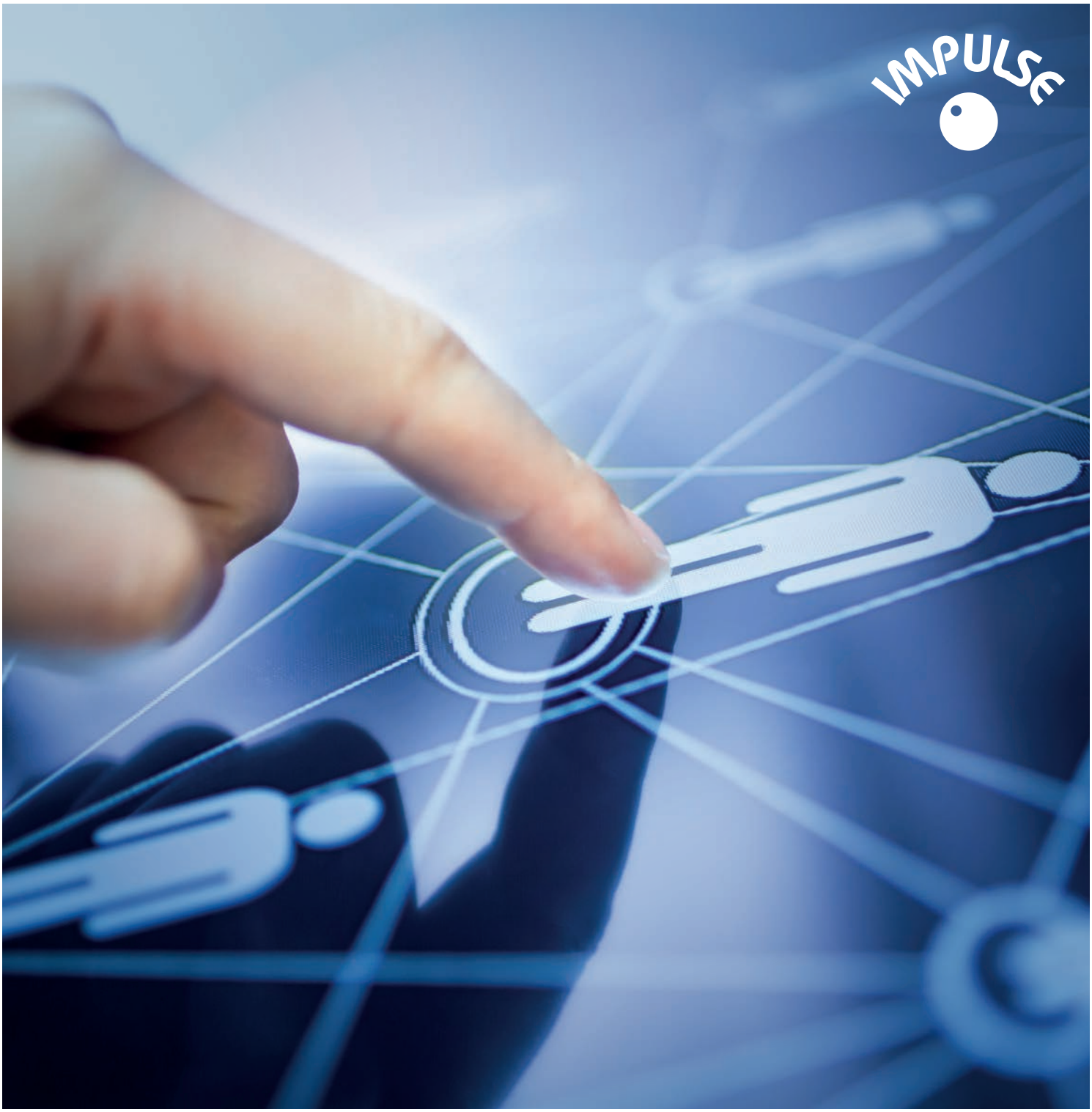


WHY **INTEROPERABILITY** IS CRITICAL TO SUPPORT **INTEGRATED CARE IN EUROPE?**

JUNE 2016

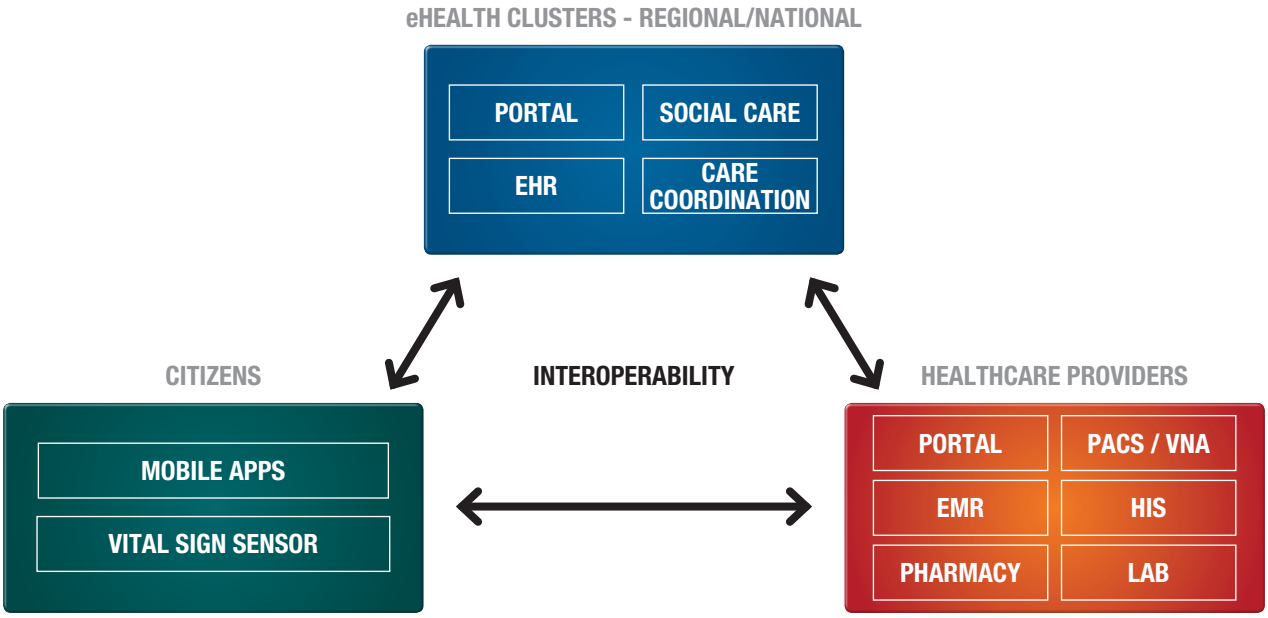
COCIR

SUSTAINABLE COMPETENCE IN ADVANCING **HEALTHCARE**

European Coordination Committee of the Radiological, Electromedical and Healthcare IT Industry

eHealth is both an enabler and a building block of Integrated Care. Interoperable digital health solutions streamline and improve information-sharing and care team collaboration. At the same time, eHealth supports a number of other important initiatives, including citizens' active engagement in their care, population-risk stratification, clinical decision-making and service planning. All of these are essential elements of Integrated Care models.

There is an increasing uptake of mobile health and Internet of Things technologies within the health, social and wellness sectors. This supports the delivery of services across the continuum of care, from disease prevention through diagnosis, treatment, disease management to recovery. This trend is posing new challenges both for open interoperability and for seamlessly integrating information to enable the delivery of Integrated Care.



Integrated Care Interoperability Context

COCIR RECOMMENDATIONS

COCIR believes considering the following critical points will assist the successful application of interoperability in the healthcare sector:

1. **Consider API standards and profiles** for implementing mobile and web based interoperability solutions. Evaluate the potential of the emerging API standard «HL7 FHIR» for trial use in these solutions
2. **Apply a consistent and proven end-to-end strategy** for interoperability that spans eHealth and incorporates mHealth
3. **Apply the COCIR 'Six steps'** approach to interoperability, which has already demonstrated their effectiveness:
    1. IDENTIFY USE CASES
    2. SELECT PROFILES AND STANDARDS
    3. REFINE DATA CONTENT
    4. WRITE THE INTEROPERABILITY SPECIFICATIONS
    5. ORGANISE TESTING
    6. EDUCATE END-USERS ON INTEROPERABILITY

These steps need to be applied to mHealth-centric use cases, in particular to ensure that mHealth is fully integrated with eHealth.

DETAILED BRIEFING

MAIN TRENDS IN THE INTEROPERABILITY LANDSCAPE

Interoperability across different technologies is critical in enabling multi-site and multi-disciplinary collaboration. This way, patients experience a continuum of care throughout the different levels and settings within the health and social care systems.

The emergence of Application Programme Interface (API[1]) platform standards provides an extension with a powerful set of interoperability services, delivering the functionality for collaboration and information exchange among different health IT solutions at various levels (citizen/patient – provider – regional level), thus breaking down information silos.

