InteropEHRate

EHR in people's hands across Europe

Your health data available and shareable when and where you need

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 826106

PROJECT INFORMATION

The InteropEHRate project is funded by the European Union for 42 months and is implemented by a unique consortium of experienced institutions and qualified experts. InteropEHRate partners represent healthcare solution providers, hospitals, universities and research centres as well as European and local stakeholder associations.

- Title: Interoperable EHRs at user edge
- Acronym: InteropEHRate
- Start date: 1st January 2019
- End date: 30th June 2022
- Duration: 42 months
- Instrument: Horizon 2020
- Type: Research and Innovation action
- Grant Agreement Number: 826106
- Budget: €7,192,592.50
- Coordinator: Engineering Ingegneria Informatica SpA

PROJECT AIMS

InteropEHRate aims to support peoples' health by opening them up to new ways to make health data available whenever and wherever needed. To make this possible, key health data is managed in "patients' hands", i.e. through Smart Electronic Health Records (S-EHR) on mobile devices. Data is always transferred via highly secure channels including a direct device-to-device (D2D) communication. Patients are in full control of their data and its routes.

InteropEHRate is developing open interchange protocols supporting patient-centred exchange of health records between patients, healthcare actors and researchers.

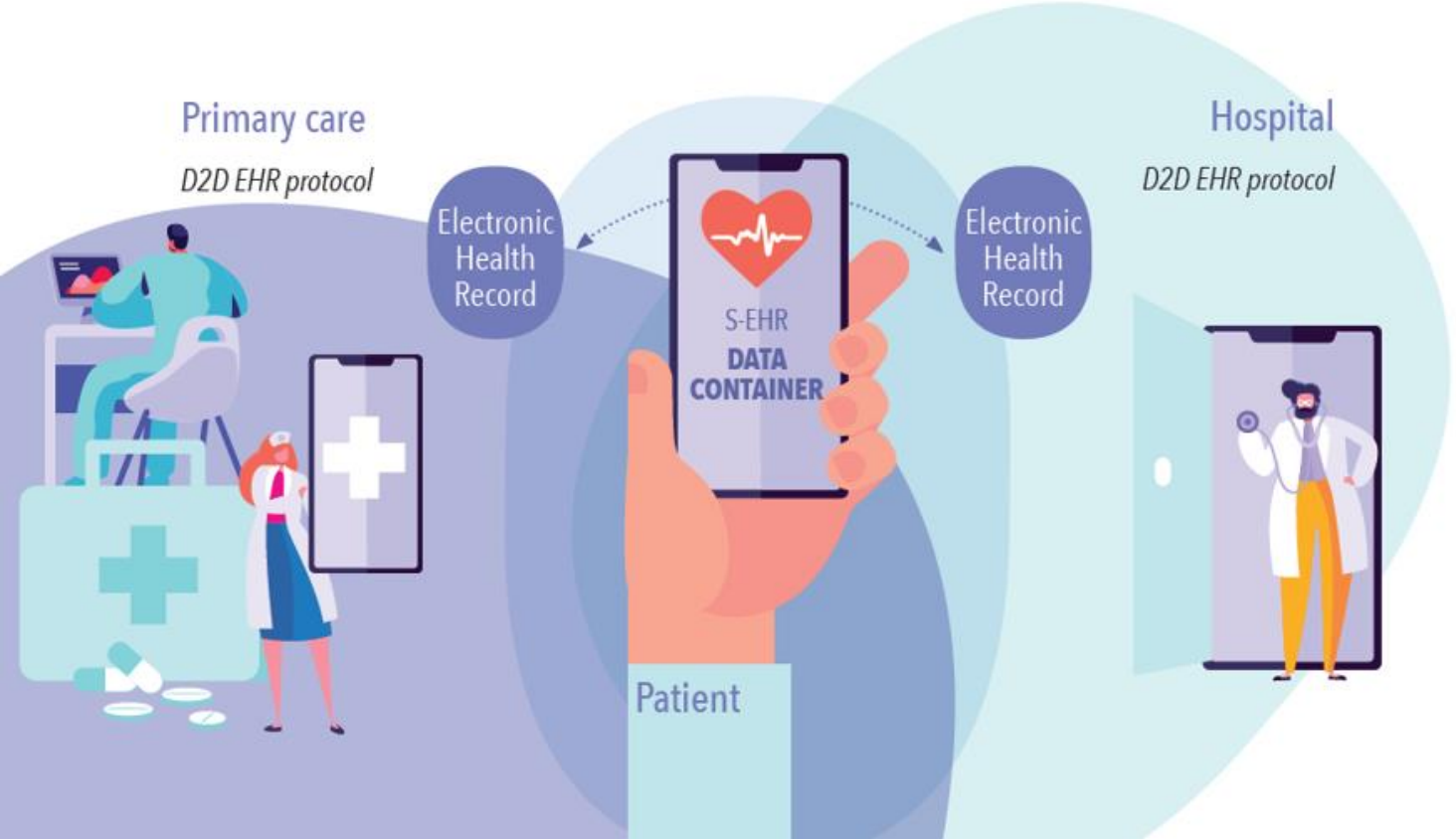
Thus, the project will contribute to the next steps in the follow-up of the February 2019 EC recommendation C(2019) 800 and help to pave the way towards an open European Electronic Health Record (EHR) exchange format and process. It will specifically add a decentralised, patient-driven bottom-up approach as an alternative method to the top-down approach of exchanging patient data exclusively via the national contact points for eHealth.

