

30/10/2012



**EUROPEAN PATIENTS  
SMART OPEN SERVICES**

*making  
healthcare  
better.eu*





# The epSOS Semantic Framework

*Potential collaboration paths*

**Giorgio Cangioli // Lombardy Region**

**2012 Transatlantic Health IT/eHealth  
Cooperation Assembly**

# ...a Turkish Patient Summary.....



## epSOS Hasta Özeti

### Alerjiler, Ters Tepkiler, Alerjenler

Alerji türü	Alerjen	Tepki	Ciddiyet	Klinik durumu
Gıda alerjisi	Elma suyu	Anjiyoödem	Orta	Aktif

Allergies

### İlişkili test/labarotuar sonuçları

Kan grubu	Tarihi
B Rh +	02.01.2010

Blood Group

### Problem Listesi

Teşhis	Başlangıç Tarihi
Esansiyel (primer) hipertansiyon	10.09.2004

Active Problems

*This is an extract from a Turkish Patient Summary,  
taken during the last Project-a-thon in Bern May 24<sup>th</sup> 2012*

..as can be seen by an Italian Physician.....



## Profilo Sanitario Sintetico (o Patient Summary)

### Allergies

#### Allergie, reazioni avverse ed allarmi

Tipo di Reazione	Manifestazione Clinica	Allergene	Data Inizio
Allergia alimentare	Angioedema	Succo di mela (226491003)	12/05/2008

