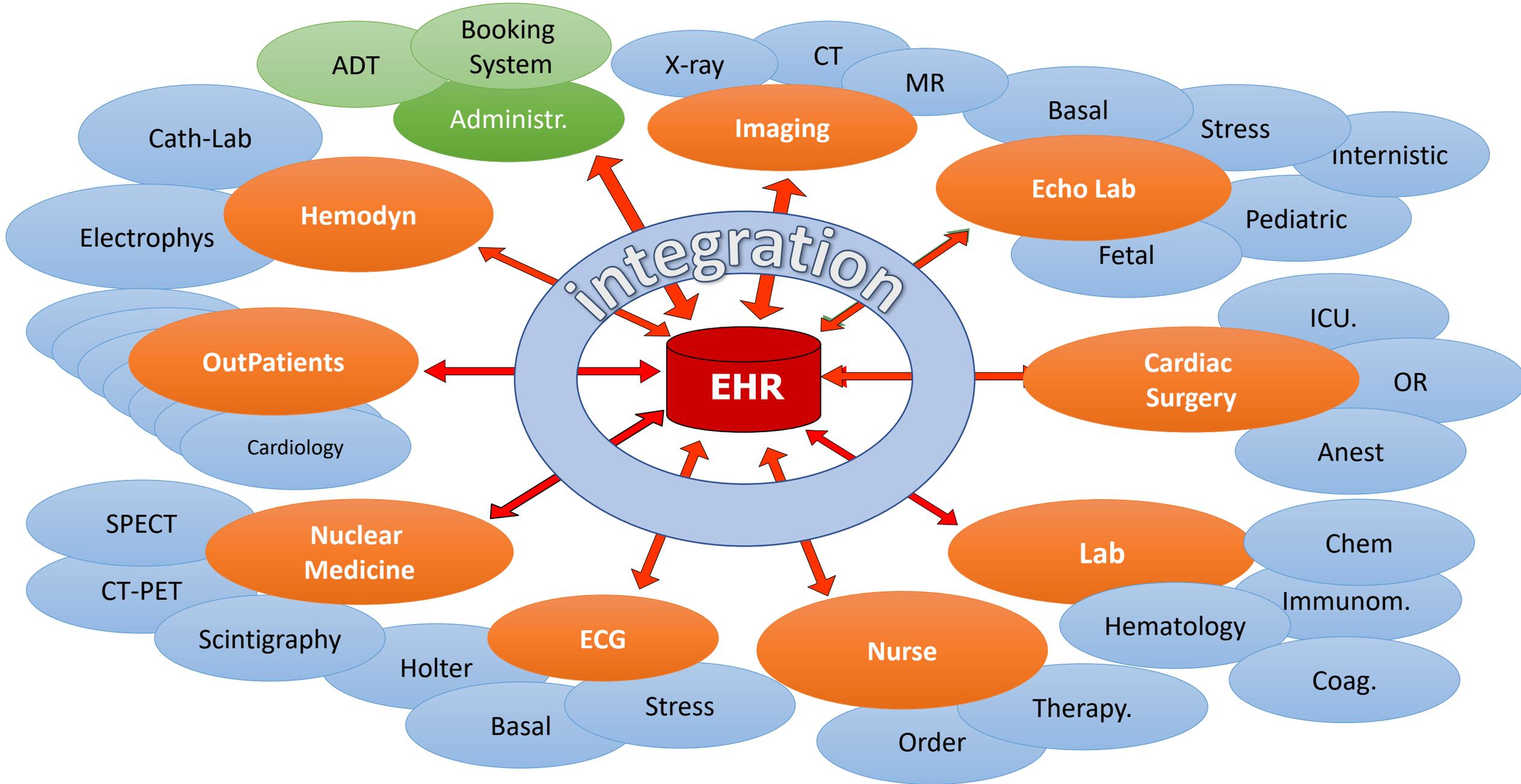
- **Integration and Display**, to collect and share data and documents, representing data in different settings and for different users roles



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# EHR as the source of IPS content



# EHR REPOSITORY

- **Clinical content:**
  - 115,000 in-patients EMR
  - 1,800,000 out-patients Encounters
  - 5,895,000 Clinical Reports (Visits, Instrumental examinations, etc)
  - 1,892,000 Clinical Events & Notes
  - 390,000 in-patient ePrescription (since 2014)
  - 1,358,000 eSubministration
  - 14,100,000 Observations (structured data)
  - 30,090,000 Lab results
- **Used for healthcare and research**
- **Different levels of details, displayed when needed or requested**



# DIFFERENT LEVEL OF REPRESENTATION – SUMMARY 1

Data	Ora	ESAME-EVENTO
22/11/2019	17:20	Anamnesi
22/11/2019	17:35	Elettrocardiogramma all'ingresso
22/11/2019	17:46	Indicazione Medica
22/11/2019	18:16	Diario
22/11/2019	18:40	Esame Obiettivo all'ingresso
23/11/2019	09:10	Prenotazione TC Cranio-Encefalo senza e con MdC
23/11/2019	09:10	Indicazione Medica
23/11/2019	09:46	Indicazione Medica
23/11/2019	09:47	Diario
24/11/2019	10:26	Diario
25/11/2019	10:20	Prenotazione EcocolorDoppler Cardiaco basale
25/11/2019	10:23	Diario
25/11/2019	11:40	Eco-Doppler cardiaco
25/11/2019	11:49	Prenotazione RX Torace (2p)
25/11/2019	11:52	Prenotazione Angio TC Aorta Toracica
25/11/2019	12:30	RX TORACE (2P)
25/11/2019	13:03	Indicazione Medica
25/11/2019	14:37	TC CRANIO-ENCEFALO
25/11/2019	14:38	TC TORACE
25/11/2019	16:30	Diario
25/11/2019	18:21	Diario
25/11/2019	18:40	Diario
25/11/2019	19:39	Consulenza neurologica
25/11/2019	19:47	Indicazione Medica
26/11/2019	09:32	Prenotazione RM Encefalo e Tronco Encefalico senza e con MdC
26/11/2019	09:34	Prenotazione EcocolorDoppler Cardiaco basale



# DIFFERENT LEVEL OF REPRESENTATION – DETAILS 1

Immissione

25/11/2019 12:30 - RX TORACE (2P)

Modifica Nome RX TORACE (2P)

Modifica Data

Rispetto al precedente controllo del 21.11.u.s., risolto il versamento pleurico bibasale come pure i fenomeni disventilatori ad esso associati. Non sono presenti lesioni parenchimali con carattere di focolaio in atto radiopercepibili. Invariati i restanti reperti in esiti di sternotomia mediana, sostituzione valvolare aortica ed aorta ascendente.

