VALO Feasibility Study on the OMOP CDM Maturity in the Nordics

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Background

The Nordic VALO (Value from Health Data) project is an initiative led by Sitra (the Finnish Innovation Fund) and funded by the Nordic Council of Ministers, aiming to enhance Nordic cooperation in health data reuse.

The feasibility study marked the initial phase of the VALO project, with Productivity Leap serving as the supplier. The purpose of the study was to assess the OMOP capability and willingness of hospitals and data holders across Sweden, Finland, Iceland, Norway, and Denmark to participate in a Nordic-level federated analysis pilot using the OMOP common data model. In addition, the study aimed to identify potential health topic areas suitable for the pilot.

The goal was to find OMOP capable data holders from at least three Nordic countries that would be interested in participating in a pilot within the same health topic area. The timeline of the feasibility study was approximately two months.

Methods

Altogether 15 data holders participated in the feasibility study: six from Finland, three from Sweden, three from Iceland, two from Norway, and one from Denmark. Some contacted data holders could not participate due to other commitments but expressed interest in participating in the pilot itself.

The primary method used for the study was interviews. Additional data was also collected from some participants through a preliminary questionnaire. Also, one data holder could not participate in the interview in the timeframe due to other commitments, thus written responses were collected from them.

The analysis of the maturity levels of hospitals and data holders involved a detailed scoring system, including six main assessment categories: 1) OMOP data model (incl. topics, coverage), 2) Data (incl. size, coverage, access), 3) Research and collaboration (national and international), 4) Key resources (clinical and IT), 5) Expansion capabilities (incl. financial and educational aspects) and 6) Willingness to participate in the pilot. All these categories included several dimensions, each with their own detailed scoring criteria.

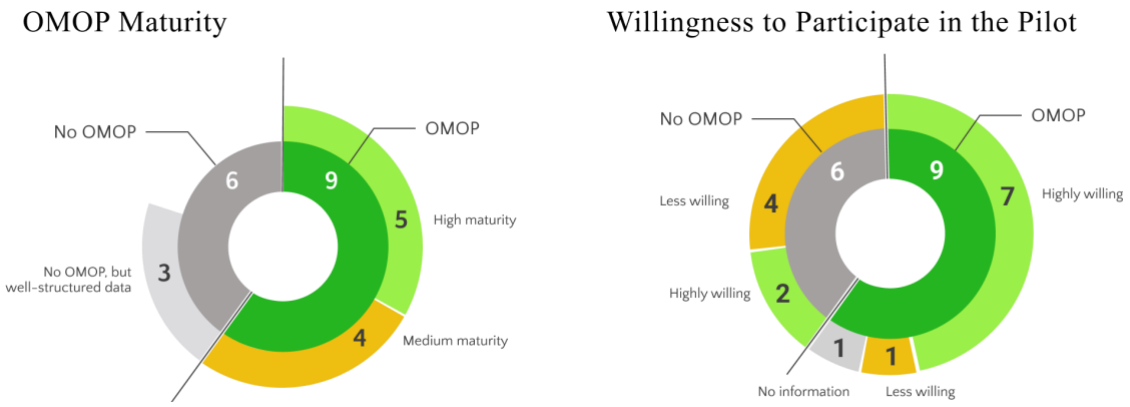
Results

Among the 15 data holders participating, nine had already adopted the OMOP model, with five demonstrating high maturity and three showing medium maturity. The remaining six data holders were interested in adopting the OMOP model but had not established concrete plans or a timetable. Institutions without OMOP were willing to adopt the model but required more information and

specific projects to justify resource allocation. The study emphasised the need for ongoing support and clear incentives to encourage these institutions to transition to the OMOP model.

There was high interest in participating in the pilot, with nine data holders showing strong willingness. Five expressed less willingness to participate, mostly owing to the absence of OMOP implementation, and one due to other commitments. Yet all data holders remained interested in receiving updates about the project.

Figure 1. OMOP Maturity and Willingness Summary



The study also proposed two main health topics for the Nordic-level pilot: cancer and drug-related research. Ten data holders from four countries expressed specific interest in a cancer-related study. Specific research topics within cancer included cardiotoxicity, hematological cancer prevalence, and treatment outcomes. Drug-related studies also garnered interest within eight data holders from all five countries, for instance the effectiveness and cost-efficiency of new pharmacotherapies.

Also, one possible approach for the topic selection, proposed as a part of the feasibility study, would be replicating a previous DARWIN study with an existing research protocol and even code, to enable faster study setup and to ensure the results can be validated against previous studies.

Conclusion

To conclude, the feasibility study provided a comprehensive overview of the OMOP capability and maturity among the Nordic hospitals and data holders. The study also developed a scalable methodology to assess OMOP capability and maturity across different countries for implementing a federated study. The study laid the groundwork for the VALO pilot, demonstrating that conducting the federated analysis between Nordic countries is feasible.

Upcoming Pilot

The procurement for the VALO pilot will be starting soon. The tender will be published by Sitra in August 2024, and the pilot will already be starting in November 2024. The topic for the pilot and the participating data holders will be specified as a part of the tendering process.