PHAROS: Platform for Harmonizing and Accessing Data in Real-time on Infectious Disease Surveillance Based on OMOP-CDM in South Korea

Chungsoo Kim, PharmD[1], Byungjin Choi, MD[2], Junhyuk Chang, PharmD[1], Jimyung Park[1], Seongwon Lee, PhD[2], Rae Woong Park, MD, PhD[1, 2]
[1]Department of Biomedical Science, Ajou University Graduate School of Medicine, Suwon, South Korea
[2]Department of Biomedcial Informatics, Ajou University School of Medicince, Suwon, South Korea

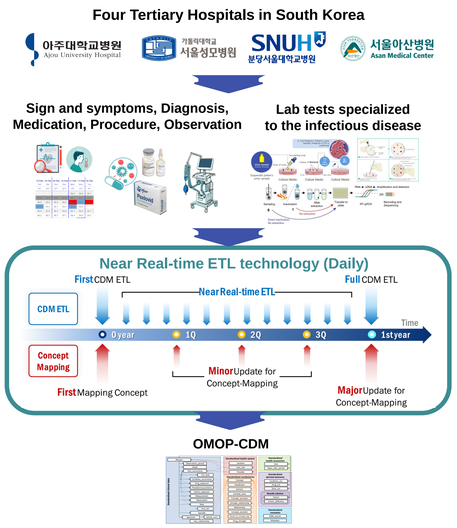
Introduction

- It is difficult to collect comprehensive clinical characteristics of infected patients as in the current infectious disease reporting system.
- We initiate a new project for developing an integrated infectious disease data managing system based on OMOP-CDM in Republic of Korea, named “PHAROS”.

Methods

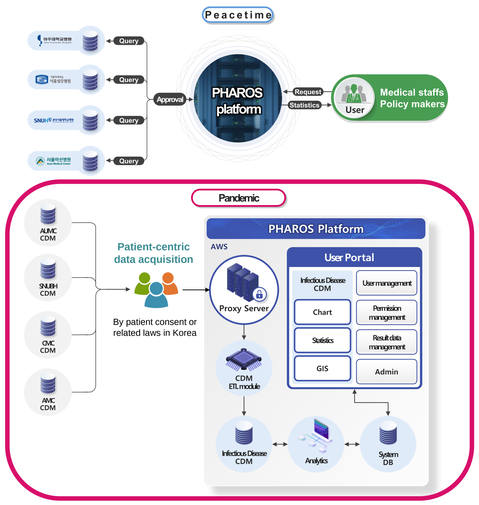
1. Infectious disease CDM network

Infectious disease-specific data (culture, susceptibility test etc) is converted to CDM through near-real time conversion



2. Information Management System

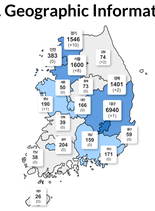
The PHAROS system can access infectious disease patient data in two different ways in peacetime and pandemic



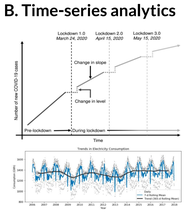
3. Applications

After developing various applications, it will be utilized for both purposes (pandemic, usual) in the PHAROS system.

