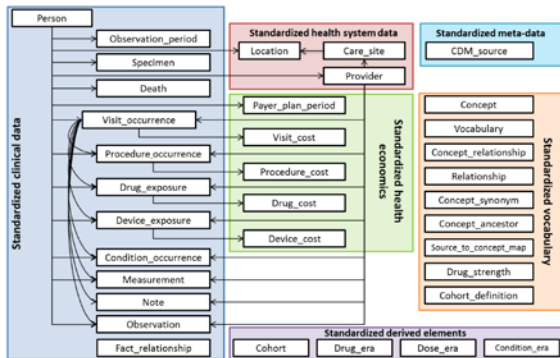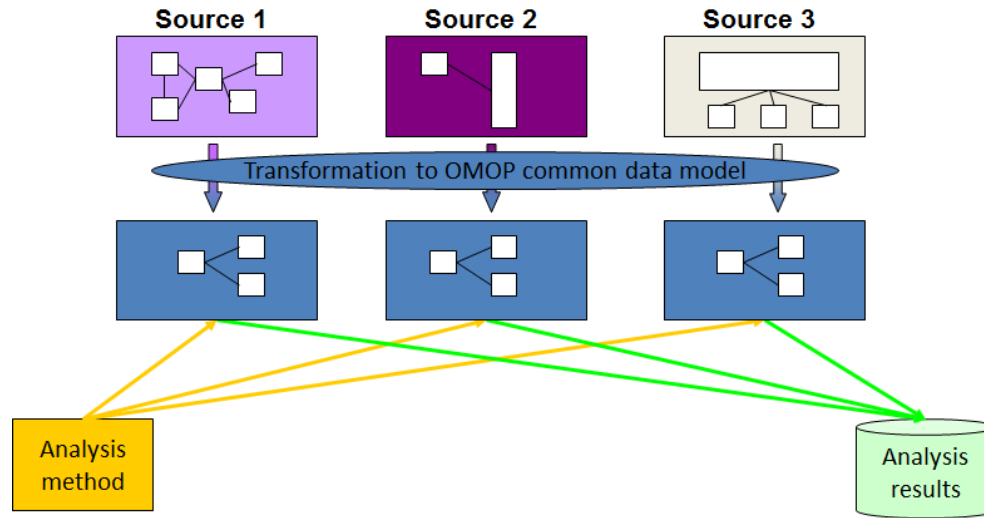# Observational Health and Data Sciences
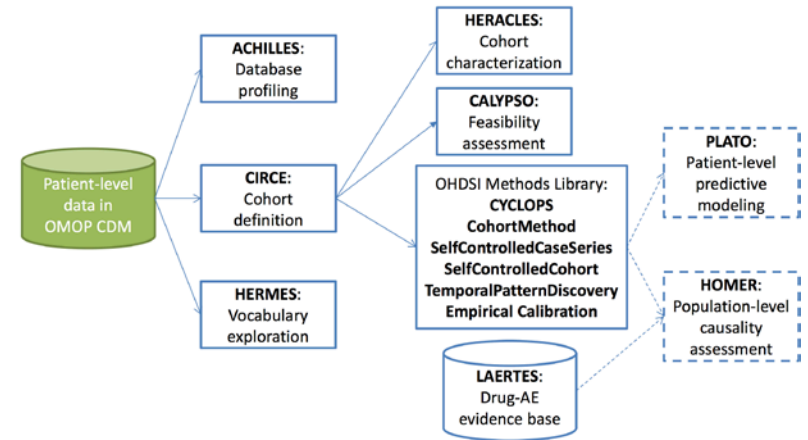
Martin Sedlmayr