Stampa Immagini Elimina Esame Medico Registra data/ora Indietro

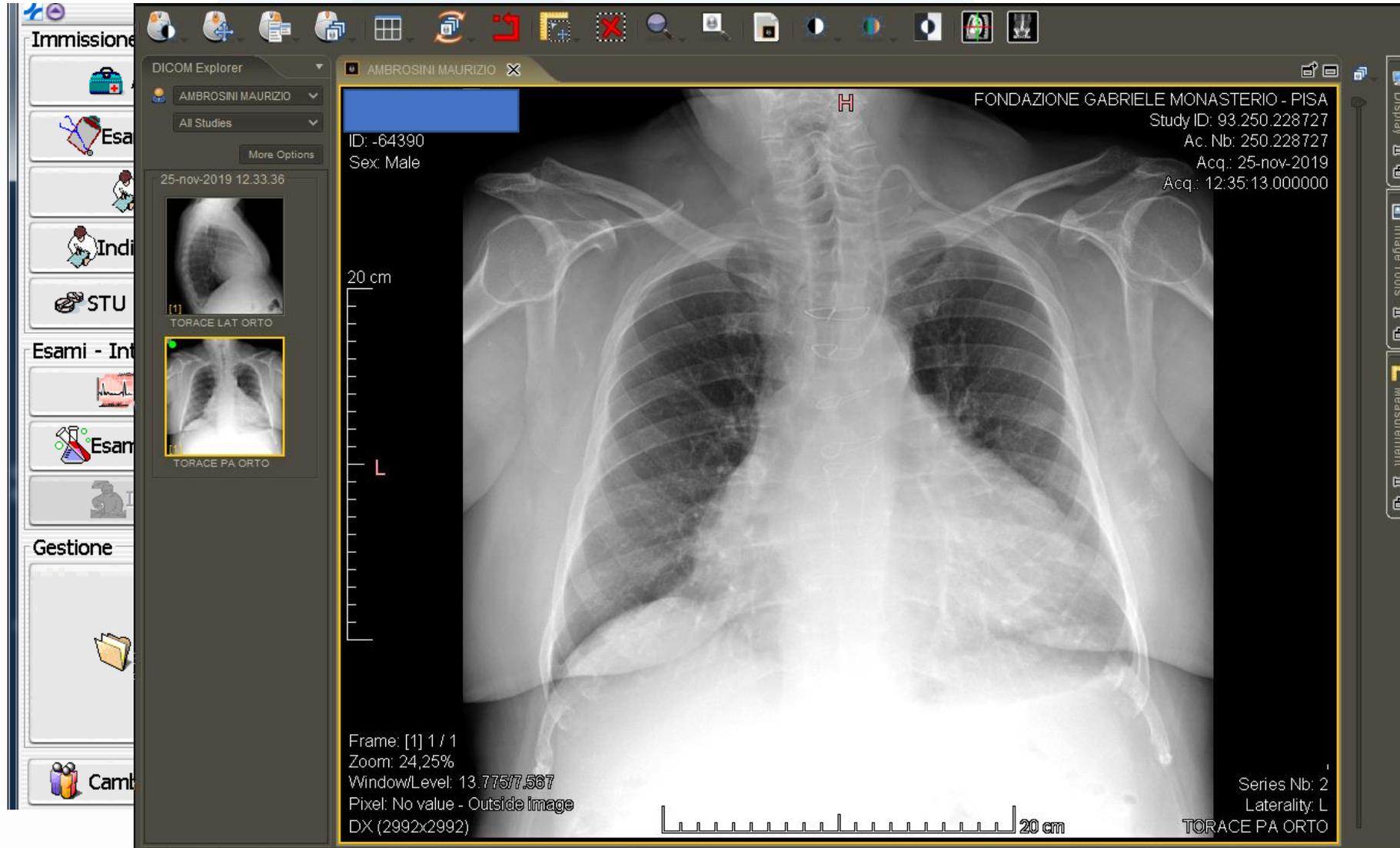
Terapia Cartella clinica Stampa

aggiorna  
o Eventi  
ovvisori  
spesi  
strumentali  
otazioni Esami  
Ref.  
ellati  
atrix  
te  
cg  
RIS  
grafica  
Stampa

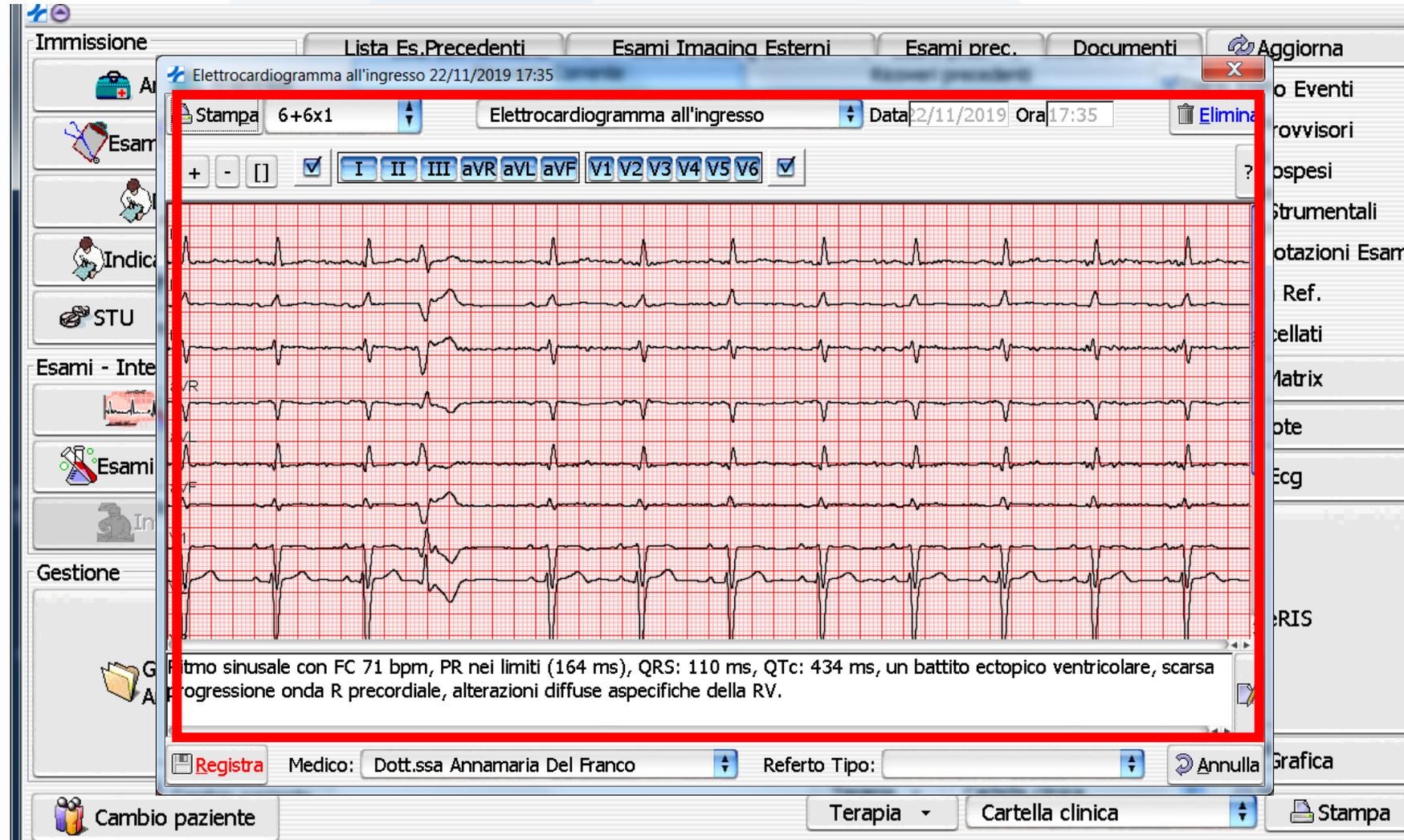
Anamnesi  
Esame obiettivo  
Diario  
Indicaz. Medica  
STU Dieta  
Esami - Interv.  
Referti  
Esami laboratorici  
Interventi  
Gestione  
Gestione Amm.  
Cambio paziente



# DIFFERENT LEVEL OF REPRESENTATION – DETAILS 2



# DIFFERENT LEVEL OF REPRESENTATION – DETAILS 1-2



# CLINICAL REPORTS – STATIC – DIGITALLY SIGNED

ECGPRN61\_CODINT=681309\_SESSIONE=6\_2015-04-24-14.11.11.978000.pdf - Adobe Reader

File Modifica Vista Finestra ?

Apri

Strumenti Compila e firma Commento

Paziente: [REDACTED]

Nato: [REDACTED]

Sesso: M

Data esame: 2015-04-22 08:46

Medico: Dr. Andrea Barison

**Referto:** Fibrillazione atriale con risposta ventricolare media normofrequente (FC 88 bpm).  
Anomalie aspecifiche diffuse della ripolarizzazione ventricolare.