VISION

Our **key goal** is to complement and integrate the current interoperability infrastructures with new technologies for health data exchange centred on the person, based on a bottom-up approach that does not require the coordination by a superior authority and that leaves more control of health data to the people.

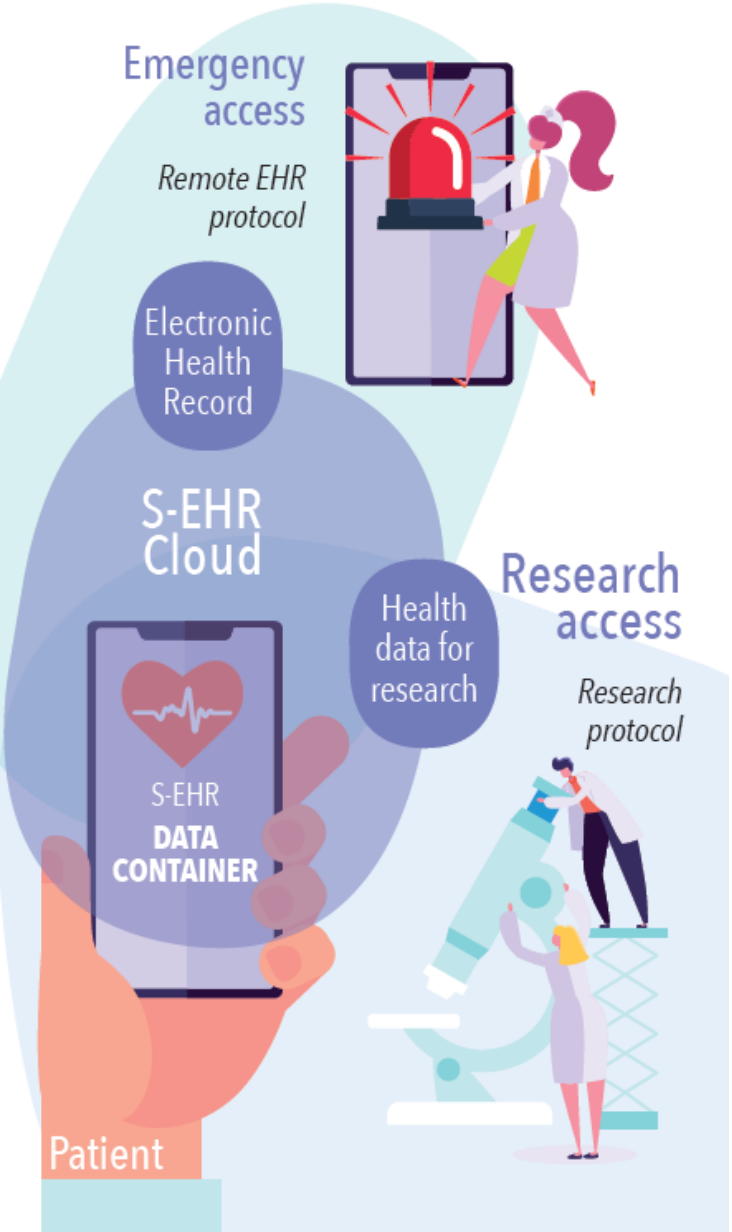
INTEROPEHRATE TECHNICAL APPROACH

The project will release an open specification to securely exchange health data using the InteropEHRate protocols between different persons' S-EHRs, and different applications of researchers and healthcare professionals of different countries.



Scenario 1
Device-to-device temporary sharing

Scenario 2
Emergency consultation of S-EHR cloud



CORE FUNCTIONALITIES

- Patients are in control of all personal health data and can collect, see and share it with healthcare professionals, researchers or whoever they want.
- People are hence mediators for health data exchange that can also be transferred privately and securely through device-to-device protocols.
- The patient is not locked with one vendor and may change the S-EHR app or move data between cloud storages.
- The S-EHR app and cloud vendors may be different.
- The cloud storage can be used for emergencies, like a national EHR.
- InteropEHRate will define vendor-independent protocols for direct communication with patients and vendor-independent criteria to be fulfilled by the apps and service providers for secure storage of health data on mobile and on cloud.

Scenario 3
Sharing of personal health data for research

RESULTS: OPEN SPECIFICATION

- **FHIR profile for EHR interoperability**
- **S-EHR conformance levels**: constraints and guidelines that S-EHRs and cloud storage must fulfil.
- **Remote protocol for EHR interoperability**: peer-to-peer exchange among two specific nodes (e.g. an S-EHR and an EMR), and access to all health data of a citizen from any federated EHRs/EMRs.
- **D2D protocol for EHR interoperability**: exchange among two near devices, on encrypted short range channel (NFC / Bluetooth).
