Interoperability in ICT for Active and Healthy Ageing

What

Interoperability can be defined as the ability of devices and systems (incl. human actors) to interact with one another and exchange information to achieve predictable results. It involves:

- A **meaningful exchange of information** must enable service providers and service users to 1) **access** the information and 2) to **interpret the information in the correct context**.
- **Interoperability** in the health and social care domain **means enabling collaboration between the relevant actors and organisations**.
- An **interoperability framework** is an agreed approach to interoperability for organisations that wish to work together towards the joint delivery of public services.

Why

Interoperability is needed as a magic "glue" for all types of services in the digital world. It implies that:

- The **user doesn't need to worry about the correct functioning** of, and interaction between, different ICT for AHA devices or software whenever they are used together.
- It is an important enabler to secure **safety, quality and intended outcomes** of the use of ICT for AHA.
- It is about **user-friendliness (usability), user safety, choice and affordability**.
- It is a key prerequisite to **guard against manufacturer or supplier 'lock-in'**, to stimulate competition, and hence to help with **affordability**.

In a nutshell …

Interoperability enables

- **Accessibility and Usability** ("plug and play" principles provide the infrastructure for user-friendly interface designs and service
- **Affordability** via open, uniform software interfaces
- **Privacy, Safety, Security** via easy manageable software interfaces

ICT for AHA IOp Framework

Generalised Refined European eHealth Interoperability Framework (GReEIF): Based on a Digital Health framework (ReEIF), GReEIF underpins interoperability requirements for ICT for AHA services. It applies for services in the eGovernment, AHA, health, social care domain etc.

### Recommendations derived from PROGRESSIVE Task Force

Standards need a kind of orchestration towards for interoperability

Practical utility merges - from an user perspective, the concepts of interoperability, usability, accessibility, and also safety and security

Streamlined digital processes and harmonised screen layouts help to avoid confusion in older people when using digital services.

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How

The **eHealth European Interoperability Framework (eEIF)** was established as a domain-specific framework for health and social care. Its high-level concepts are its governance, principles, agreements, interoperability levels, and high-level use cases. It helps to identify needs, expectations and requirements of user groups at different standard development stages.
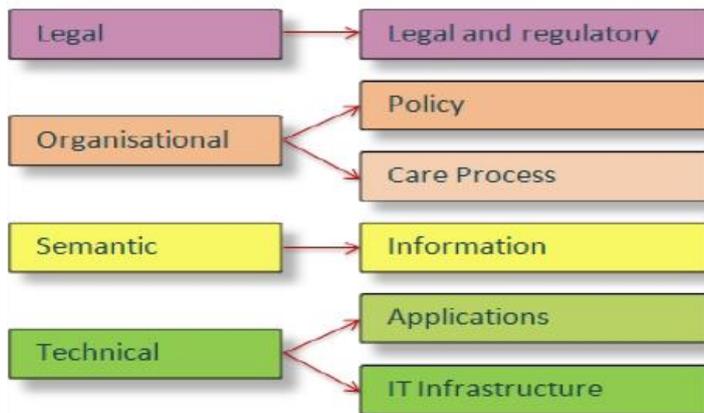
The Revised eHealth European Inter-operability framework (ReEIF) was developed by the European Union-funded Antilope project on eHealth interoperability as a refinement of the eEIF. This framework provides an overview of possible relevant use cases and appropriate links to existing and available profiles (from the major international consortia in the area of standardisation and interoperability). The refined model splits organisational and technical levels, resulting in six levels.

Generalised Refined eHealth European Interoperability Framework (g)ReEIF

The principles of the Refined eHealth European Interoperability Framework Interoperability Framework (ReEIF) have been adapted for a Generalised Refined eHealth European Interoperability Framework ((g)ReEIF). The (g)ReEIF is well suited to underpin the generic requirements needed to implement interoperability in ICT for AHA.

(g)ReEIF-Application: Real-life Use Cases in Smart Housing and Well-being

Use Case: VWiQ - Networked living in the neighbourhood (City of Hamburg, Germany)

The VWiQ initiative took place in Hamburg, where sixty thousand city citizens already need assistance or nursing care. Most of them prefer to stay in their own home and in a familiar neighbourhood. Smart home technology creates 'easy living'. It includes home automation and support systems like fall detection, social alarms, and motion & activity sensors. ICT on AHA interoperability in the gReEIF framework is hence an essential factor in smart home environments.

Use Case: Networked Support for Diabetes Self-Management in Wales, United Kingdom)
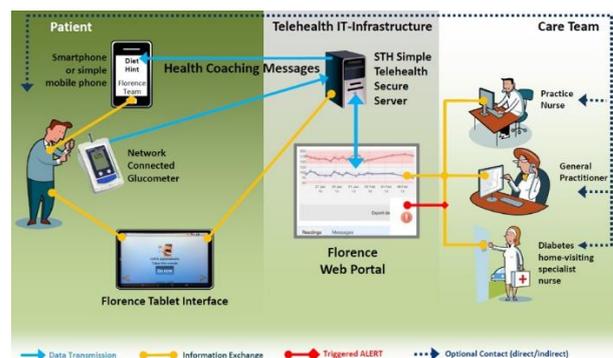
There is an increasing imperative in the field of active and healthy ageing that people must play a pro-active part in managing their own health and care. "Flo" is a clinically approved app that supports people through text messaging. It helps them with taking medication and reporting signs that relate to their health and well-being. Personalised health tips and medication reminders are sent to patients based on their readings. Patients are involved and take more responsibility for their own healthcare.