Fondazione Toscana Gabriele Monasterio

Fondazione C.N.R. - Regione Toscana "Gabriele Monasterio"  
FTGM - San Cataldo, Area della Ricerca San Cataldo - Via Moruzzi, 1 - 56124 Pisa (PI)

2015-04-24 14:11



# CLINICAL REPORTS – DYNAMIC – DIGITALLY SIGNED

MNPRINT\_CODINT=792401\_SESSIONE=1\_2015-04-24-14.29.40.921000.pdf - Adobe Reader

---

File Modifica Vista Finestra ?

Apri [Icons] 2 / 2 87,4% [Icons]

---

RINALDI / ALESSANDRA Esame del 26.02.2015



**Fondazione Toscana "G. Monasterio"**  
UOC Medicina Nucleare San Cataldo Pisa  
Direttore: Dott. Paolo Marzullo  
Resp. PET-TAC: Dott. Assuero Giorgetti  
Resp. Imaging Cardiaco: Dott.ssa Alessia Gimelli



Fondazione Toscana  
CNR - Regione Toscana

Sessantimo anniversario  
Medicina Nucleare 1953-2013

Paziente [Redacted]  
Data nascita [Redacted]  
Indirizzo Via Giuseppe Verdi, 11 Comune SAN MINIATO (PI) Tel. 3389593482  
Stato paziente Esterno Medico inv. DR SARTUCCI CAP 56028  
Struttura inv. Reparto inv.

---

Esami  
**TOMOSCINTIGRAFIA CEREBRALE (SPECT)**

**QUESITO CLINICO**  
Valutazione integrità del sistema nigro-striatale  
Peso (Kg) 52 Altezza (cm) 167 BMI (kg/m<sup>2</sup>) 18.65 Sup. Corporea 1.57 Glicemia (mg/dl)  
R.Farmaco1 I123-FP-CIT Dose1 (MBq) 93,657 Intervallo iniezione/acquisizione 1  
R.Farmaco2 Dose2 (MBq) Intervallo iniezione/acquisizione 2  
Sistema GE Millennium MG Tecnico Annette Kusch

---

**PROTOCOLLI ESEGUITI** Rif. esame 115406 Refertato il 26.02.2015  
Immagini acquisite in scansione tomografica 3 ore dopo la somministrazione e.v. del radiofarmaco (123I-FP-cit).  
Sezioni trasversali ottenute con correzione per l'attenuazione tissutale secondo Chang.

**RISPOSTA**  
L'esame mette in evidenza una normale captazione del radiofarmaco a carico dei nuclei caudato e putamen bilateralmente.

**CONCLUSIONI**  
Reperti scintigrafici nella norma e non compatibili con degenerazione nigro-striatale.

---

Il medico Dott. Dario Genovesi

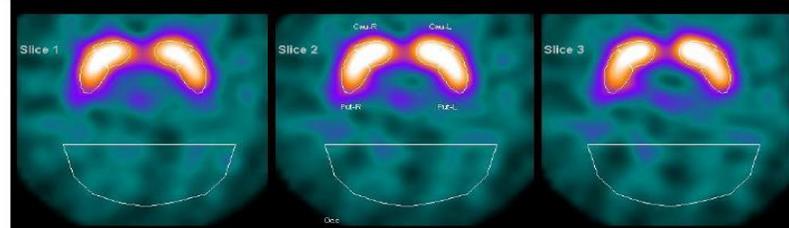
---

L'appropriatezza dell'indicazione all'esecuzione dell'esame è stata accertata mediante valutazione preliminare del paziente, in accordo con il principio di giustificazione indicato nell'Art 3 del D.Lgs. 187/2000, modificato dall'Art 39 della Legge 39/2000  
Il presente referto costituisce dichiarazione di somministrazione dell'isotopo radioattivo a scopo diagnostico nella quantità indicata in ottemperanza al principio di ottimizzazione e tenendo conto dei limiti di dose di riferimento (LDR) riportati nell'Allegato II-ex Art 4 D.Lgs.

Area di ricerca del CNR - via G. Moruzzi 1, 56126 Pisa - Tel. 050/3152366 - 050/3152216 Fax. 050/3152368

Certificazioni Bureau Veritas ISO 9001 N. 60352882/2013 - AIMN 009/2012 Pagina 1 di 2

RINALDI / ALESSANDRA Esame del 26.02.2015



Mean Counts	Cau-L	Cau-R	Put-L	Put-R	Occ
Slice 1	126.6	129.3	116.3	117.0	30.2
Slice 2	136.4	133.7	123.6	120.7	29.6
Slice 3	134.3	128.4	116.6	112.8	28.8
Average	132.4	130.5	118.7	116.9	29.5

Ratios		Acquisition / Recons Params	
StriatL / Occ :	4.26	Dataset Name:	FBPAC_Transversal Obi
StriatR / Occ :	4.18	Acquisition Zoom:	1.33
Caud-L / Occ :	4.48	Slice Thickness:	3.39 mm
Caud-R / Occ :	4.42	Filter:	Butterworth 0.50 / 10.0
Put-L / Occ :	4.02	Attenuation corrected:	YES
Put-R / Occ :	3.95	Attenuation Corr Type:	CHANG
PutL/CaudL :	0.90	Attenuation Coeff:	0.11
PutR/CaudR :	0.90		

---

Esami  
**TOMOSCINTIGRAFIA CEREBRALE (SPECT)**

---

L'appropriatezza dell'indicazione all'esecuzione dell'esame è stata accertata mediante valutazione preliminare del paziente, in accordo con il principio di giustificazione indicato nell'Art 3 del D.Lgs. 187/2000, modificato dall'Art 39 della Legge 39/2000  
Il presente referto costituisce dichiarazione di somministrazione dell'isotopo radioattivo a scopo diagnostico nella quantità indicata in ottemperanza al principio di ottimizzazione e tenendo conto dei limiti di dose di riferimento (LDR) riportati nell'Allegato II-ex Art 4 D.Lgs.

Area di ricerca del CNR - via G. Moruzzi 1, 56126 Pisa - Tel. 050/3152366 - 050/3152216 Fax. 050/3152368

Certificazioni Bureau Veritas ISO 9001 N. 60352882/2013 - AIMN 009/2012 Pagina 2 di 2



