

FeederNet (Federated E-Health Big Data for Evidence Renovation Network) platform in Korea

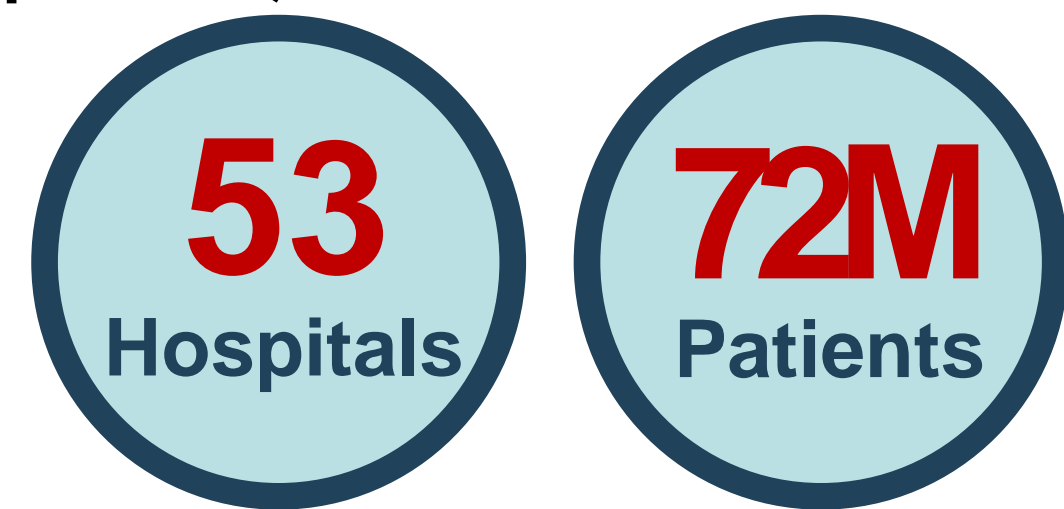
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INTRO:

- The FeederNet platform was successfully developed, and research using OMOP-CDM and FeederNet platform has been actively conducted in Korea.
- In this study, we share the status of the FeederNet platform and the future R&D plans on it in Korea.

CDM DATA NETWORK in KOREA

- 53 hospitals established OMOP-CDM
- 72% of all tertiary hospitals in Korea developed OMOP-CDM
- 71,987,327 patients' data (including duplicates) were converted into CDM



FEEDERNET COORDINATING PLATFORM

- Currently, 46 hospitals' CDM DBs are integrated with the platform
- FeederNet Central**
 - A portal to harmonize distribute joint research
 - Located in cloud
- FeederNet Node**
 - A client module to execute the analytic engine and communicate with FeederNet central
 - Installed in each hospital's server

