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European Regional Development Fund

CLASS **Conference 2014**

CloudAssisted Services

**The hospital-based ICT system in
the evolution of socio-sanitary integration
with the territory.**

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Presenter Title: ICT Service Coordinator

Company/Institution: Federico II University Hospital



<http://www.policlinico.unina.it>

Federico II University Hospital Mission

Integration of health care services with research and training

Federico II Hospital is oriented on the centrality of the individual, defined as:

- Patient / user
- Professionals
- Students.

Towards the patient/user, Federico II Hospital aims to provide services not only to meet his health needs, but also the emotional, socio-cultural and psychological ones.

Care Buildings : 21
 Surface Mq: 440.000
 Beds: 1000
 Employees: 2000
 Budgeted: 210 ML euro
 Departments
 of Medical Care: 6
 Student > 40.000



European Transparency Register N° 686681213892-44

Organization Deed FOUND Decree N° 198, May 20, 2013



The hospital-based ICT system in the evolution of socio-sanitary integration with the territory

About us

Campania

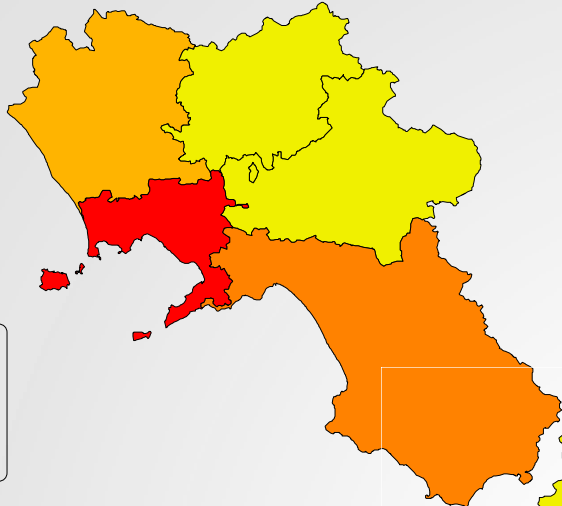
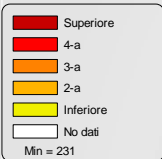


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GPs

Medici di medicina generale

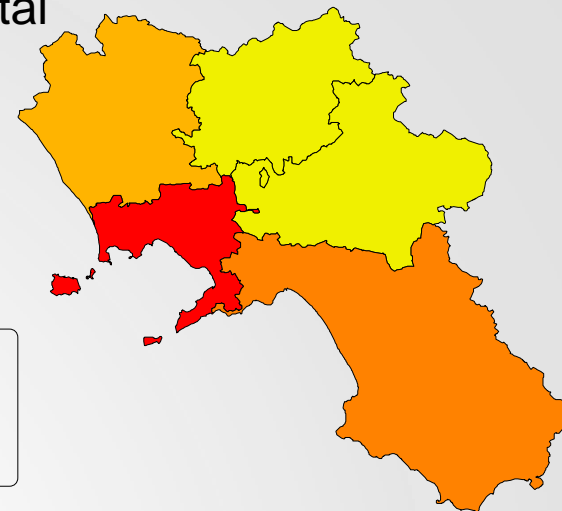
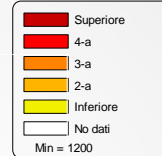
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Hospital Beds

Posti letto ospedalieri ordinari

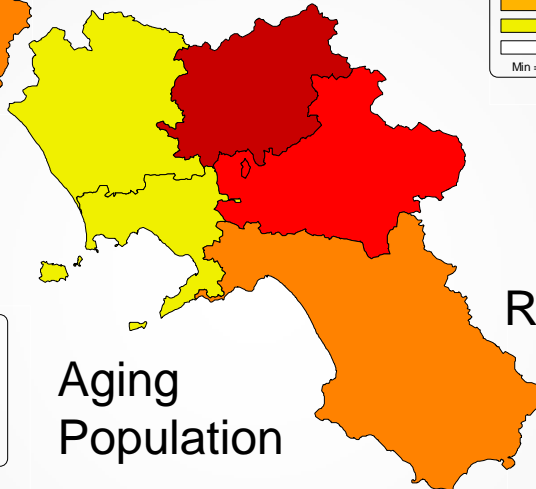
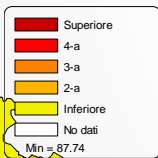
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Indice di invecchiamento M+F