# EMR LAB RESULTS REPRESENTATION

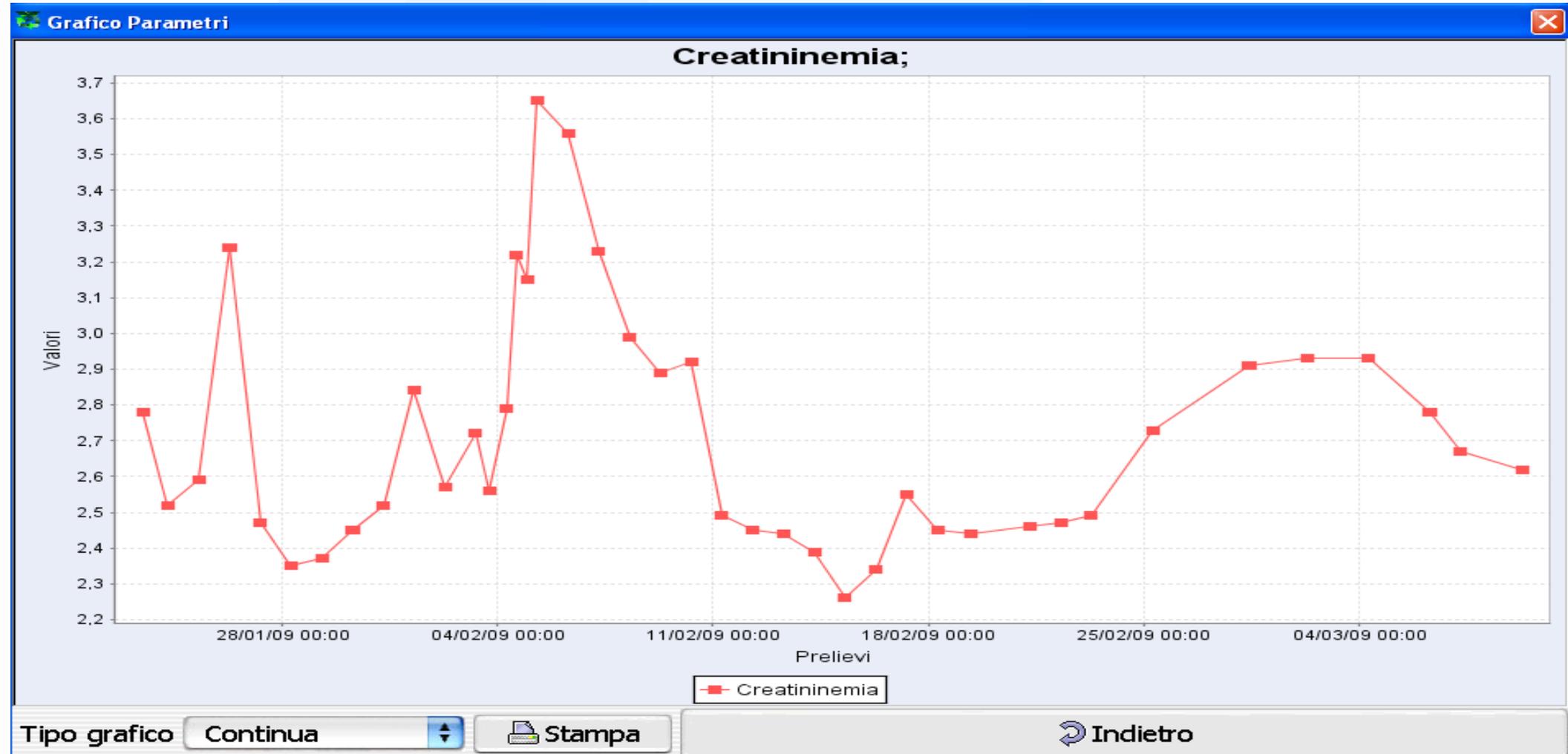
Esami laboratorio		11/02/09 10:01	12/02/09 07:00	13/02/09 07:00	14/02/09 07:00	15/02/09 07:00	16/02/09 07:00	17/02/09 07:00	18/02/09 07:00	19/02/09 07:00
90...	Ematocrito (HCT)	43,2	42,5							
90...	Volume globulare medio (MCV)	94,2	95,3							
90...	Piastrine (PLT)	190	172							
90...	Neutrofilii	62,5	46							
90...	Linfociti	24,4	39,2							
90...	Monociti	7,58	8,76							
90...	Eosinofili	4,95	5,79							
90...	Basofili	0,6	0,19							
313	Ferro	83								
902	Att. Protrombinica	24	27	40	58	64	62	57	70	
903	INR	2,89	2,6	1,86	1,35	1,35	1,3	1,36	1,21	
904	aPTT	52				40				
FC...	Ter. Anticoag.									
109	Glucosio	117	87							
118	Emoglobina glicata	7,2								
101	Urea	40,1	44,5							
103	Creatininemia	1,48	1,52							
123	Creatinina (Urine) CLEARANCE		33,9							
119	Osmolalita'	283,7	283,3							
111	Acido Urico	8,1	8,5							
301	Sodio	140,6	140,9							
303	Potassio	4,71	3,98							
305	Cloro	110	108,9							
307	Calcio	9	8,6							

Trend   
 Anormale   
 Nuovo Prelievo   
 Salva   
 Esporta   
 Tutti param.   
 Tutti i prelievi

Genera referto   
   



# TREND CHARTS



# E-PRESCRIPTION

Prescrizione				21.04.2015	22.04.2015	23.04.2015	24.04.2015	25.04.2015
N. Terapia				mar	mer	gio	ven	sab
Via								
<b>Terapia corrente</b>								
1	Congescor (Bisoprololo)	OS	1,25	1,25	1,25	1,25	1,25	1,25
2	Norvasc (Amlodipina)	OS	5	5	5	5	5	5
3	Totalip (Atorvastatina)	OS	20	20	20	20	20	20
4	Tareg (Valsartan)	OS	80	80	80	80	80	80
5	Teraprost (Terazosina)	OS	5	5	5	5	5	5
6	Cardioaspirin (Acido acetilsalicilico)	OS	100	100	100	100	100	100
7	Plavix (Clopidogrel)	OS	75	75	75	75	75	75
8	Omeprazolo sandoz bv (Omeprazolo)	iv	40	40	40	40	40	40
9	Arixtra (Fondaparinux)	SC	2,5	2,5	2,5	2,5	2,5	2,5
10	Merrem (Meropenem)	iv	500	1000	1000	1000	1000	1000
11	Urbason sol (Metilprednisolone)	iv	41,85	41,85	20	20	20	20
12	Kcl retard (Potassio cloruro)	OS	600	600	600	600	600	600
13	Mycostatin (Nistatina)	OS	5	5	5	5	5	5
14	Humalog (Insulina lispro)	SC	8	8	8	8	8	8
<b>Singola somministrazione</b>								
15	Humalog (Insulina lispro)	SC				6		
16	Fisiologica da 100 ml Lasix (Furosemide) 60 mg	iv				06:40		
17	Humalog (Insulina lispro)	SC		8				
18	Humalog (Insulina lispro)	SC		4				
19	Humalog (Insulina lispro)	SC			16			
20	Fisiologica da 100 ml Lasix (Furosemide) 40 mg	iv			30			
21	Fisiologica da 50 ml Actrapid (Insulina umana) 50 UI	iv			10:00	10:00		
22	Perfalgan (Paracetamolo)	iv	1000					
23	Perfalgan (Paracetamolo)	iv		1000				
24	Cardicor (Bisoprololo)	OS			2,5			
25	Fisiologica da 500 ml	iv	06:15					
26	Fisiologica da 100 ml	iv		33				

Nuova ▾  
 Modifica  
 Protocolli ▾  
 Elimina  
 Congelamento  
 Dimissione  
 Ordine ▾  
 Conferma  
 Allergie  
 Legenda ▾  
 Interazioni ?



# E-PRESCRIPTION – ATC CODE

Prescrizione > Terapia

N. Terapia	Via	21.04.2015 mar	22.04.2015 mer	23.04.2015 gio	24.04.2015 ven	25.04.2015 sab
<b>Terapia corrente</b>						
1 Congescor (Bisoprololo)	os	1,25	1,25	1,25	1,25	1,25
2 Norvasc (Amlodipina)	os		5	5	5	5
3 Totalip (Atorvastatina)	os		20	20	20	20
4 Tareg (Valsartan)	os	80	80	80	80	80
5 Teraprost (Terazosina)	os		5	5	5	5
6 Cardioaspirin (Acido acetilsalicilico)	os		100	100	100	100

Peso: non disponibile      Data di nascita: 18.09.1935      Allergie

Principio attivo	Nome commerciale	Via di somministrazione	Info
furose			
furosemide	lasix*iniet 5f 2ml 20mg/2ml		
furosemide e farmaci risparmiatori di potassio	fluss*20cpr 40mg+25mg		
furosemide e farmaci risparmiatori di potassio	spirofur*20cps 50mg+20mg		
furosemide e farmaci risparmiatori di potassio	lasitone*20cps 25mg+37mg		
furosemide	lasix*inf 5f 250mg/25ml		
furosemide	lasix*os fl 100ml 10mg/ml		
furosemide	furosemide galen*10f 20mg 2ml		
furosemide	furosemide l.f.m.*30cpr 25mg		
furosemide	furosemide salf*5f 20mg 2ml		
furosemide	furosemide*10f 20mq 2ml		

furose%: 91 farmaci trovati

Fonte: Estav      Fonte: Farmadati

da: [ ] a:  in poi  sino al [ ] per [ 1 ] giorni

# E-PRESCRIPTION – DOSAGE WITH MULTIPLE MOLECULES

Prescrizione > Terapia

N. Terapia	Via	21.04.2015 mar	22.04.2015 mer	23.04.2015 gio	24.04.2015 ven	25.04.2015 sab
Terapia corrente						
1 Congescor (Bisoprololo)	os	1,25	1,25	1,25	1,25	1,25
2 Norvasc (Amlodipina)	os		5	5	5	5
3 Totalip (Atorvastatina)	os		20	20	20	20
4 Tareg (Valsartan)	os	80	80	80	80	80
5 Teraprost (Terazosina)	os		5	5	5	5
6 Cardioaspirin (Acido acetilsalicilico)	os		100	100	100	100

