

Adoption of OMOP CDM in the DPI4INAH Project: Enhancing Healthcare Data

Integration in Wallonia, Belgium

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INTRO

Explore the adoption of OMOP CDM within the **DPI4INAH** (*Electronic Patient Record (EPR) - Dossier Patient Informatisé (DPI) for the Institute of Analytics for Health*) project in Wallonia, Belgium.

DPI4INAH extends **INAH** by integrating additional medical data from primary and secondary care into an interoperable OMOP datalake. Specifically, it focuses on extracting information from natural language reports concerning allergies, vaccination, and oncology.

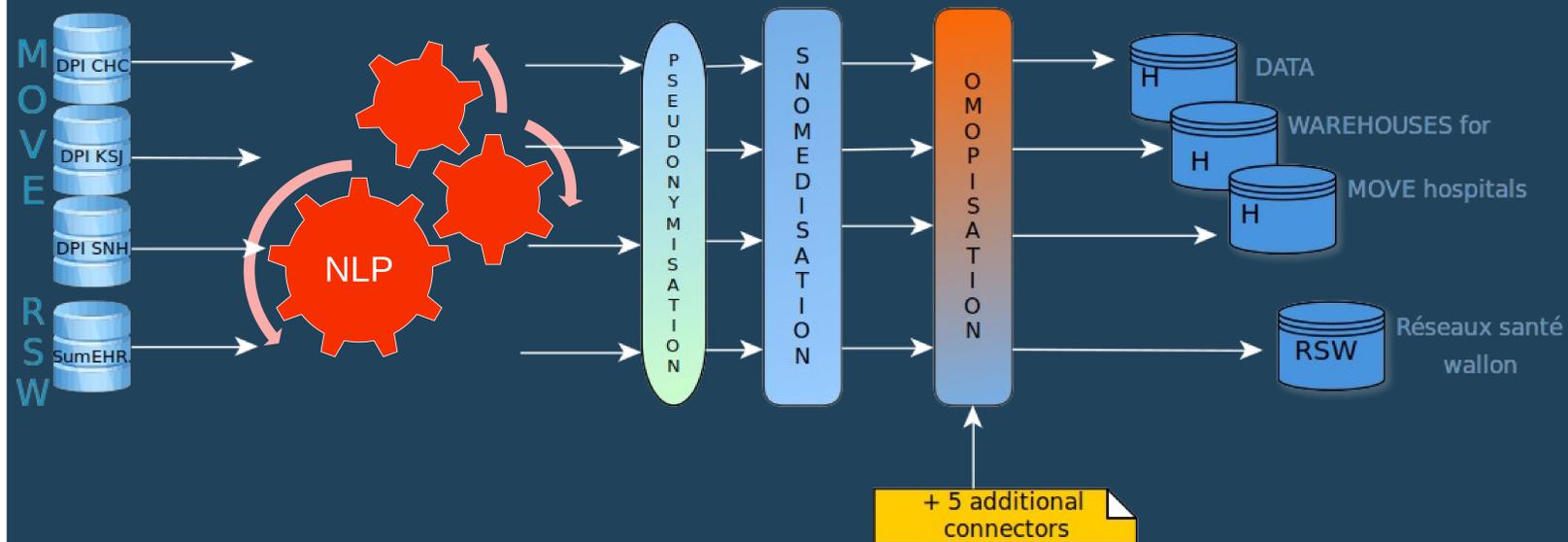
Diverse contributors are involved in this project: the Hospital network **MOVE** (CHC Liège, St. Nikolaus-Hospital at Eupen, Klinik St. Josef à St. Vith), **RSW** (Réseau Santé Wallon, managed by the non-profit FRATEM) and private companies (**DNAnalytics**, **Effixis**, **Solstisse**).

METHODS

DPI4INAH achieves data interoperability through several key steps:

1. Clinical information from the **DPI** system will be extracted using **NLP** techniques and transformed into standardized representations in **SNOMED CT** terminology.
2. A double pseudonymisation mechanism has been implemented, involving a trusted third party in the loop.
3. Data is mapped to the OMOP CDM, ensuring uniformity and compatibility across different healthcare systems.
4. Medical data will undergo validation at both the individual hospital level and on a global scale.
5. In addition to **DPI** and **SumEHR**, the final data warehouse will incorporate the data coming from the five connectors of the previously developed **INAH** platform.

Structured and unstructured data from first and second line care combined in OMOP datawarehouses



RESULTS

DPI4INAH maximizes internal data utilization within each institution operating its own warehouse.

It also allows exporting allergy and vaccination data in **FIHR Careset** format for the **MOVE** Hospital network. This initiative aims to enhance specialization and rationalize internal practices. It will facilitate clinical research queries, allowing researchers to analyze standardized data sets for insights and advancements in healthcare practices.

Furthermore, it will support internal queries from participating hospitals, aiding in decision-making processes and improving overall healthcare delivery.

DPI4INAH enables feasibility analysis for multicentric clinical studies including both hospital and General Practitioner data in the fields of vaccines, allergies, and oncology.



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