eHealth in caring for people with multimorbidity in European countries

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on behalf of the ICARE4EU consortium
New opportunities enabled by the application and exploitation of information and communication technologies (ICTs) in the healthcare sector could substantially improve patient-centeredness and care integration for people with multimorbidity.

eHealth solutions can play a major role in enhancing care practices and creating new services for people with multimorbidity.

However, current implementation of health services for people with multimorbidity rarely exploit the full potential of ICTs.
WHO & ITU (2012)
Definition of eHealth

The use of ICTs in health products, services and processes combined with organisational change in healthcare systems and new skills, in order to improve health of citizens, efficiency and productivity in healthcare delivery, and the economic and social value of health.

*European Commission, 2013*
If Mr. Johnson had...

- Diabetes
- Hypertension
- Arthritis
- Kidney disease
- ...

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eHealth enables:

- Self-care
- Health data management and analysis
- Digital communication
- Access to healthcare
<table>
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<th>eHealth domains and benefits</th>
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| **Information, Education and Training** | • Self-empowerment  
• Health promotion  
• Trained workforce |
| **Active and Assisted Living** | • Independence and self-care  
• Relief for family carers  
• Workload for professionals |
| **Remote Consultation, Monitoring and Care** | • Access and quality of care  
• Relief for family carers  
• Workload for professionals |
| **Health Information Systems and Digital Communication** | • Continuity and integration of care  
• Health data management |
| **Decision Support and Population Stratification Systems** | • Continuity of care  
• Health data analysis  
• Proactive interventions |
Innovative care programmes in Europe: benefits from adopting eHealth solutions

• Improving access to healthcare services
• Enhancing care coordination and integration
• Enabling self-management
• Supporting decision making of clinicians
• Enabling monitoring, risk analysis and proactive intervention
Example 1: TeleRehabilitation at Nicosia General Hospital (Cyprus)

- The TeleRehabilitation programme is a **home-based rehabilitation service** that applies advanced telemedicine to intensive care unit (ICU) patients after discharge from hospital.

- These people, usually suffering from multiple chronic conditions, need **cardio-respiratory rehabilitation** after discharge. However, very few manage strict adherence to a rehabilitation plan because of several logistic and infrastructural **barriers**.

- The programme improves **adherence to rehabilitation**, the **health status** of people and **reduces readmissions** to the ICU. It reported to be **cost-effective** and leading to high **satisfaction** among both users and health professionals.
Courtesy of TeleRehabilitation programme managers
Example 2: Strategy for Chronic Care in Valencia Region (Spain)

The Strategy for Chronic Care is a **policy programme** developed in the Valencia Region. It includes:

- constant monitoring by **two nurse case managers** working in primary care and hospitals;
- the implementation, use and sharing by all actors in the care network of **EHRs**;
- an information system for **stratifying the population** according to the morbidity profiles and the corresponding risk;
- an information system to **monitor drug therapies and consumption** by people with polypharmacy.
Innovative care programmes in Europe: enabling health data management and analysis

Valencian Community
4,700,000 inhabitants

- 2% HIGHLY COMPLEX CHRONIC AND PALLIATIVE PATIENTS CASE MANAGEMENT
- 10% MODERATE COMPLEXITY CHRONIC PATIENTS DISEASE MANAGEMENT
- 32% RISK FACTORS / LOW COMPLEXITY PATIENTS SELF-CARE
- 55% HEALTHY POPULATION HEALTH PROMOTION

Courtesy of Strategy for Chronic Care programme managers
Barriers to eHealth

**Micro and meso level**
- digital skills of users
- data treatment policy
- design and usability
- business models
- maturity of market

**Macro level**
- goal-setting process
- legal frameworks
- ICT infrastructures
- evidence of effectiveness and cost-effectiveness
- funding strategies and sustainability plans for implementation
- incentive systems for users
- financial mechanisms
Other observations

- European health systems are (explicitly or implicitly) sustaining *ageing-in-place*

- Member states need to promote **knowledge exchange** and **shared practices, guidelines and standards** in eHealth sector

- **Infrastructure, service and standard developments** are urgent issues for filling current gaps in implementation
Policy directions

Strategic
- **Common public health objectives**: shared knowledge and decision making
- **Legal and funding framework**: overcome barriers
- **Digital skills of patients, carers and health staff**: training campaigns
- **Large-scale research**: beyond limitations of small-scale projects

Implementation
- **Electronic health records (EHRs)**: interoperability and standardisation
- **Personalised medicine services**: towards personal health records (PHRs)
- **Decision support systems (DSSs)**: adoption and implementation
- **Population stratification systems**: development and integration
- **mHealth**: new regulations and appropriate funding

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POLICY BRIEF

How can eHealth improve care for people with multimorbidity in European countries?

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#eHealth can support people with #multimorbidity, but its adoption in #EU requires more #innovativethinking and #resources by stakeholders

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Innovating care for people with multiple chronic conditions in Europe (ICARE4EU)*

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