Peso: non disponibile      Data di nascita: 18.09.1935      Allergie

Principio attivo	Nome commerciale	Via di somministrazione
furosemide e farmaci risparmiatori di potassio	fluss*20cpr 40mg+25mg	orale

Tutti i giorni   
  Giorni alterni   
  Nei giorni   
  Ogni 2 giorni   
  Singola somministrazione

1. 08:00    1    40/25 mg  
 2. 20:00    1/2    20/12,5 mg  
 3. -    Seleziona un orario e completa i dettagli

da: 24.04.2015    a:  In poi     sino al    per 1 giorni

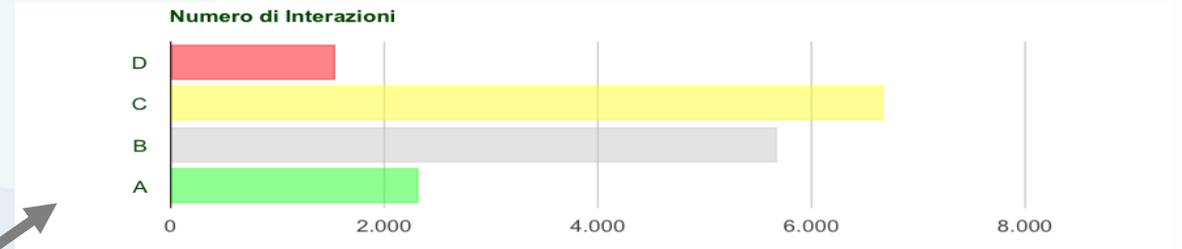
Emergenza    Registra    Registra + Nuova    Annulla

# DSS - DRUGS RISK ANALYSIS + DRUGS INTERACTIONS

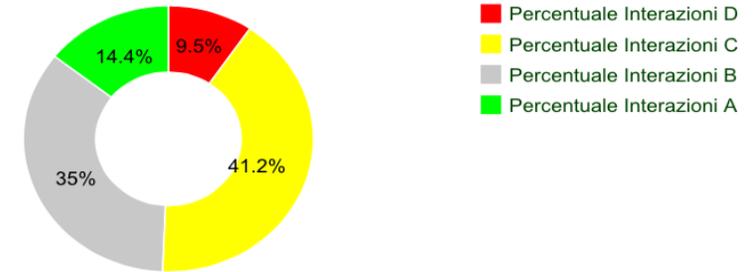
MEDIRISK



INTERACTIONS

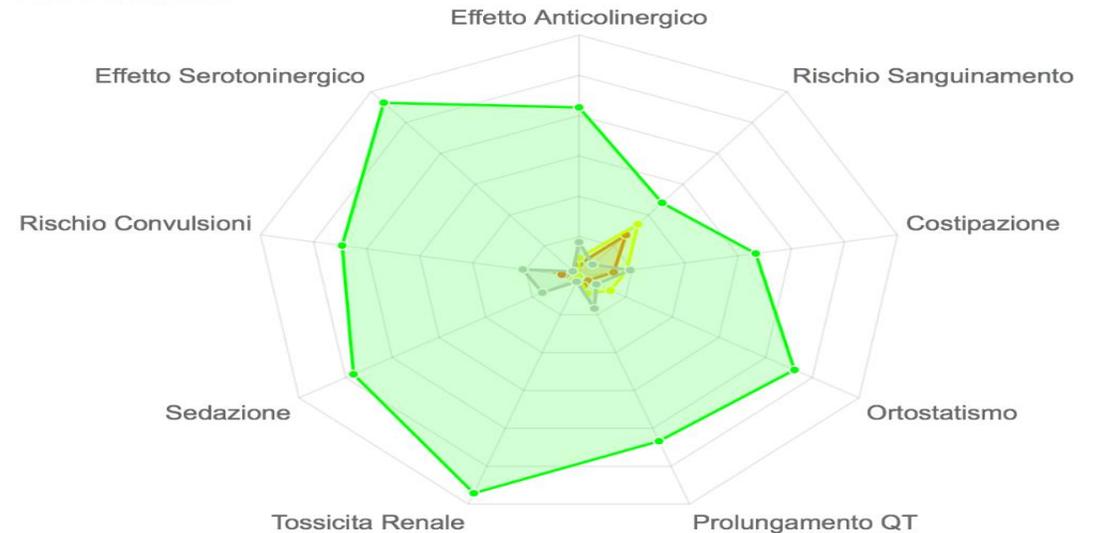


Percentuale Interazioni



ADVERSE EFFECTS

Rischi Effetti Avversi



IPS - VMR

Prescriptions  
Clinical status

# EMBEDDED IN EMR

MediDrugActive

**MediDrug** F.T. Gabriele Monasterio

**Interazioni** 3

Effetti Avversi 2

Nefrologia 10

Epatologia 11

Gravidanza 10

Allattamento 10

Prontuario farmaceutico

Segnalazioni

Info Knowledge Base

Info licenza

Search

**Interazioni**

Sostanza	Interazione	Classificazione
SPIRONOLATTONE	POTASSIO	D3
SPIRONOLATTONE	RAMIPRIL	C4
AMIODARONE	BISOPROLOLO	B2

2015 11.02.2015 12.02.2015

2015	11.02.2015	12.02.2015
2,5	2,5	2,5
2,5	2,5	2,5
50	50	50
20	20	20
300	300	300
600	600	600
250	250	250
200	200	200
5	5	5

Nuova

Modifica

Protocolli

Elimina

Congelamento

Dimissione

Ordine

Conferma

Legenda

Interazioni: D3



# NURSE RECORD – PRESCRIPTIONS

**C.Inf.**

Help

Novità

---

**Reparto**

Liste

Comunicazioni

Prep.farmaci

Allarmi

Alimentazione

Struttura

---

**Paziente**

Accettazione

Parametri

Diario/Referti

Valutazione

Avvisi

Terapia

CheckList

Prelievi

Esami lab.

Bilancio

Dimissione

**FTGM** Modulo: Liste **Ness**

inviato da Dr. Giuseppe Vergaro il 05.11.2019 alle ore 10:16 dall'applicazione cartella clinica

**NUOVA TERAPIA**

Paziente: XXXXXXXXXX

Descrizione: Paracetamolo (Tachipirina), cpr. divisibili 500 mg, via: os

Somministrazione: **ore 10:16**

FTGM - Pisa

13 pazienti

Cognome	Sex	Birth	Age	Room	Bed	Icons	Count
Carlo	♂	02.05.1949	47				8
Petru	♂	15.06.1964	40				11
Tommaso	♂	30.07.1950	41				2 8
Angelo Cosimo	♂	03.05.1938	42	12			8
Marusca	♀	23.05.1950	44	8			8
Luigi	♂	21.06.1941	46				8
Vincenzo	♂	16.02.1933	37	1			1
Paola	♀	29.06.1957	43				8
Giovanna	♀	27.03.1927	51				8
Nara	♀	05.02.1949	52				8
Giacomo	♂	28.11.1958	39	7			4 3
Paolo	♂	28.05.1963	45				

**Sistemazione:** Nessuna sistemazione selezionata

Area degenza: Subintensiva 1

23:	51	52	34:	37	38:	42	41
24:	49	50	35:	38	39:	40	39
25:	47	48	36:	46	45		
33:	36	37:	44	43			

**Monitoraggio:** –

Per modificare il monitoraggio selezionare un paziente

**Presenza in carico:**

0 pazienti selezionati

Prendi in carico

Rimuovi dal carico

Ingresso/Ricerca...

