

Virtual Coaching Activities for Rehabilitation in Elderly

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D6.3 Wrapper of clinical pathways

Extended summary

This project vCare has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 769807.



This deliverable presents the implementation of a semantic wrapper for transforming a clinical pathway model to the vCare ontology. The wrapper thus **serves as an interface** between clinical pathways modelled in as output of the Pathways editor and Template management tool and the knowledge representation defined in the baseline vCare ontology. Clinical pathways are lifted to a semantic representation (Turtle Syntax in Resource Description Framework), which forms the basis for further processing via structured queries.

Considering the overall structure of the project, the wrapper **enables the curation of a structured database, following the schema of the vCare ontology**, as well as an organized information access. The main element is the data storage in the RDF format at the central point of knowledge processing as described in the baseline vCare ontology. The vCare ontology links the resulting structured representation of clinical pathways to various existing ontologies and structured knowledge bases.

This deliverable shows how to lift the **proposed FHIR-based JSON representation of clinical rehabilitation care pathway (templates) to concepts modelled in the vCare ontology**, which exploits structured concepts and properties of the FHIR RDF standard. To technically realize the lifting process, the lightweight and widely used **RDFLib Python library is used**. It enables to efficiently transform clinical pathways into the knowledge representation defined by the vCare ontology, as well as to flexibly handle modifications in the clinical pathway representation.

By delivering the wrapper for the clinical pathways we lay the foundation for **linking the individual components to the planned overall architecture**. Through this work, we are able to collect information about the clinical pathway summarized by a modelling expert or about a patient by a physician and link it to the vCare architecture. In the next step, the implementation and technical proof phase, the design of the pathways and the implementation of the wrappers will be tested.