Institut für Medizinische Informatik und Biometrie, TU Dresden
Professur für Medizinische Informatik
Zentrum für Medizinische Informatik der Hochschulmedizin Dresden
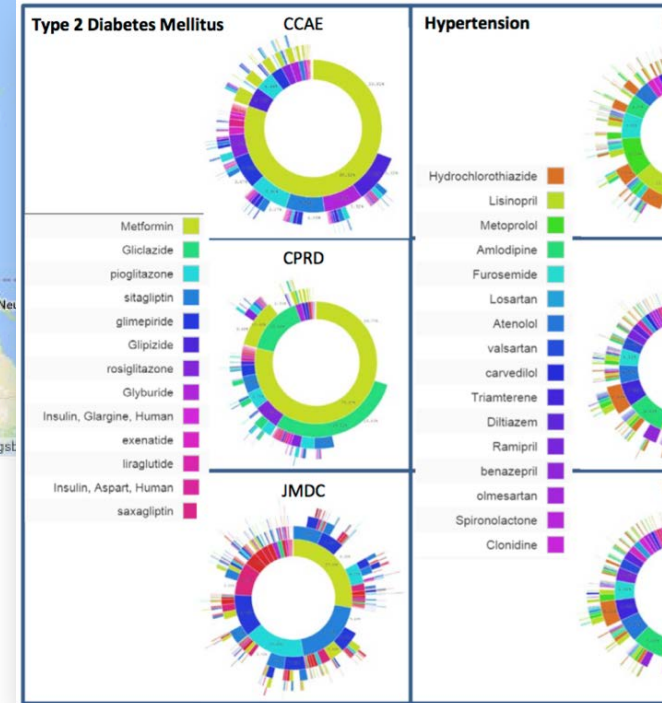
OMOP & OHDSI

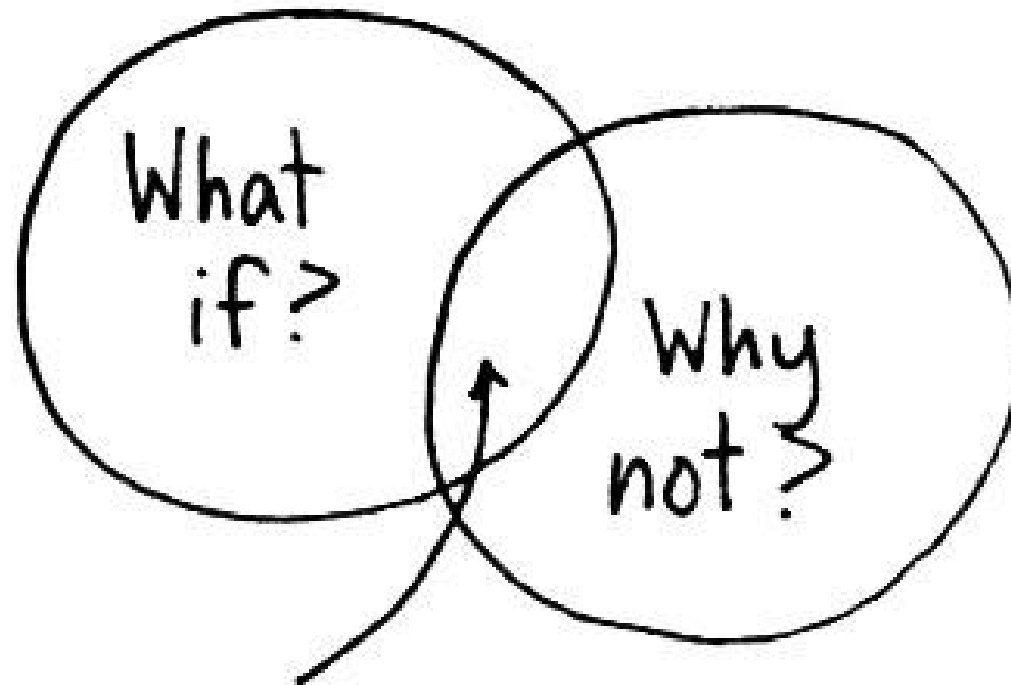# Erfolg!

- 84 Institutionen
- 1.26 Mrd. Patientenakten
- Kohorten größer 100 Millionen Patienten

The American Way?