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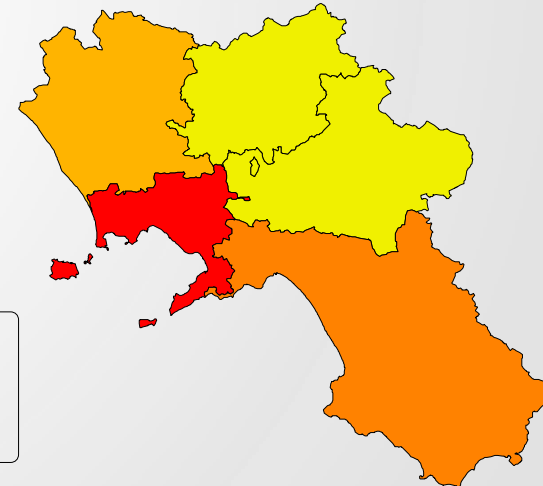
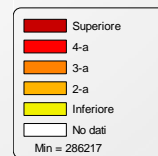
Aging Population



Residents

Popolazione residente M+F

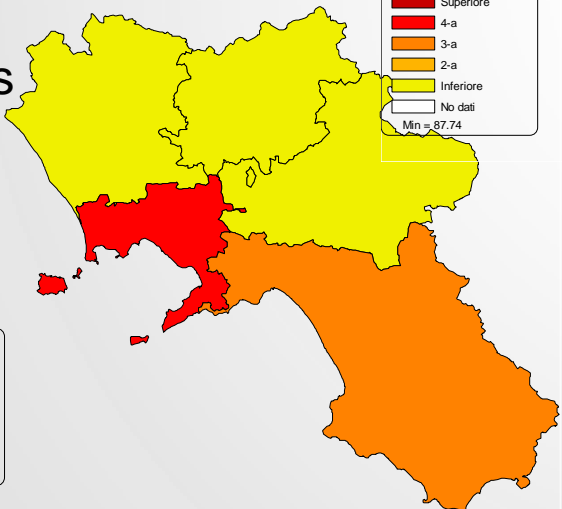
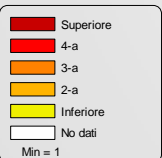
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Health Districts

Numero ASL

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13



The hospital-based ICT system in the evolution of socio-sanitary integration with the territory

The current state of ICT development in Campania

- The use of ICT to support health care services and health prevention/promotion activities is fragmented
- Most large hospitals have been digitalized (Anagraphics, RIS, PACS, CUP, order entry), although the use of the clinical record is still limited
- Digitalization of health data at territorial health agency is still largely missing

European Project

PERSSILAA:

(PERsonalised ICT Supported Service for Independent by Living and Active Ageing)

Design and Activities

ICT – FP7-610 359 research project

PERSSILAA CORE STRUCTURE

- **AIM:** screening & prevention of frailty and pre-frailty
- **Shift** from a reactive management of diseases to a proactive approach focused on prevention, health promotion and personalized intervention