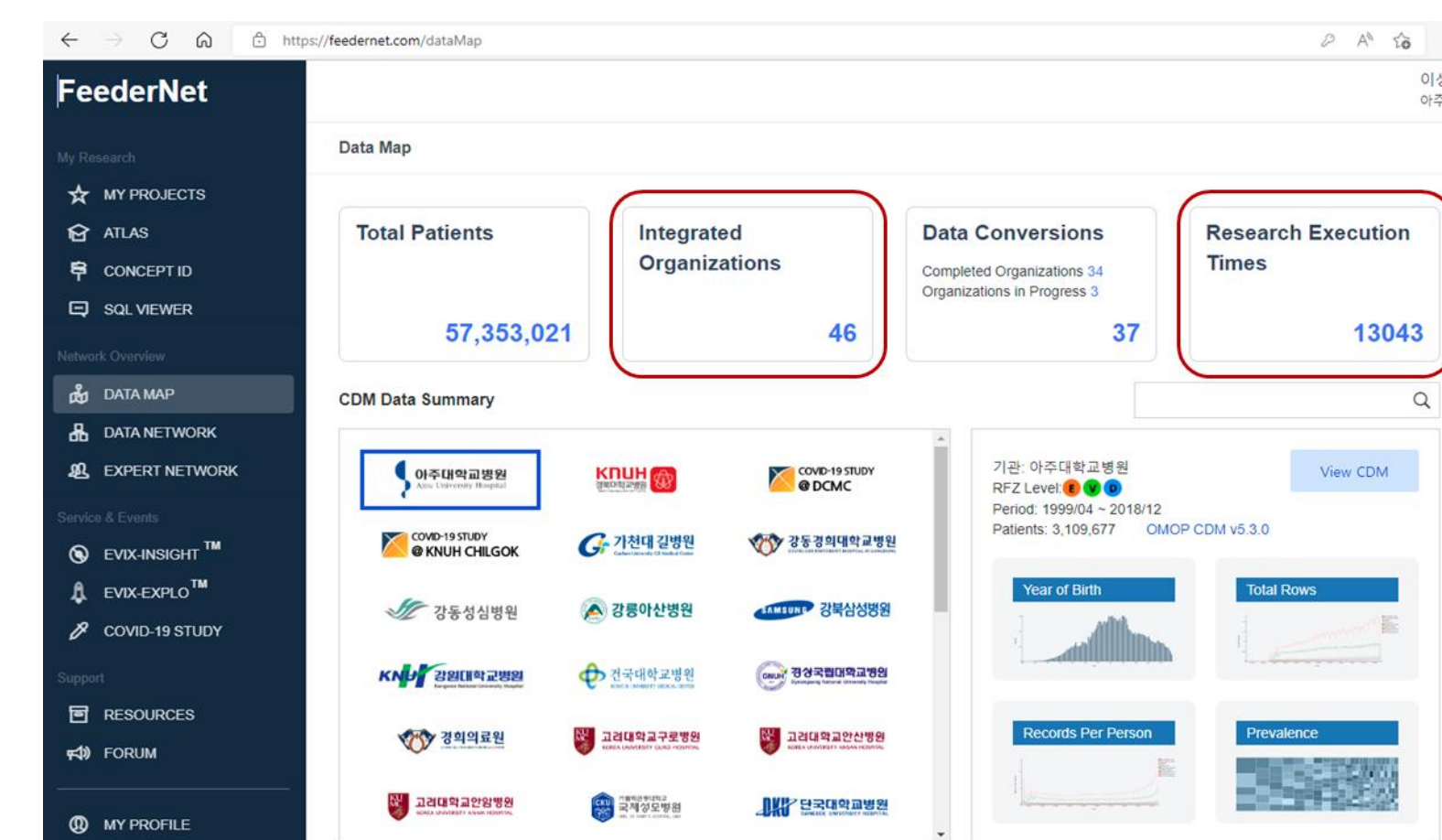


Figure 1. Main Page of FeederNet Central

CDM data-network of 53 hospitals and 72M patients' medical data was established in South Korea.

Currently, joint research using it have been being actively conducted; 97 papers since 2017 and 55 papers in only 2021 were published by Korean first authors.



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RESEARCH FREE ZONE (RFZ)

- Clauses of RFZ**
 - Grant same authorities on CDM analysis to all researchers in RFZ hospitals
 - Approve single IRB among RFZ hospitals