#### Risultati rilevanti di accertamenti diagnostici e di laboratorio

2/01/2010 : Gruppo sanguigno B Rh positivo

### Blood Group

#### Lista dei problemi attivi

Problema Attivo	Data Inizio
Ipertensione essenziale (primitiva)( I10)	25/11/2003

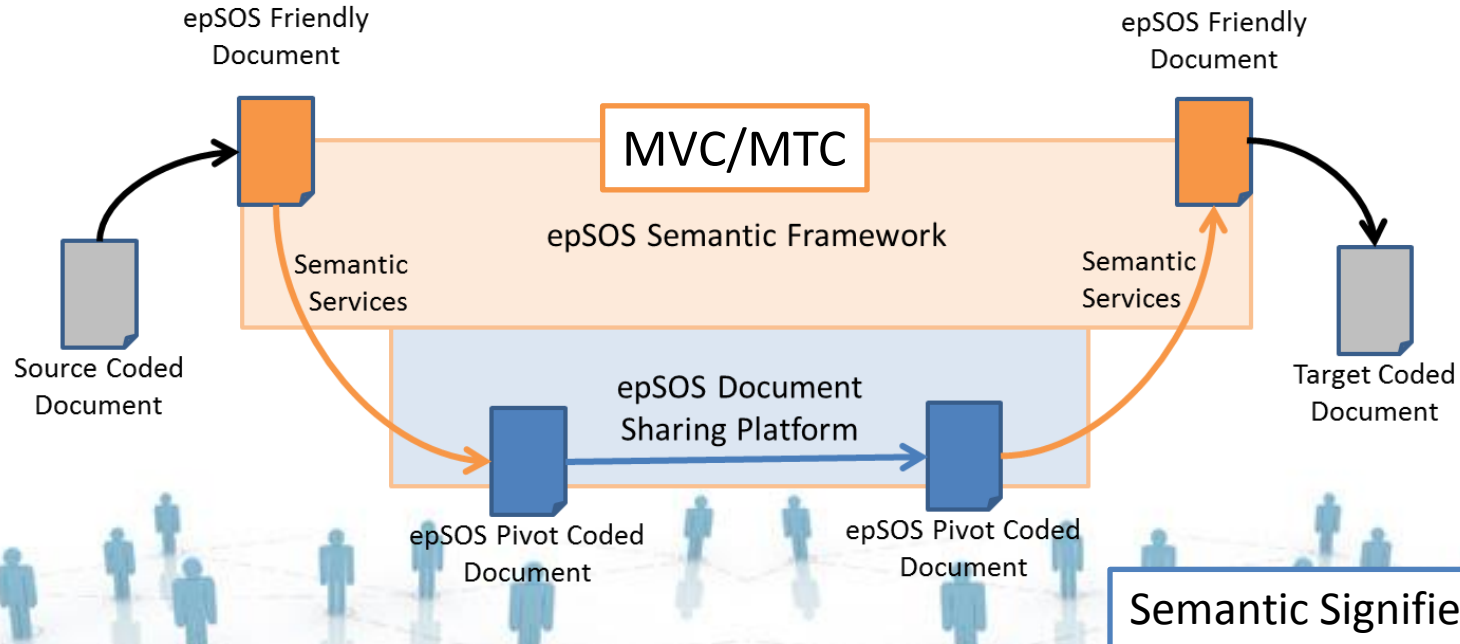
### Active Problems

*This is an extract from a Patient Summary display device,  
taken during the last Project-a-thon in Bern May 24<sup>th</sup> 2012*