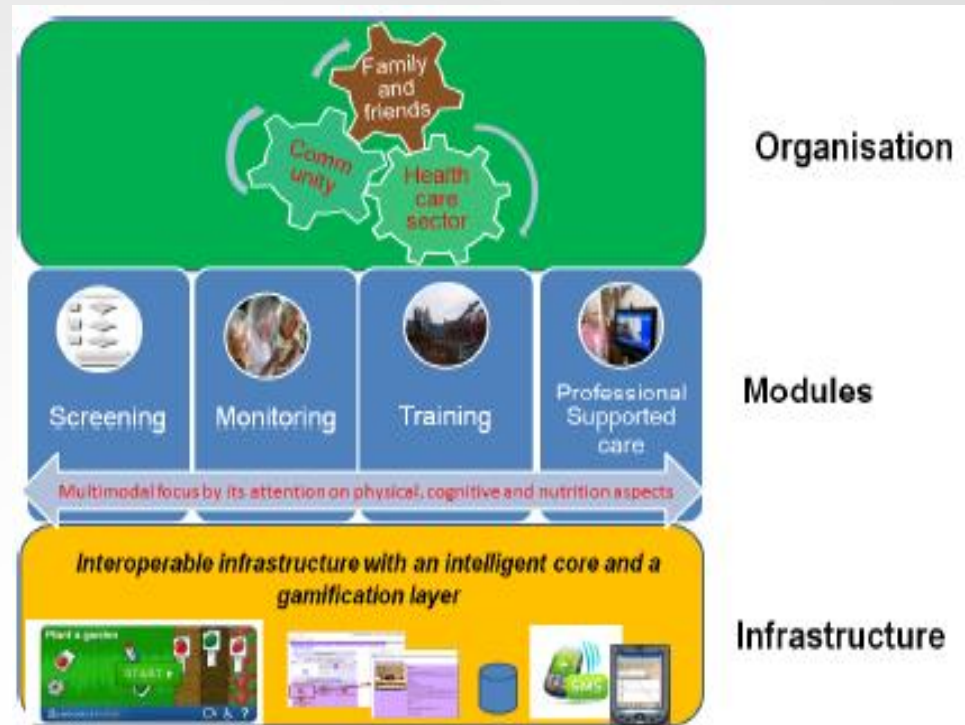


Figure 3: PERSSILAA concept

PERSSILAA aims to develop and validate a new service model to screen for, and prevent **FRAILTY and **FUNCTIONAL DECLINE** in community dwelling adults.**

