FEEDER-NET (Federated E-health Big Data for Evidence Renovation Network) in Korea

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Abstract

A bio-health Big Data platform is a new paradigm for medical academia and industry and Common Data Model (CDM) is necessary bridge for it. Korean government adopted a bio-health Big Data platform as a core national strategy and is actively propelling many CDM projects. A new chapter of OHDSI Korea has been being built.

Introduction

The Federated E-Health Big Data for Evidence Renovation Network (FEEDER-NET) project was initiated in 2018 (for 3 years) with $10 million budget from the Ministry of Trade, Industry & Energy of Korea. On 2019, new CDM projects were started and will continue to 2022 with $33 million budget.

The one goal of them is to build a bio-health Big Data ecosystem. The FEEDER-NET project is developing its backbone: a CDM-based data network, a coordinating platform, proof-of-concept business services and a sustainable virtuous cycle. The CDM projects, which were started in 2019, were planned to expand and advance it. Every effort has been committed to accelerate and settle the bio-health Big Data platform in Korea. In this paper, we introduce CDM projects and FEEDER-NET project in Korea.

National CDM projects in Korea

Currently, 31 CDM projects have been proceeded with $47M budget in Korea. Table 1 is the list of them.

Table 1. CDM projects in Korea

Project	Objective	Period	Budget	Ministry
FEEDER-NET	• Building CDM-based data network • Developing a coordinating platform • Developing PoC services	’18-‘20	$10M	Industry
FEEDER-NET expansion& advancement	• Expanding data network • Advancing/sophisticating the platform of FEEDER-NET	’19-‘22	$10M	Industry
Enterprise service	• 6 projects (2 start from Aug 2019) • Developing industry service	’19-‘22	$7M	Industry
Clinical research	• 12 projects • Collaborative clinical research	’19-‘21 ’20-‘22	$7M $7M	Health&Welfare
Standardization	• Standardizing data model, medical code, privacy	’19-‘22	$1.5M	Industry
Privacy	• 10 projects • Developing guides for privacy	’19-‘21	$5M	Health&Welfare

FEEDER-NET

The FEEDER-NET project was started in 2018 and the following project which expand the CDM-based data network and sophisticate the coordinating platform which the FEEDER-NET develops as in [Figure 1]. The main objectives of the FEEDER-NET are as follows:

- *Building a CDM-based bio-health Big Data network*

63 hospitals are currently participated in the bio-health data network of the FEEDER-NET and the following project. The data network has 28 tertiary hospitals (about 70% of tertiary hospitals in Korea), 34 general hospitals and 1 clinic, and 12 hospitals' EMRs were already converted to CDM. For CDM infrastructure, the SaaS cloud of CDM DB and virtual analytic environment will be developed.

- *Developing a distributed Big Data coordinating platform*

The FEEDER-NET builds the coordinating platform which harmonizes and optimizes the evidence sharing processes. In the following project, the essential tools for analysis, data quality and privacy will be developed.

- *Fostering collaborative research and encouraging industry to develop business services*

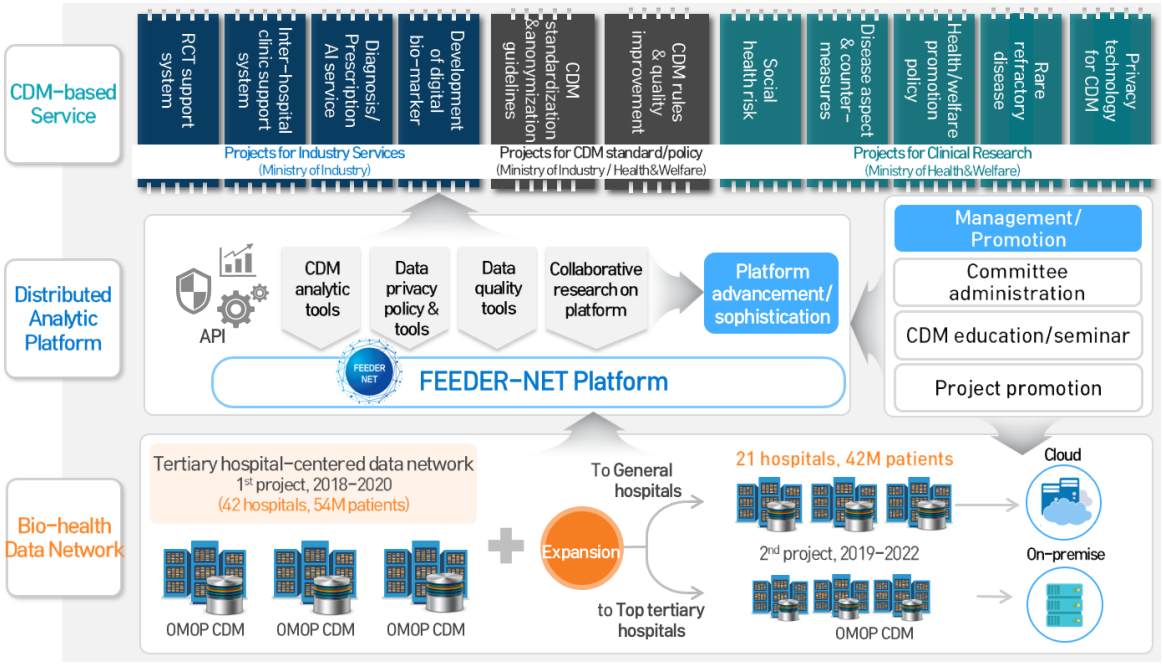

Figure 1. Bio-health Big Data Ecosystem in Korea

Conclusion

The CDM-based bio-health Big Data platform will lead the next generation of medical industry in Korea. We hope it will be able to go beyond Korea and cooperate with OHDSI all over the world.

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