Uscita

Uscite recenti

Stampa terapia odierna

Indicazioni mediche

Ricarica pazienti



# NURSE RECORD E-SUBMINISTRATIONS

Terapia	Via	05.11.2019 Mar		06.11.2019 Mer	
		00:00	12:00	00:00	12:00
1 Bisoprololo san (Bisoprololo) cp.riv.	os	1,25 mg	1,25 mg	1,25 mg	1,25 mg
2 Deursil (Acido ursodesossicolic) cps. rigide	os	300 mg	300 mg	300 mg	300 mg
3 Omnic (Tamsulosina) cps. rigide rm	os		0,4 mg		0,4 mg
4 Folina (Acido folico) cps. molli	os		5 mg		5 mg
5 Fosinopril id doc (Fosinopril e diuretici) cpr.	os		10/6,25 mg	10/6,25 mg	
<b>Singola somministrazione</b>					
6 Fisiologica da 2000 ml	iv				



# NURSE RECORD

**C.Inf.** Help Novità

**Reparto** Liste Comunicazio. Prep.farmaci Allarmi Alimentazione Struttura

**Paziente** Accettazione Parametri Diario/Referti **Valutazione** Avvisi Terapia CheckList Prelievi Esami lab. Bilancio Dimissione

**FTGM** Modulo: Valutazione Cognom Letto: 42 nato il: 03.05.1938 Allergie: non note Utente: Dalmiani

Eliminazione e Drenaggi Medicazione Ferite Dispositivi Medici **Valutazioni Multidimensionali**

Barthel HADS CAM **Braden** Retos Finnegan MNA Glamorgan

### Valutazione integrità della cute - Scala Braden

Data: 03.11.2019 Ora: 16:50

Indicatori e variabili	4	3	2	1
<b>Percezione Sensoriale</b> Risposta alla sensazione di disagio/dolore alla pressione	Non limitata	Leggermente limitata	Molto limitata	Completamente limitata
<b>Umidità</b> Grado di esposizione della pelle all'umidità	Raramente bagnato	Occasionalmente bagnato	Spesso bagnato	Costantemente bagnato
<b>Attività</b> Grado di attività fisica	Cammina frequentemente	Cammina occasionalmente	In poltrona	Allettato
<b>Mobilità</b> Capacità di cambiare e di controllare le posizioni del corpo	Limitazioni assenti	Parzialmente limitata	Molto limitata	Completamente immobile
<b>Nutrizione</b> Assunzione usuale di cibo	Eccellente	Adeguata	Probabilmente inadeguata	Molto povera
<b>Frizionamento e scivolamento</b>		Senza problemi apparenti	Problema potenziale	Problema

Risposte: 6/6  
**Punteggio: 22**

Data/ora	Descrizione	Utente
03.11 16:50	Punteggio: 22 - Rischio: basso	CP De Jesus



# CLINICAL REPORTS – DISCHARGE

- **HL7 CDA discharge summary**
  - *Contains final diagnosis, therapy, follow-ups, etc.*
  - *Sent to Patient EHR*
- **HL7 CDA – Patient Summary**
  - *Sent to DSS*

The screenshot shows a PDF document titled "tmp\_REF\_151210.121817.pdf" opened in Adobe Acrobat Pro. The document is a medical discharge summary from Azienda USL 1 Massa e Carrara, Servizio Sanitario della Toscana. The header includes the hospital name "Stabilimento Ospedaliero di Massa" and "Medicina Generale Degenze Osp. Apuane". The patient's name is redacted. The document contains the following sections:

Data Acc. 08.11.2015      Data Dim. 19.11.2015      N. Nosolog.      N. Cart.

**Diagnosi alla dimissione**  
Si dimette in data odierna la signora [redacted] con diagnosi di:  
Insufficienza respiratoria acuta in paziente con scompenso cardiaco. Fibrillazione atriale parossistica. Cardiopatia ischemica cronica. Esiti di progressivo ictus ischemico. Recente frattura estremo distale della clavicola sinistra e ileo -pubica sinistra.

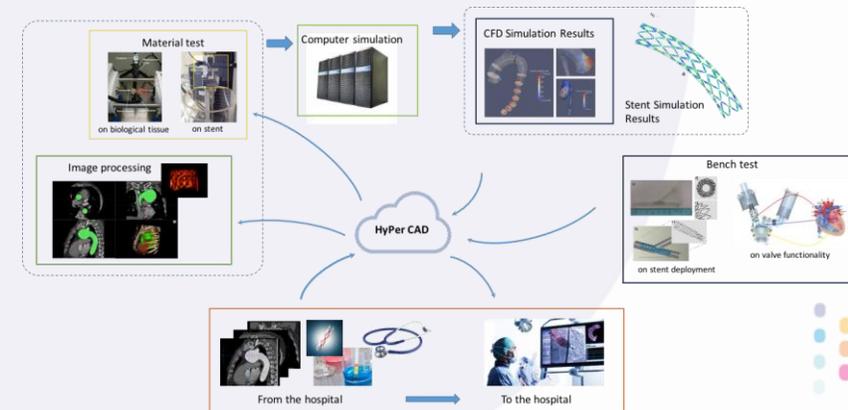
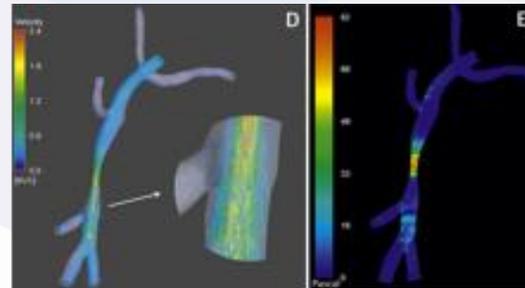
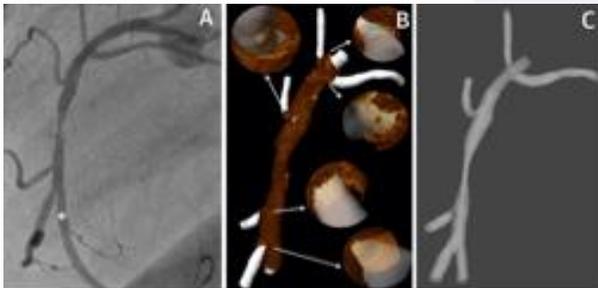
**Anamnesi**  
Progresso ictus con deficit a emisoma sn  
Progresso IMA  
FA nota  
Vive con la badante. Non autonoma.  
In adata 04/11/2015 la pazeinte si presenta al PS per caduta a terra accidentale. In tal circostanza gli accertamenti strumentali hanno evidenziato : frattura estremo distale della clavicola sn, frattura ileo -pubica sn. EGA già presenta insufficienza respiratoria.  
Da allora paziente allettata  
Si presenta questa mattina al PS per disnea ingravescente.

**Esame Obiettivo all'ingresso**  
Apparato cardiorespiratorio: azione cardiaca tachifrequente, aritmica. toniparafonici.  
Addome: trattabile, dolenzia in sede sovrapubica.  
Apparato respiratorio: ronchi e sibili diffusi.  
Non edemi declivi.  
EON: non segni di focolità. ipoastenia sn nota.  
manca MEWS  
Pressione arteriosa 180/100 mmHg. Polso 100 bpm. Respiro 15 atti al minuto. Sat.Ossigeno 94%. VAS 0.  
Temp.Corporea 35.0. MEWS 1.