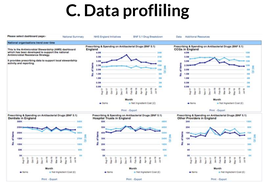
A. Geographic Information



B. Time-series analytics

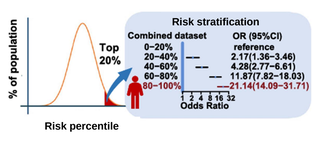


C. Data profiling



D. Named Entity Recognition

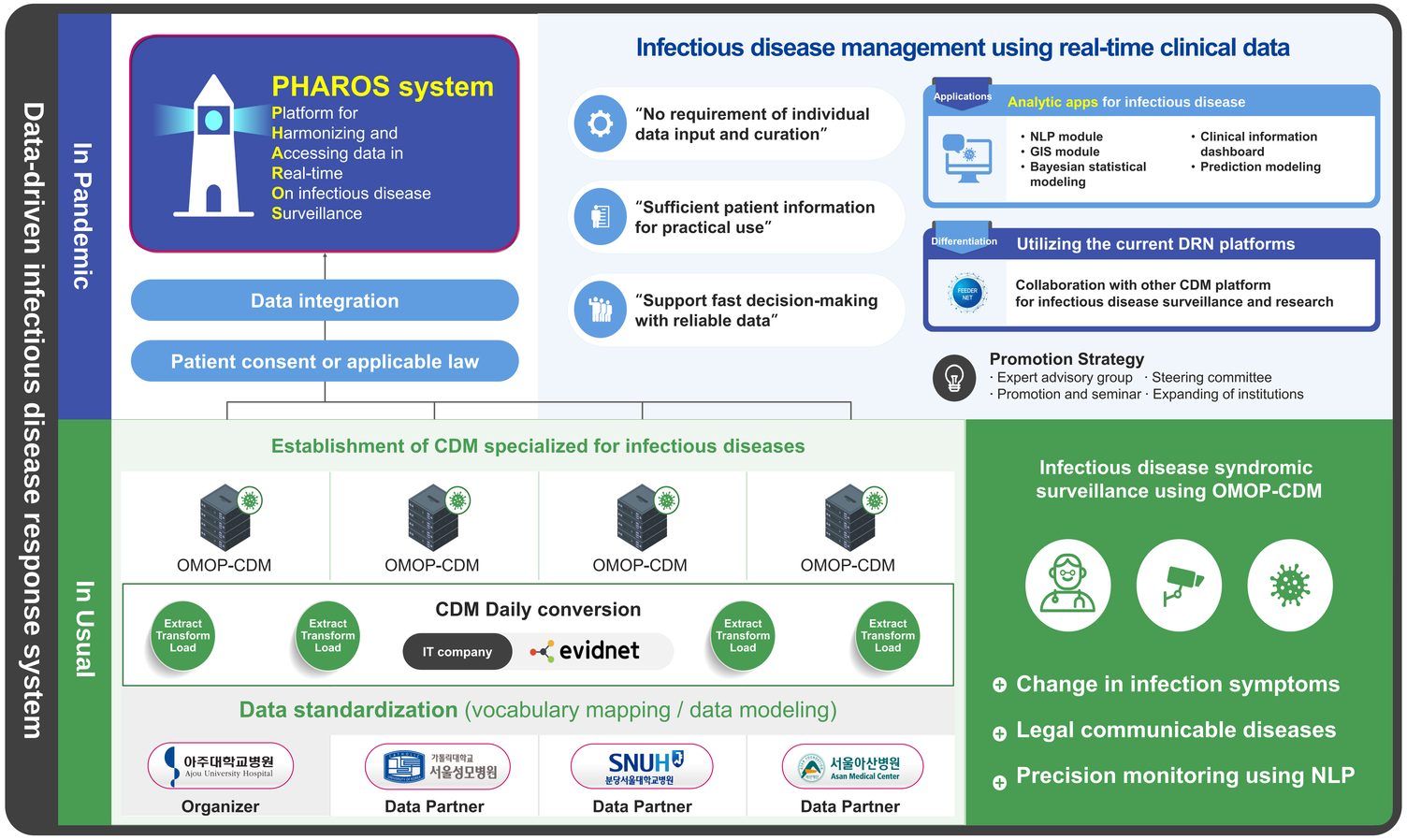
E. Predictive modeling



Results

- Awarded US $2 million contract for 3 years form the Ministry of Health & Welfare, Republic of Korea
- Fifty researchers are participating and developing our platform for this project

PHAROS - Integrated infectious disease clinical information management system
Platform for Harmonizing and Accessing data in Real-time On infectious disease Surveillance



Collaborative oppoprtunities

- We are open to collaborating with anyone who is interested in the data standardization and utilization of infectious diseases
- Please contact us via rwpark99@gmail.com (Prof. Rae Woong Park)

Fundings

- This research was supported by a grant of the project for Infectious Disease Medical Safety, funded by the Ministry of Health, Republic of Korea (grant number: HG22C0024). This work was also supported by the Bio Industrial Strategic Technology Development Program (20003883, 20005021) funded By the Ministry of Trade, Industry & Energy (MOTIE, Korea), and a grant from the Korea Health Technology R&D Project through the Korea Health Industry Development Institute, funded by the Ministry of Health & Welfare, Republic of Korea (grant number: HR16C0001).