18 hospitals joined RFZ

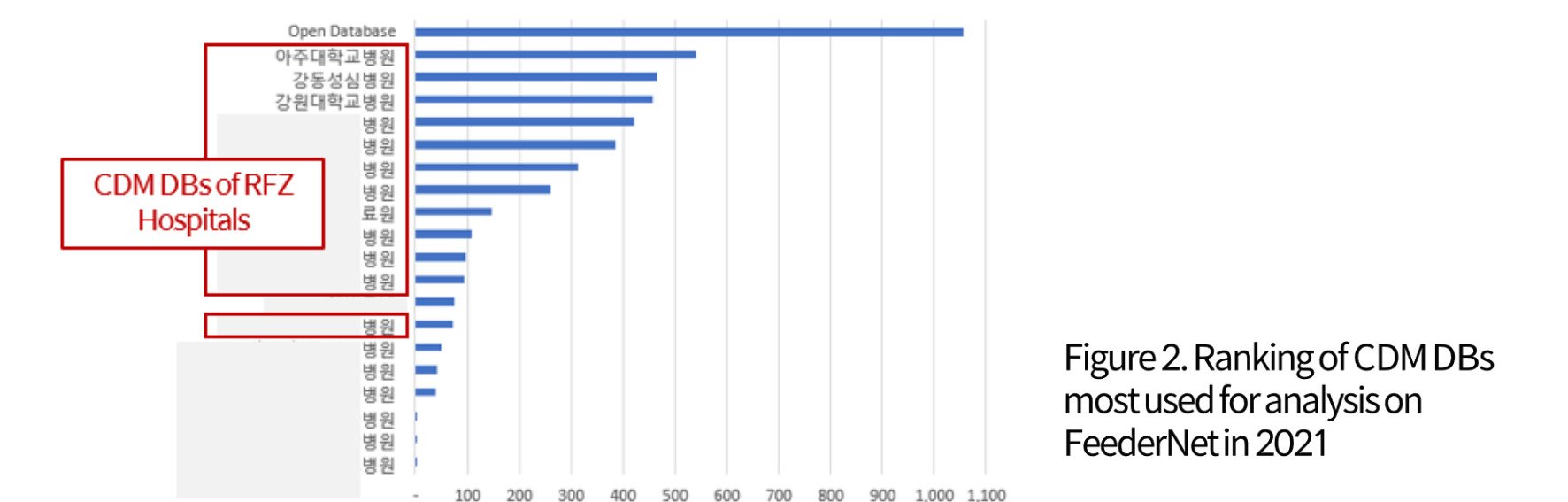


Figure 2. Ranking of CDM DBs most used for analysis on FeederNet in 2021

RESEARCH STATUS in KOREA

- Analyses on FeederNet**
 - Since May 2019, 13,043 analyses have been executed on FeederNet (see Figure1)
 - Number of analyses on FeederNet has been increasing

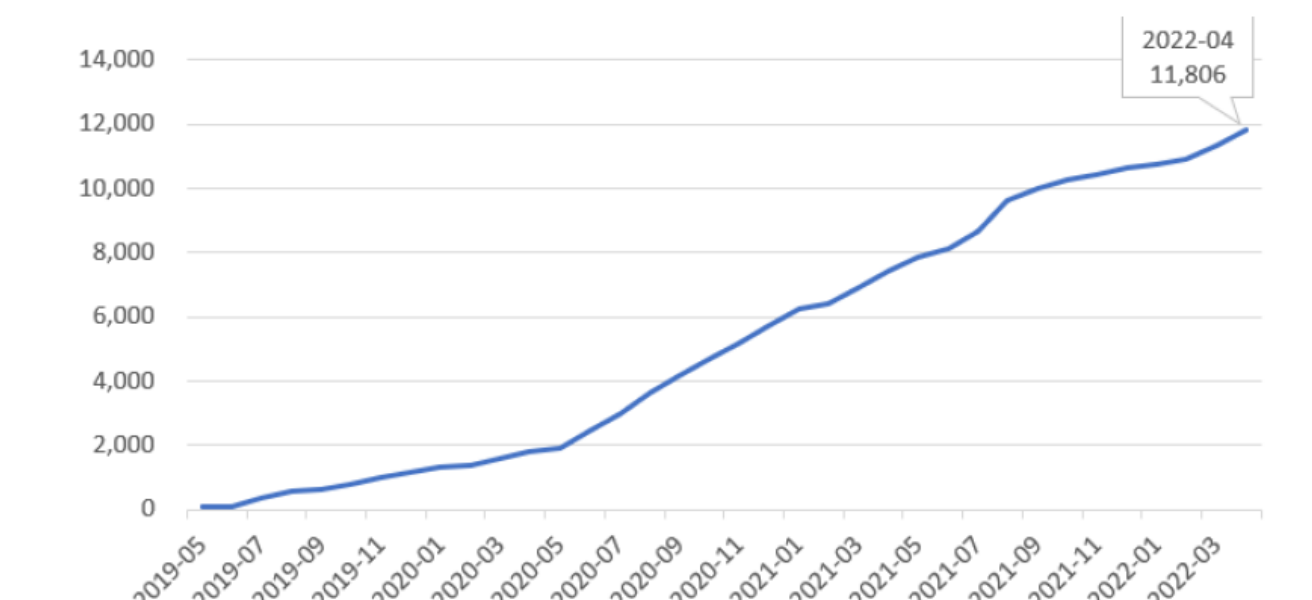


Figure 3. Cumulative number of analysis using FeederNet

- Paper Publications**
 - 97 papers of Korean first author have been published since 2017
 - 55 papers were published in only 2021