Mission

To improve health, by empowering a community to collaboratively generate the evidence that promotes better health decisions and better care
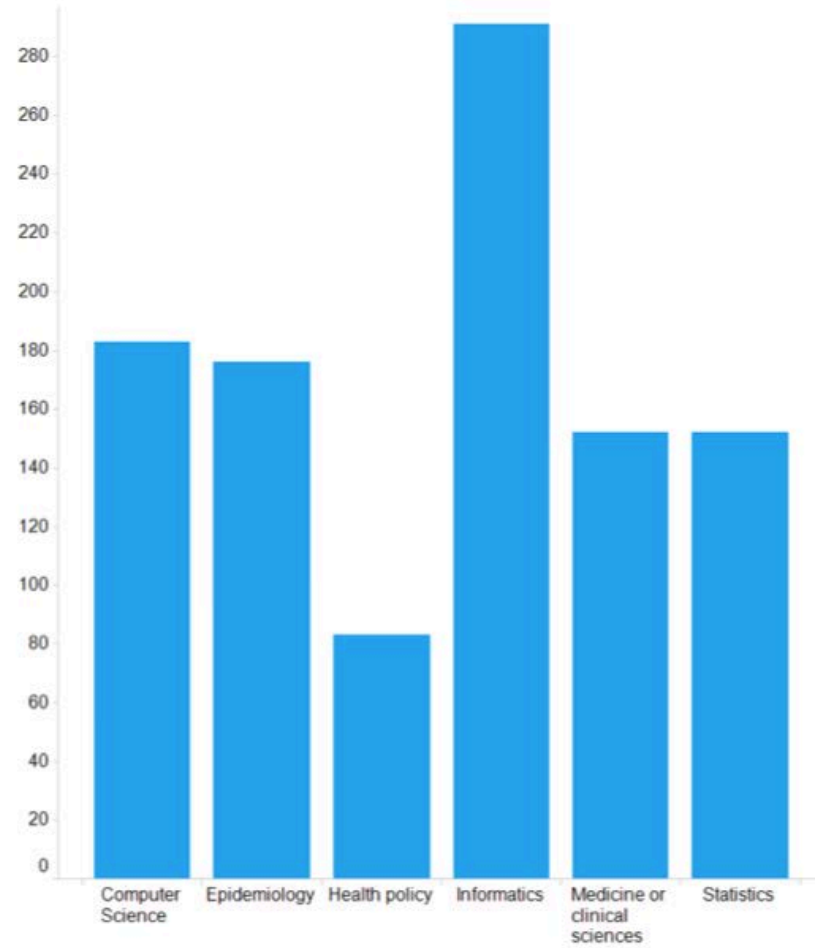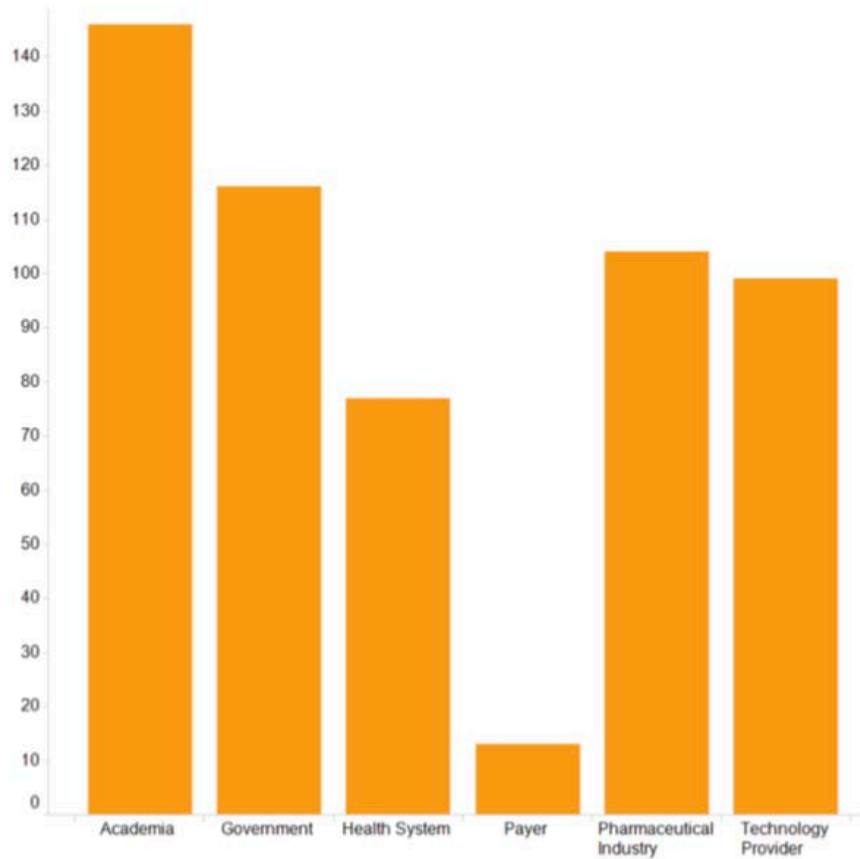
Values

