



## **RES-Q+ (Comprehensive solutions of healthcare improvement based on the global Registry of Stroke Care Quality)**

RES-Q+ is a collaborative project under Horizon Europe program, that will capitalize on a successful Registry of Stroke Care Quality (RES-Q) used for collecting and analysing quality of stroke care. With 93 countries and 2 089 hospitals involved, RES-Q is the largest stroke care registry in the world. So far only in-hospital information are captured. RES-Q+ will capture not only those, but the entire patient pathway including the post discharge care. The team will deploy artificial intelligence in the fight against stroke in Europe, with the aim of making the knowledge of the top specialists available to both stroke patients and general practitioners. A fully automated tool for obtaining and processing data on the provided health care will be developed. A major expansion of the existing platform is also the creation of two AI-enabled virtual voice assistants, one helping patients monitor their health condition and the other assisting physicians in stroke care management.

### **Overall Information**

**Budget:** € 7 702 741 from EU

**Duration:** 4 years (1. 11. 2022 - 31. 10. 2026)

**Grant Provider:** European Commission

**Program:** Horizon Europe Research and Innovation Action

**Call:** HORIZON-HLTH-2021-TOOL-06

**Topic:** HORIZON-HLTH-2021-TOOL-06-03 Innovative tools for use and re-use of health data (in particular of electronic health records and/or patient registries)

**Project Number:** 101057603

### **Project ambitions**

- Decrease healthcare costs by higher efficiency,
- safe patients' lives by improving stroke care,
- improve the quality of European healthcare systems.



#### **In detail, our objectives are:**

- Create **Virtual Assistants**.
- Develop innovative **Natural Language Processing tool** to analyze unstructured and heterogeneous data from multiple languages into an EU standard format.
- Harmonize data semantically and provide **standardized exchange interface** for data reuse.
- Develop **tools to analyze data** for end-users.
- Design, assess, clinically validate and refine usable, trusted services and draft an **EU Hospital Discharge Report standard**.
- Establish **European Open Stroke Data Platform**.
- Create a **European space** for ethically- and legally-compliant **health data collaboration** in the domain of stroke care.
- Translate RES-Q+ into **health policies and clinical practice** for more accessible high-quality care and standardization.





### What is a Virtual Assistant

Virtual Assistant is an application, that understands human voice and acts on human commands. It can converse with people, answer their questions, advise them etc.

#### Virtual Assistants in RES-Q+:

We will develop two applications - one for patients, one for clinicians.

The **patients' virtual assistant** will help people who suffered from stroke to keep track of their health via questionnaire-based outcome assessments, such as the modified Rankin scale via a mobile application in a conversational interface.

The **clinicians' virtual assistant** will help doctors understand the performance of their hospital based on data analysis by different healthcare professional end-users (e.g. nurses, doctors, hospital managers) and predictive models.



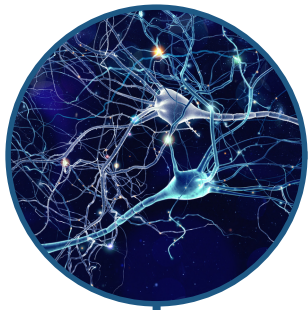
### What is Natural Language Processing

Natural language processing is a part of artificial intelligence that gives computers ability to understand and process written text as a human being can. It can automatically extract, classify and understand a meaning of huge volumes of raw, unstructured, and unlabeled text.

#### Natural Language Processing in RES-Q+:

We will develop automatic methods for mining RES-Q-required data from unstructured healthcare documents (e. g. hospital discharge reports) based on the state-of-the-art machine-learning and Natural Language Processing.





## Project Consortium

13 European countries  
21 partners

### Technical partners

- Institute of Health Information and Statistics of the Czech Republic (Coordinator)
- Aalborg University (Co-coordinator)
- Technological University Dublin
- Health Management Institute
- SIRMA AI EAD (Ontotext)
- ALANA AI SA Limited
- University of Murcia
- Charles University



### Clinical partners

- University of Glasgow
- University Hospital Bucharest
- Vall d'Hebron Institute of Research
- Institute of Psychiatry and Neurology
- National & Kapodistrian University of Athens
- International Clinical Research Center of St. Anne's University Hospital Brno
- Multi-Profile Hospital for Active Treatment in Neurology and Psychiatry "St. Naum"

### Dissemination partners

- Boehringer Ingelheim International GmbH (Angels Initiative)
- World Stroke Organization
- Stroke Alliance for Europe

### Law partners

- TIMELEX
- CHINO SRL
- Masaryk University



### Contact:

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