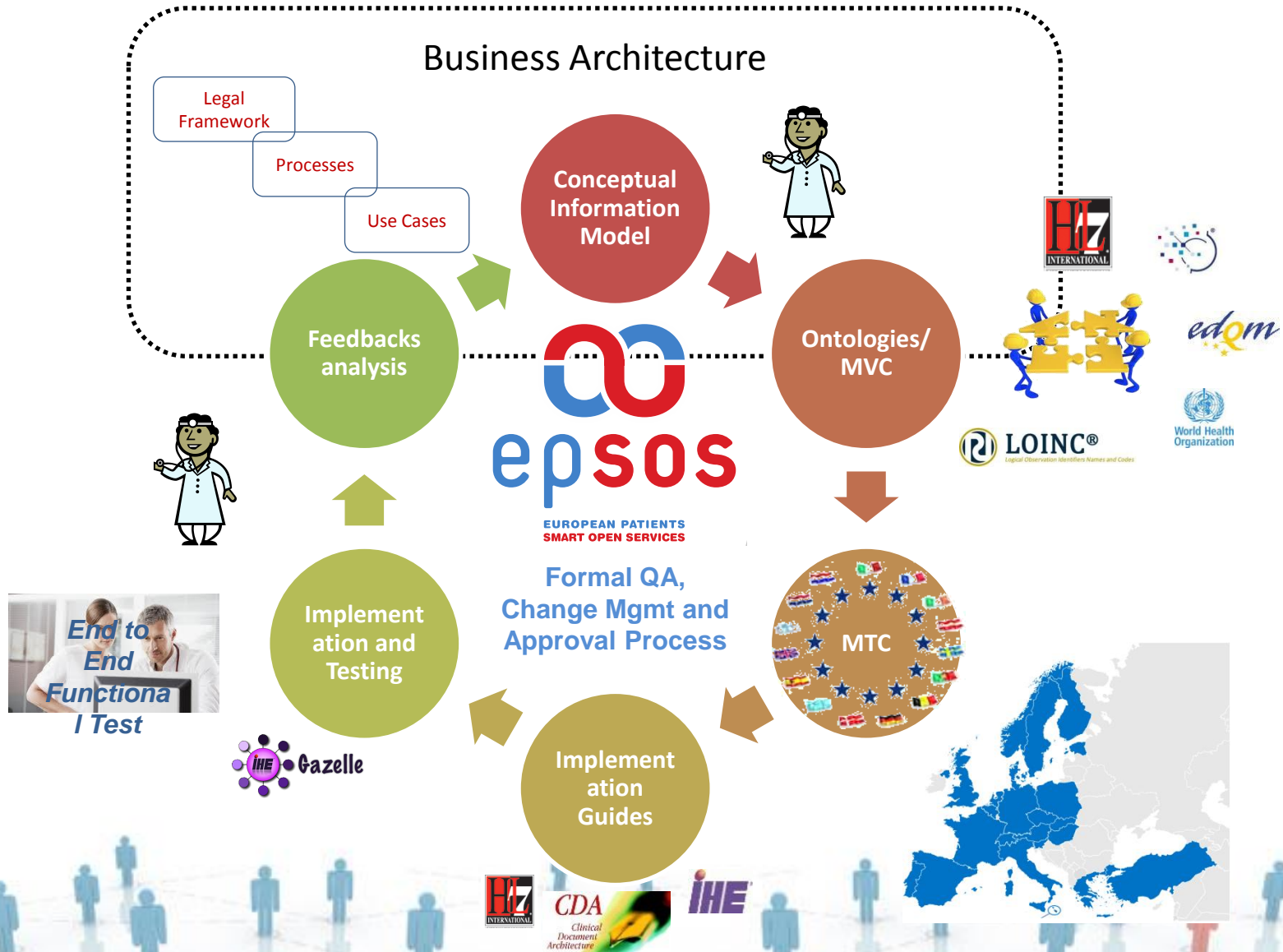
# The epSOS Semantic Framework



- The epSOS Semantic Framework keywords:
  - The **Semantic Services**
  - The **Semantic Signifiers**
  - **MVC** (Master Value set Catalogue) / **MTC** (Master Translation/Transcoding Catalogue)



# The process in “a nutshell”





# The Semantic Interoperability in epSOS.....

**lessons learned and inputs for  
discussions**





- Possible gaps between implementations and business needs
  - **Formalization** of the **Business Architecture** (including the Conceptual Information Models)
    - Not only the functional aspects: **legal** framework, liability aspects,...
    - Exceptions managements
- Impact of legal frameworks on the «implementation» of the semantic interoperability
  - Not only in term of class of information that could be exchanged. For example
    - epSOS requires that translated designations are recorded in the exchanged semantic signifier.
    - There are REALMs in which only the concept code is expected to be provided.







- ***Quality and availability of data:*** several semantic lacks experienced derive from the actual capability of countries of providing and/or mapping the coded concepts
  - Inability to extract structured information....
    - *Allergies data can be provided as a single piece of text*
  - ...and/or to have coded information...





- ***Quality and availability of data***
  - Local eHealth policies to improve the collection of structured and coded information need to be considered.
  - The collection of coded and structured data has not to be in contrast with the care provisioning processes and needs to be acceptable for HPs
    - are the EHR systems able to collect those information seamlessly ?
  - *Common EHR-S Functional Profiles may helps on this*





- ***Mapping issues experienced*** (epSOS in this phase is based on linear N to 1 mappings)
  - Ambiguous and or missing mapping
    - Different levels of granularity among local and common value sets
    - One source concept mapped into multiple targets
  - *Should be adopted more complex mapping rules ?*
  - *Should we suppose that professionals will reduce the mapping discrepancies at country/EU level*





- *ePrescription / eDispensation*

- Medicines identification in a cross country scenario (*scope prescribed medicines for the eP and medications list for the PS*).
  - A common EU medicines nomenclature is not currently available
  - epSOS currently uses a set of attributes for describing the prescribed medicines (ATC for the substances, EDQM for dose form, UCUM for units,..)
  - Some issues have been experienced
    - actual availability of structured and coded information (strengths for multi-active ingredients medicinal; composite packages; ..)
    - limitations with ATC and active ingredients description





- *ePrescription / eDispensation*

- epSOS project is working on identifying possible short term (pilot) and long term sustainable solutions.
- A workshop has been recently (Oct 11<sup>st</sup>) held in Copenhagen involving **IHE Pharmacy, EMA, HL7, the EU eHealth Network, IHTSDO.**
- Different solutions and approaches are under evaluation. Among them:
  - Adopt the EMA Article 57(2) database – based on European Pharmacovigilance database “EudraVigilance” as reference DB [future]
  - Use the SNOMED Medicine Entity (fka Virtual Medicinal Product) as lingua franca
  - Adopt alternatives for the active ingredients encoding
  - .....





- **Centralized vs Distributed Terminology Services,**
  - epSOS phase-I adopts a centralized model for enabling the QA control and the sharing of terminologies (and related mapping):
    - each member state is however responsible for its own mapping and translations
  - A **decentralized** approach has been suggested by the epSOS team responsible for analyzing the project Sustainability identified the need of decentralizing those services as much as possible.
- A service federation may enable
  - The support for external terminology resources (e.g. SDOs)
  - The Cooperation with other operational context (like the Transatlantic eHealth)