**Sintesi esami strumentali**

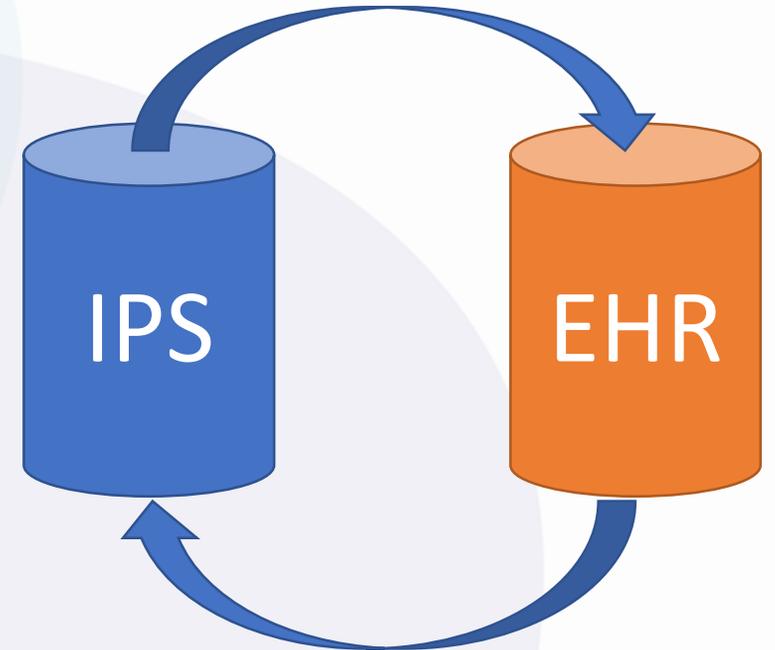
# S-EHR CONTENT

- in order to have a meaningful use S-EHR should be able to contain at least:
  - **Patient Summary (Emergency Dataset)**
  - **ePrescriptions and eSubministrations**
  - **Laboratory results;**
  - **Clinical imaging and bio-signals:**
    - contains DICOM images and movies;
    - contains bio-signals (e.g. SCP and Dicom waveform);
  - **Reports and digitally signed documents; (patients consents)**
  - **Hospital discharge reports.**
  - **Personal notes of the patient (wellness and activity data)**



# IPS AND EHR

- **Lesson 0: IPS is not an EHR**
- **Effective use of IPS involves:**
  - *the use of repository information cross-referenced to IPS content (data imported in EHR),*
  - *the update of IPS with new results coming from patient care (EHR use)*
  - *Use of IPS as health data container, not a document container*



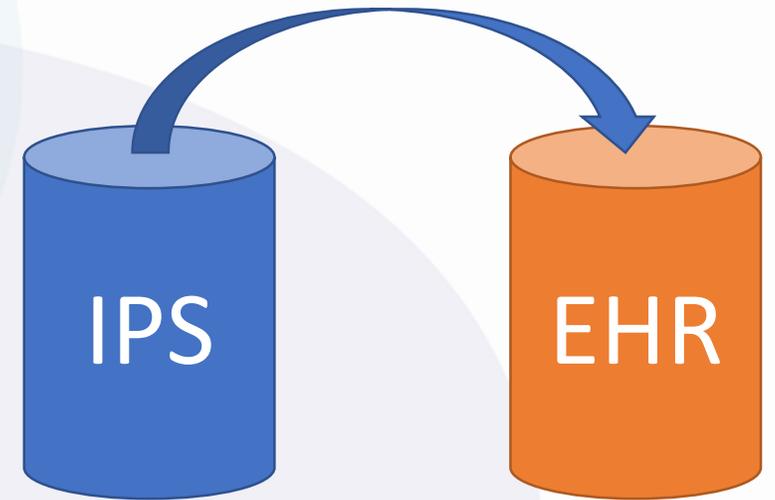
# IPS AND EHR – LESSON LEARNED 1

- **Automatic import of information into EHR**

- *Issue: Local dictionary mismatch with international dictionary used in IPS*
- *Issue: Data processing on the border of Medical Device systems certification*
- *Issue: Lack of necessary specialized or structured information (e.g. in cardiology)*

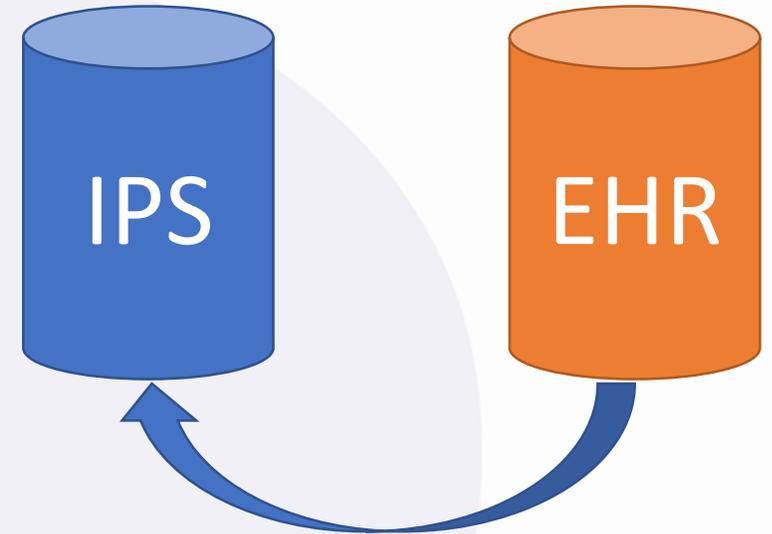
- **Information Assurance, for healthcare use, to be determined**

- *Authorship of contained information*
- *We cannot digitally sign sections of IPS*



# IPS AND EHR – LESSON LEARNED 2

- **Who compile the IPS at the end of the encounter?**
  - *Automatic compiling seems to be the only way*
  - *supervised*
- **Local dictionary sometimes loses its attribute when information are converted into IPS (e.g. etiology of chronic heart failure).**
  - *Use of “free text” fields to represent the right information*
- **Lack of necessary specialized or structured information (e.g. in cardiology)**



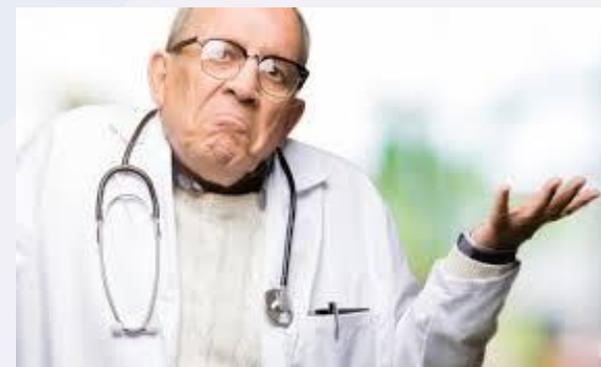
# iEHR Users

Users	Description
Patients	Persons who travel abroad and are affected by chronic disease
Healthcare Professionals	Employee of Healthcare service provider (Hospital, Outpatient facility, territorial service) and Stakeholder representatives
Researchers	Investigators interested in, or promoting a, research protocol in clinical or social field

