Anonymize EHR data from country-wide Hospitals network combined to one CDM

15 years of history records

The journey from central operational data-lake to Medical Centers CDM network

INTRO:
- Directorate of government medical centers in Israel established a CDM network combine EHR data form 11 medical centers, dealing with regulation, privacy and technology issues

Main Challenges:
1. Translate local nonstandard Israeli terminologies to OMOP standard.
2. Define cloud security regulations as the first cloud-based solution for medical records in the Israel.
3. Combine data from different sites to one data-lake, preserving patient privacy with consistency across sites.

Achives:
✓ CDM network of 3 medical centers and plan for additional 3 by the end of year 2022.
✓ Unify person_id solution.
✓ Encryption & anonymization implemented in the ETL process.
✓ Use of ML models & NPL for terminology translation.
✓ 2-month flow from feasibility check to study.

Guy Livne, Nadav Rappoport, Nir Makover, Hadas Eshel-Geva, Hadar Kapach, Tomer Hadad, Yarin Alon, Naama Perry-Cohen