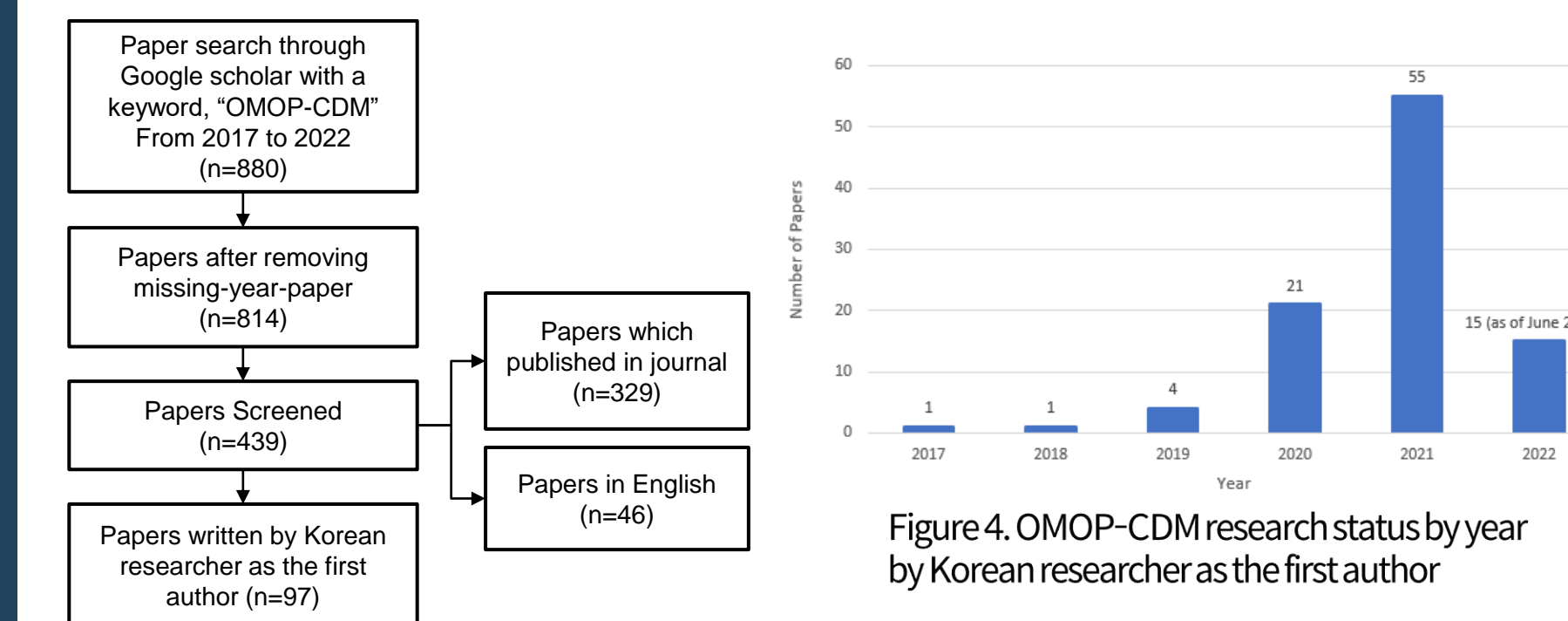


Figure 4. OMOP-CDM research status by year by Korean researcher as the first author

FUTURE R&D

- (Near) real-time CDM ETL**
 - Periodic full ETL + daily/weekly/monthly incremental ETL
- Specialized small CDM**
 - Building small but specific CDMs for disease or in-depth medical data
- Conversion of unstructured medical data to CDM**

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