We will focus on the

- **cognitive,**
- **nutritional**
- **physical domain.**

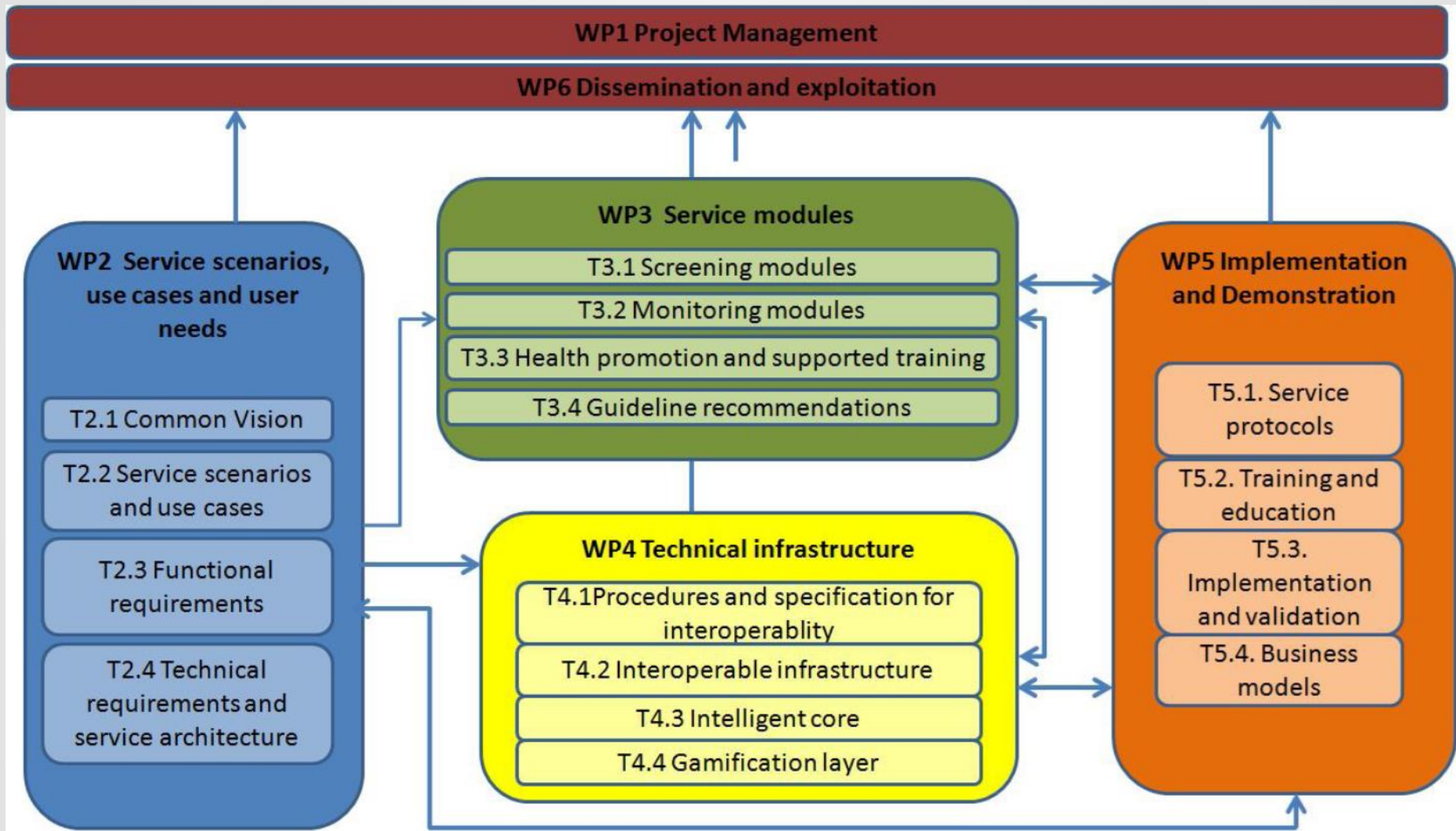
PERSSILAA service model uses INTERNET TECHNOLOGY whenever possible during the screening and prevention of frailty and functional decline.



PERSSILAA PARTNERS from 5 different countries

- 1. University of Twente:**
coordinator, gamification
- 2. Roessingh Research and Development:**
physical activity training module, monitoring, validation site
- 3. Azienda Ospedaliera Universitaria Federico II:**
validation site
- 4. Fundacao da Faculdade de Ciencias da Universidade de Lisboa:**
nutrition coaching module
- 5. University College Cork, National University of Ireland:**
screening on general frailty and cognitive functioning
- 6. Universidad Politecnica de Madrid:**
interoperable ICT platform
- 7. Fundacio Privada Institut de Neurorehabilitacio Guttmann:**
cognitive coaching module
- 8. Nexera SCPA Società Consortile per Azioni:**
ICT platform