- **Protocol for research health data sharing**: exchange of health data, on internet, between the S-EHR mobile and Research Centre.

RESULTS: REFERENCE IMPLEMENTATION

- **S-EHR mobile app (Data container)**: Prototype able to store securely any health data about a single citizen, generated by the citizen itself or by the healthcare professionals.
- **S-EHR cloud**: Prototype of a service managed directly by the citizen, able to store on the cloud the personal health data collected by the S-EHR mobile app.
- **InteropEHRate Health Services (IHS)**: A set of service components reusable by any healthcare organization, offering the implementation of the InteropEHRate protocols for the exchange of health data.
- **Electronic Health Record (health professional access)**: Application exploiting the IHS and used by healthcare professionals to read from and write any relevant health data on the S-EHR of the patients.
- **InteropEHRate Research Services (IRS)**: A set of service components reusable by any research centre offering the implementation of the InteropEHRate protocols for requesting to the citizens and receiving from their S-EHRs health data donated for research purposes.

INTEROPEHRATE CONSORTIUM

- Engineering - Ingegneria Informatica S.p.A. (Italy)
- A7 Software (Belgium)
- EHTEL - European Health Telematics Association (Belgium)
- DTCA Hygeia – Diagnostic and Therapeutic Centre of Athens (Greece)
- University of Trento (Italy)
- University of Vienna (Austria)
- EFN - European Federation of Nurses Associations (Belgium)
- FTGM - Toscana Gabriele Monasterio per la Ricerca Medica e di Sanità Pubblica (Italy)
- CHU de Liège - Centre Hospitalier Universitaire de Liège (Belgium)
- UBITECH Limited (Cyprus)
- UPRC - University of Piraeus Research Center (Greece)
- SCUBA - «Bagdasar-Arseni» Clinical Emergency Hospital of Bucharest (Romania)
- SIVECO Romania S.A. (Romania)
- Fraunhofer ISST - Institute for Software and Systems Engineering (Germany)
- ISA - Iatrikos Syllogos Athinon (Greece)
- Byte Computer S.A. (Greece)

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