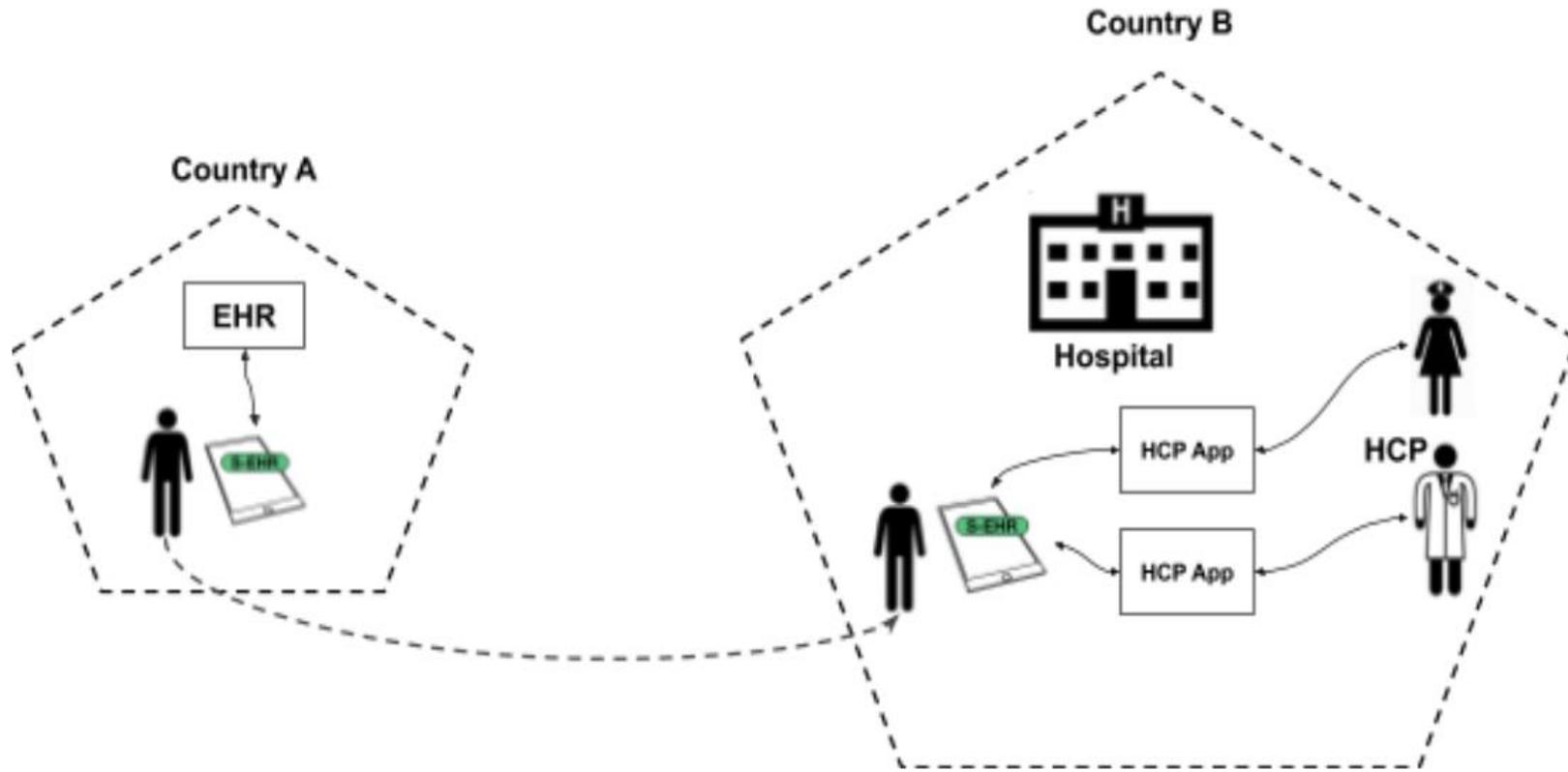


# USERS' PROBLEM

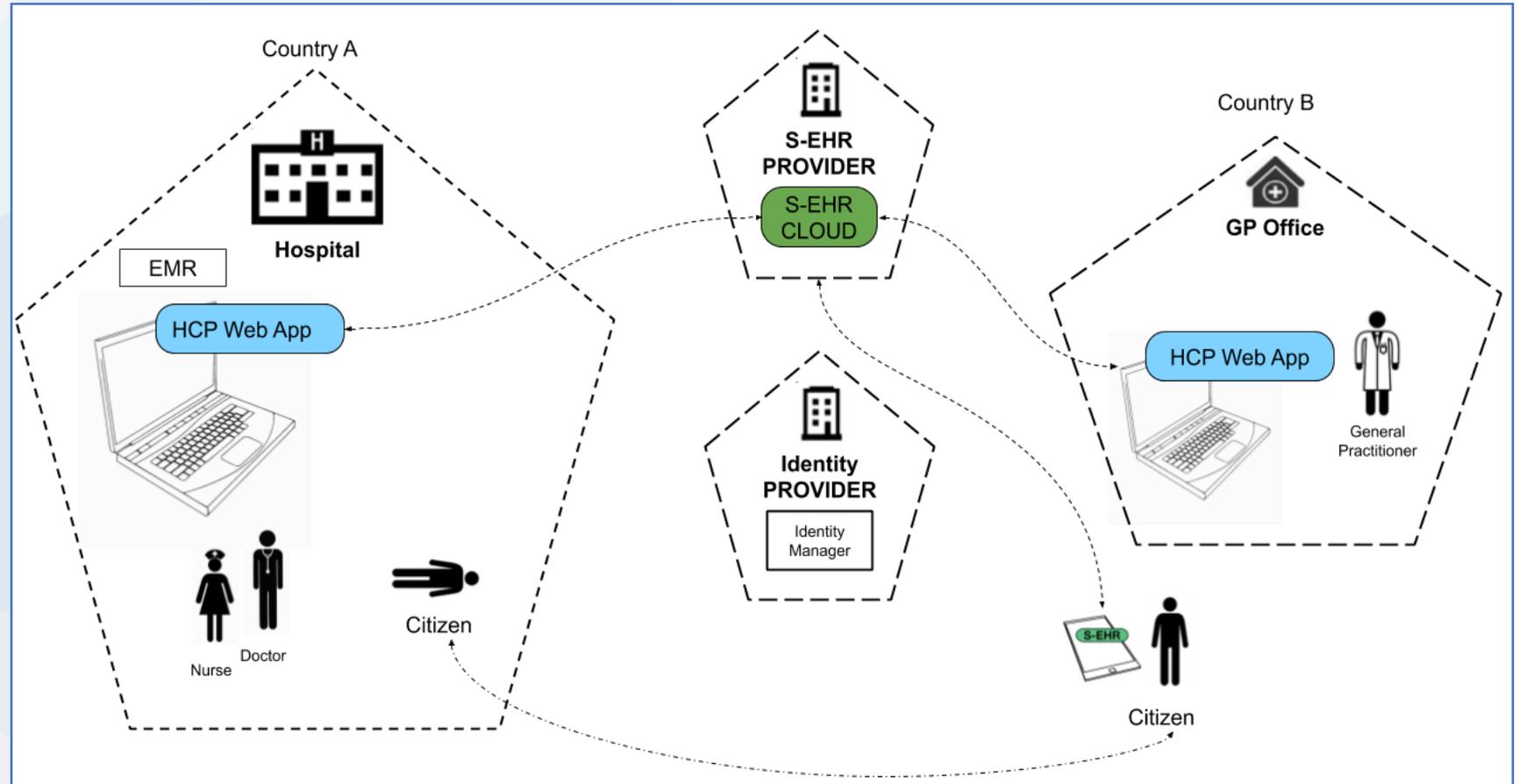
- Different types of users, with different needs, knowledge, backgrounds, behavior, tools (apps)
  - Somehow HCPs and patients needs are dependent and sometimes complementary
  - Many HCP use IT tools for (part of) their daily work
  - Some Patients use IT tools to manage their health (or wellness)
  - IT tools of HCP and Patients are often not connected nor able to communicate something
    - Use of communication standards may foster an effective communication, but some standards are “too flexible”. We are far from a “plug>&play” paradigm in general.



# SCENARIO 1 - DEVICE TO DEVICE LOCAL HR EXCHANGE



# SCENARIO 2 – EMERGENCY ACCESS





# CONCLUSIONS

- Use of IPS in clinical practice is consistent for unscheduled care (in iEHR emergency encounter) but even on scheduled one
- IPS needs some extension for diagnostic imaging and signals
  - *Out of IPS scope?*
- IPS needs an official translation in FHIR r4

## CEN IPS EN 17269

### *The International Patient Summary*



...**formalises the dataset** required to share information about the medical background and history of a patient ....

.. It uses the **European guidelines** (version 2, November 2016) as an **official source** for the requirements....

The dataset is **minimal and non-exhaustive** <...> **specialty-agnostic, condition-independent** and usable by all clinicians for the **unscheduled care** of a person...

...**usable as a valuable subset** of data items for **scheduled care**...

It is **implementation independent**.

This international standard does not cover workflow processes of data entry, data collection, the summarisation act nor subsequent data presentation. ..



# Thank you!

Stefano Dalmiani

FTGM - “G. Monasterio” Foundation Research Hospitals

## Q&A time.