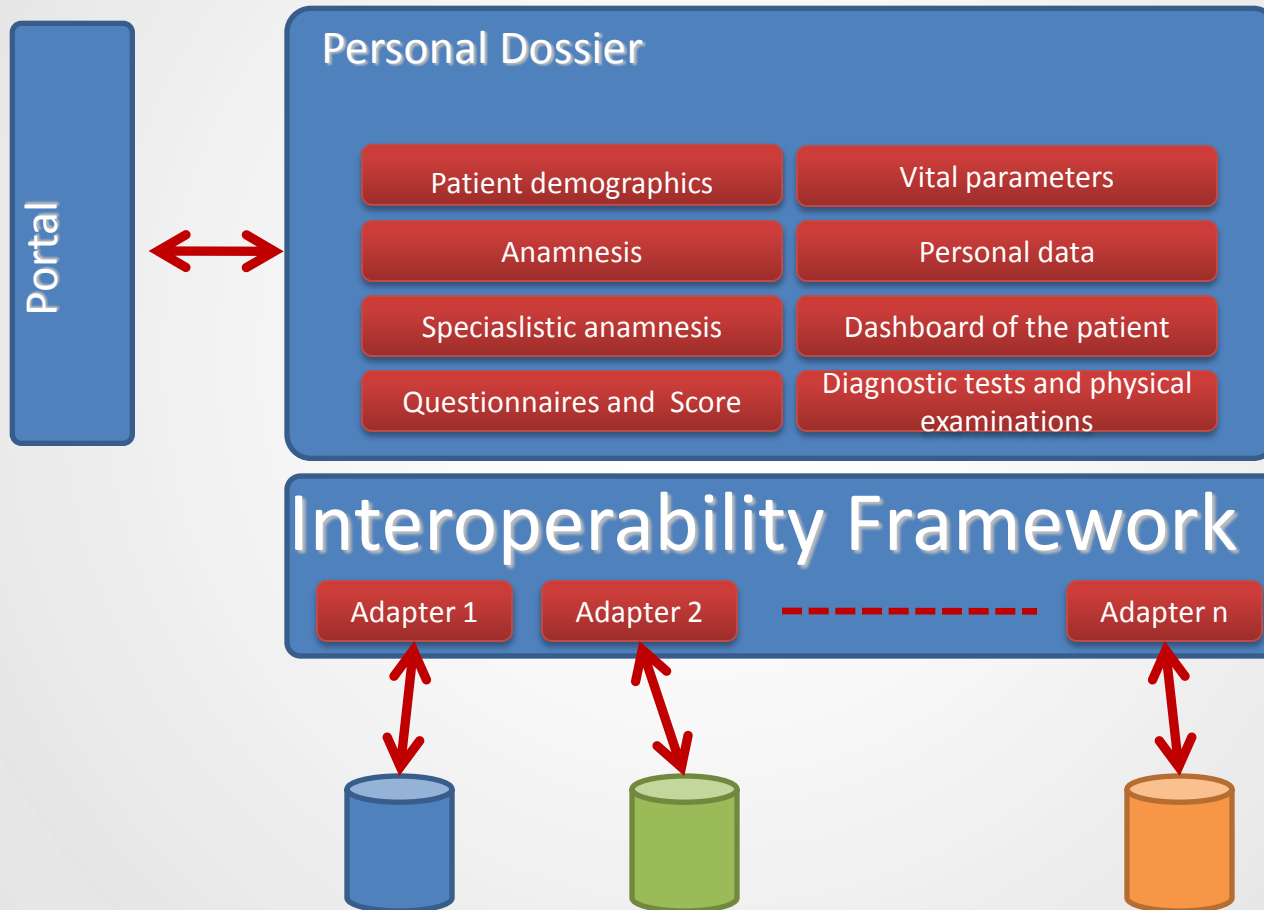
PERSSILAA LOGICAL CORE STRUCTURE



INFRASTRUCTURE COMPONENTS

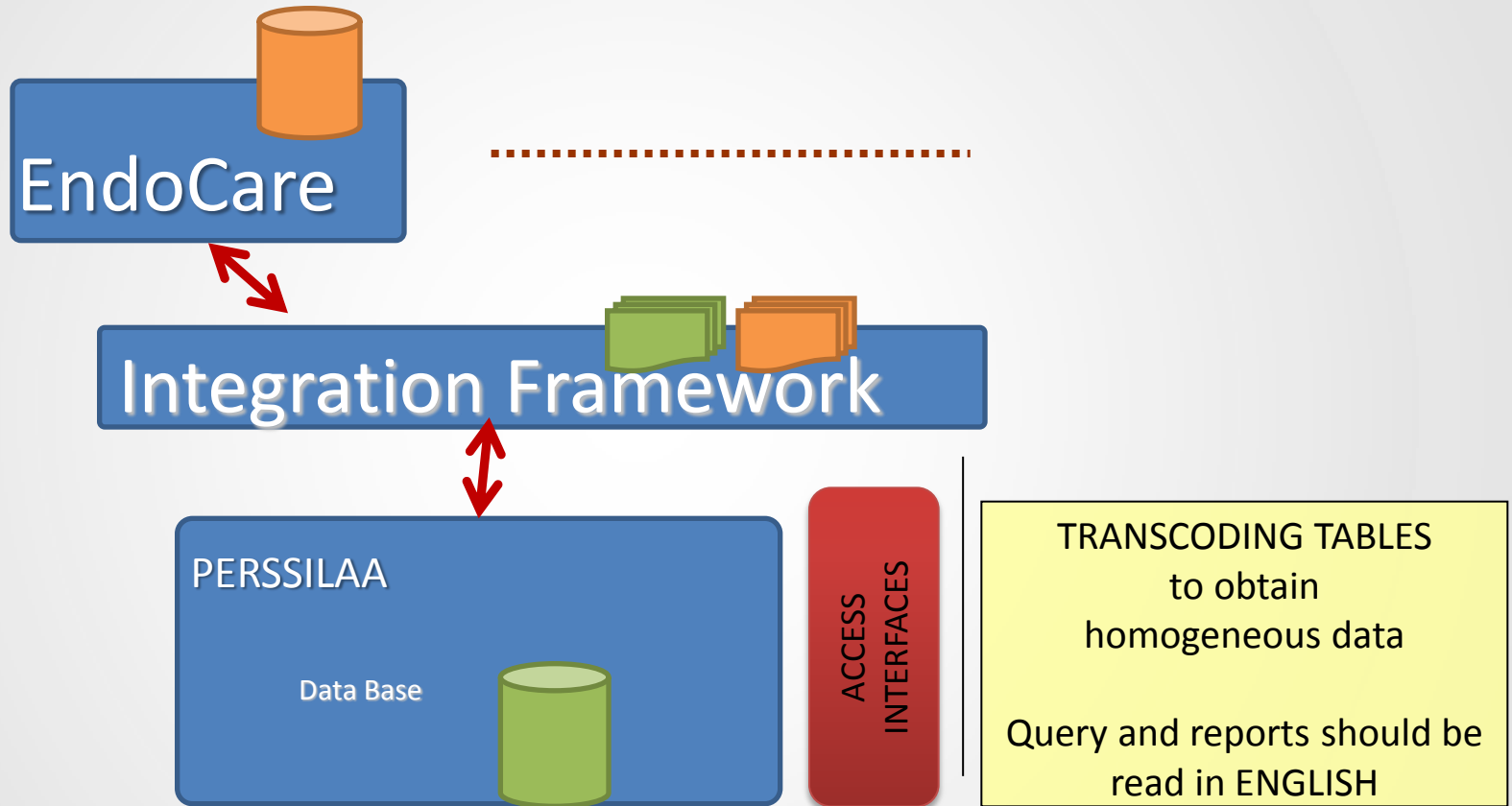
- Creation of the Personal Dossier of the seniors
- Data Acquisition by questionnaires via portal
- Integration of Personal Dossier with ICT systems to acquire information from sensors
- Clinical data acquisition (including integration with FOUND ICT system)

SOFTWARE ARCHITECTURE



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DATA FLOW



The hospital-based ICT system in the evolution of socio-sanitary integration with the territory

ENDOCARE portal is fully integrated with an electronic Patient Dossier, developed with j2ee technologies and suitable to be integrated with other web applications, sensors, etc. according to the service oriented architecture (SOA)



Progetto Ca.R.E.
Campania Rete Endocrinologia

A map of the Campania region in Italy, with several cities marked: Caserta, Benevento, Napoli, Avellino, Salerno, Ischia, Procida, and Capri.