The evolution of interoperability is visible through the emergence of new standard specifications such as HL7 FHIR (Fast Healthcare Interoperability Resources, www.hl7.org/fhir/) and related IHE Profiles. This standard is under development and remains immature; however, it has the potential to become the preferred platform API standard for mobile health and other healthcare IT solutions.

Partner companies that share a common vision and platforms are creating mutual ecosystems because healthcare solutions are becoming too complex for any single company.

These ecosystems help integrate mHealth applications into the patient's care continuum. Currently, most of these ecosystems are based on proprietary platform APIs. This requires installation and use of proprietary Apps at each point of contact between the citizen and the healthcare system (pharmacies, doctors, specialists, hospitals, laboratories, etc.) and wellness management systems (activity tracking, heart rate monitoring, etc.). This proliferation of Apps threatens to create an interoperability nightmare that will fail to bridge existing information silos. This is why the emergence of standard FHIR-based platforms will accelerate the development of the open ecosystem necessary for growth.

Given the current overarching trends in the interoperability landscape and the evolution of health systems towards Integrated Care models, COCIR believes that a consistent, end-to-end approach interoperability strategy should be urgently developed. In this paper, we highlight our recommendations for driving this transition to an enabling digital ecosystem for Integrated Care.

COCIR RECOMMENDATIONS

COCIR believes considering the following critical points will assist the successful application of interoperability in the healthcare space:

1. **Consider API standards and profiles for implementing mobile and web based interoperability solutions.**
   Evaluate the potential of the emerging API standard «HL7 FHIR» for trial use in these solutions.
   a. The FHIR standard is in its trial implementation phase, encouraging vendors to adopt the standard and gain experience. However, there is no guarantee that future implementation will be compatible.
   b. IHE is actively contributing to developing the FHIR standard and adopting FHIR in new IHE Profiles (e.g. IUA security profile based on OAuth). This will guarantee interoperability among FHIR implementations from different vendors while ensuring overall consistency with other, widely-adopted IHE profiles (e.g. XDS, PIX, PDQ).
   c. Deployment of regional and national eHealth solutions should continue to follow the European-wide recognition of standard profiles (see the EU Recommendation on 27 IHE profiles for eHealth procurements[2]) and should be extended to mHealth APIs. Indeed, mHealth apps should implement platform API standards as defined by the mobile-centric IHE profiles; this will guarantee the free and secure flow of health data between mobile apps, from both citizens and care providers.

1. An Application Programming Interface, or API, is a set of software instructions and standards that allows machine to machine communication-like when a website uses a widget to share a link on Twitter or Facebook (source: www.digitalgov.gov/category/code/api/)
2. http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=OJ:JOL_2015_199_R_0011

2. Apply a consistent and proven end-to-end strategy for interoperability that spans eHealth and encompasses mHealth

The adoption of standard profiles, which has enabled progress in eHealth, should be extended to encompass mHealth. COCIR has stressed, over a number of years, the need for a pragmatic, consistent and effective approach to interoperability across Europe. The COCIR 2015 eHealth Toolkit devotes a chapter to interoperability[3] and its recommendations remain pertinent, particularly with the emergence of mHealth.

COCIR recommends following the end-to-end interoperability approach, from documentation to testing, in planning effectively for adopting today's emerging standards in this sector, including HL7 FHIR, IHE profiles and Continua Implementation Guidelines. This will allow an orderly deployment across Europe.

3. Apply the COCIR 'Six steps' approach to interoperability, which has demonstrated their effectiveness:

COCIR encourages readers to review the 'Six steps' approach that COCIR and others have promoted[4], which has already demonstrated their effectiveness:

1. IDENTIFY USE CASES
2. SELECT PROFILES AND STANDARDS
3. REFINE DATA CONTENT
4. WRITE THE INTEROPERABILITY SPECIFICATIONS
5. ORGANISE TESTING
6. EDUCATE END-USERS ON INTEROPERABILITY

These steps need to be applied to mHealth centric use cases, in particular to ensure that mHealth is fully integrated with eHealth.

COCIR is the European Trade Association representing the medical imaging, radiotherapy, health ICT and electromedical industries. Founded in 1959, COCIR is a non-profit association headquartered in Brussels (Belgium) with a China Desk based in Beijing since 2007. COCIR is unique as it brings together the healthcare, IT and telecommunications industries. ***www.cocir.org***

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3. http://www.cocir.org/fileadmin/4.4__eHealth/15013.COC_2.pdf
4. See Part 5 page 42 of the 2015 eHealth toolkit http://www.cocir.org/fileadmin/4.4__eHealth/15013.COC_2.pdf