- **Innovation**: Observational research is a field which will benefit greatly from disruptive thinking. We actively seek and encourage fresh methodological approaches in our work.

- **Reproducibility**: Accurate, reproducible, and well-calibrated evidence is necessary for health improvement.

- **Community**: Everyone is welcome to actively participate in OHDSI, whether you are a patient, a health professional, a researcher, or someone who simply believes in our cause.

- **Collaboration**: We work collectively to prioritize and address the real world needs of our community's participants.

- **Openness**: We strive to make all our community's proceeds open and publicly accessible, including the methods, tools and the evidence that we generate.

- **Beneficence**: We seek to protect the rights of individuals and organizations within our community at all times.

Diversity

Critical Mass

- 84 organizations
- 1.26 billion patient records
- 78 Vocabularies
  - SNOMED, RxNorm, LOINC, ICD9, ICD10, Read, ...
  - 5.8 million concepts with 32 million relationships
- 88 developers on 101 Github repositories
- 594 users in the forum, 9,000 posts, 1,600 topics

Impact

Von der Hypothese zum eingereichten Paper <4 Wochen bei 7 Zentren und 35 Mio Patienten

- 360 Treffer bei Google Scholar

- Kohorten größer 100 Millionen Patienten

- Publikationszeiten unter 4Wochen

Niedrige Einstiegshürden & Quick Wins

OHDSI South Korea

Commitment by 39 Hospital Heads to Share IRB Review Results and Conduct Joint Research

AJOU UNIVERSITY   OHDSI

39 Hospitals, 54M Patients
Data Network

AJOU UNIVERSITY   OHDSI

Lesson learned from potential Data Owner

- Quick-prototyping
- demonstration
- ess story
- sing on clinicians
- governance leadership meeting

Clinicians, rather than informaticians

major decision makers in a hospital are usually clinicians

Young clinicians assistant – associate professors

highest interest on OMOP CDM, because they do not have enough fund, resources and data for their research

Inter-disciplinary clinical meeting

then homogenous clinical meeting at initial stage

OHDSI Europe

The European Medical Information Framework (EMIF) Project

14 European countries combining
57 partners
€56 million worth of resources
3 projects in one
5 year project (2013-2018)

Why the OMOP-CDM

Our requirements:
- Active open source community: mapping tools, analytical tools etc.
- Solution for semantic harmonization by using standardized vocabularies
- Need to store ALL source data including source vocabularies
- Possibility to refine to database-specific queries
- Multiple technical infrastructures supported

Industrie

Open Source

„Während der soziale Wandel als ein unbeabsichtigtes Nebenprodukt des technologischen Wandels auftreten kann, haben Befürworter neuer Technologien diese oft als Instrumente des positiven sozialen Wandels beworben."

Joel West

Zusammenfassung

- Mission
- Werte
- Community
- Diversität
- Vertrauen
- Kritische Masse
- Impact