UserName:

Password:

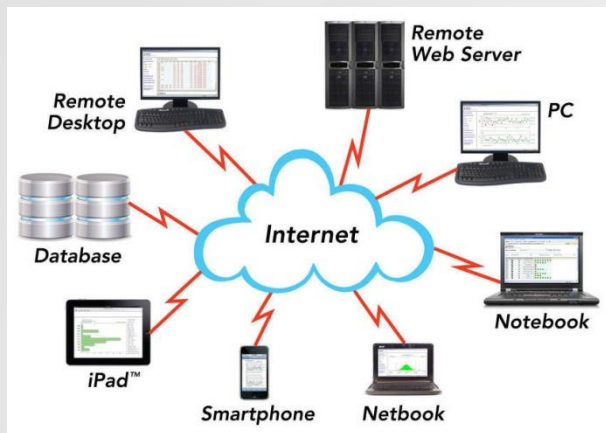
[registrazione](#)

assistenza@endocare.it
Clicca qui per la... [Bacheca](#)

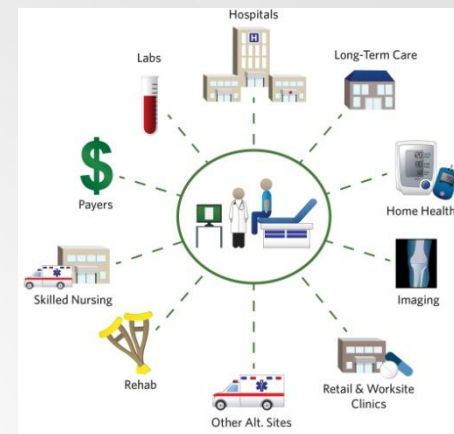


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THE TECHNO-CLOUD



HEALTH SYSTEM



where data come from?

SOCIETAL CHALLENGES= HEALTH PROMOTION & DISEASE PREVENTION= HETEROGENEOUS DATA

SOCIAL SYSTEM & COMMUNITY

DIMENSIONS:

- well being
- socio-cultural
- safety
- research
- environment
-

- Demographic Data
- Public Registries
- Biorepositories
-

THE ISSUE

Codified /non-codified DATASETS

- ONTOLOGY
- INTEROPERABILITY
- REGULATORY FRAMEWORKS/ PRIVACY
- DATA STORAGE/ OWNERSHIP

A POSSIBLE APPROACH

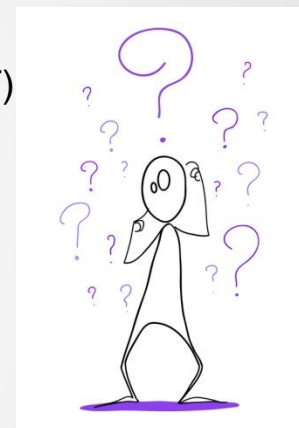
- INTER-DISCIPLINARY
- STAKEHOLDERS INVOLVEMENT IN EARLY PHASES OF SERVICE DESIGN

TRIAL DESIGN

ASSESSMENT WITH VALIDATED TOOLS

QUESTIONNAIRES

- Groninger Frailty Indicator (GFI)
- Intermed Elderly Self-Assessment (IM-E-SA)
- SF-12
- RAND-36 fysiek functioneren
- Short-Form Mini Nutritional Assessment (MNA-SF)



OUR SOLUTION: 1 QUESTIONNAIRE

- WE MERGED ALL QUESTIONNAIRES
- ELIMINATED DUPLICATED QUESTIONS
- ICT ALLOWED TO GROUP THE QUESTIONS DURING THE ANALYSIS TO ALLOW THE SCORING ACCORDING TO THE ORIGINAL, VALIDATED QUESTIONNAIRES

Thank You

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