**FinOMOP**

# OHDSI Finland / FinOMOP

**Lesson from setting up a national health data harmonization infrastructure**

*Eric Fey*, MEng, PhD
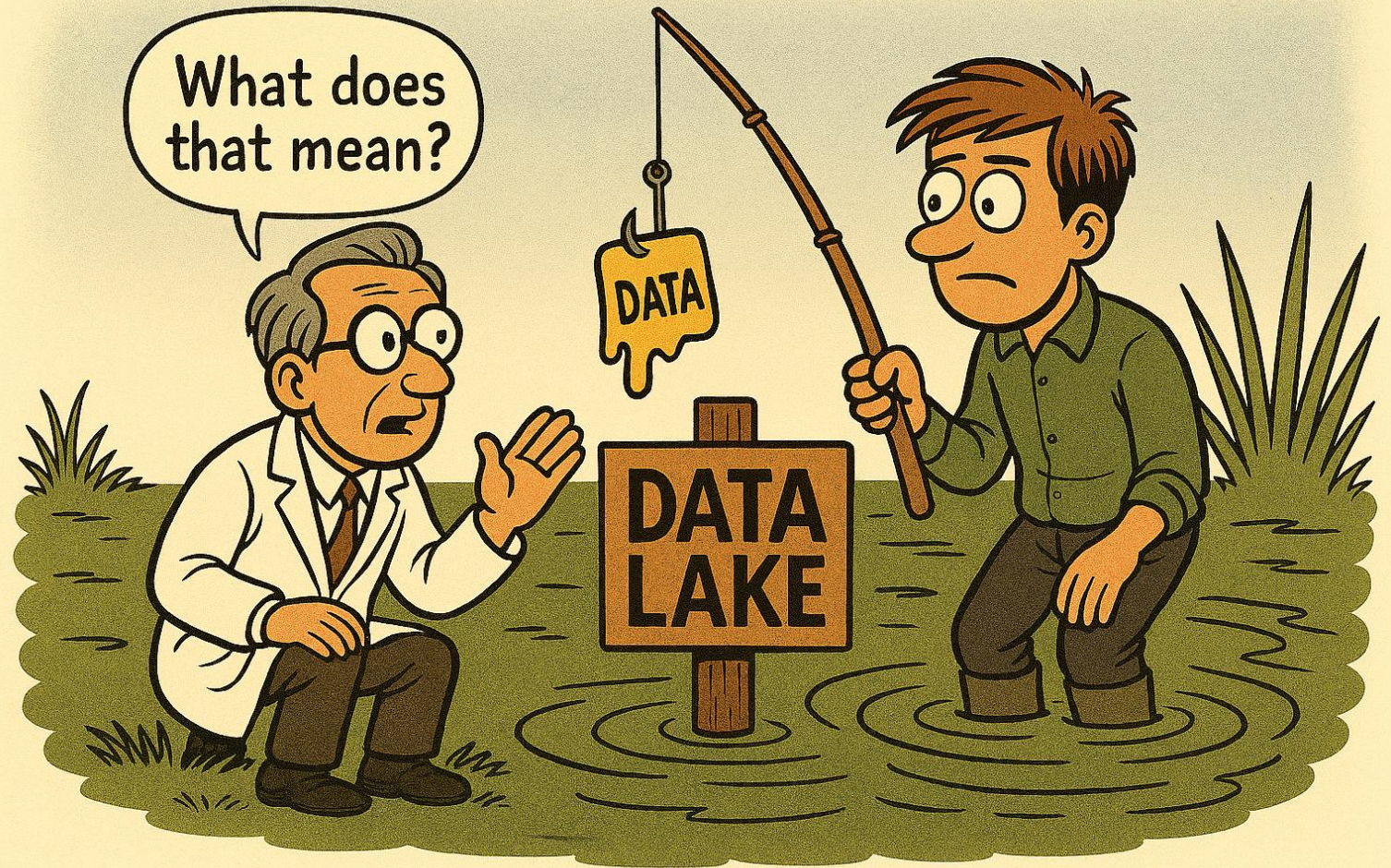*Data Lead iCAN, Tech Lead iCAN SHARE, University of Helsinki*
*Development Manager AI, HUS Helsinki University Hospital*
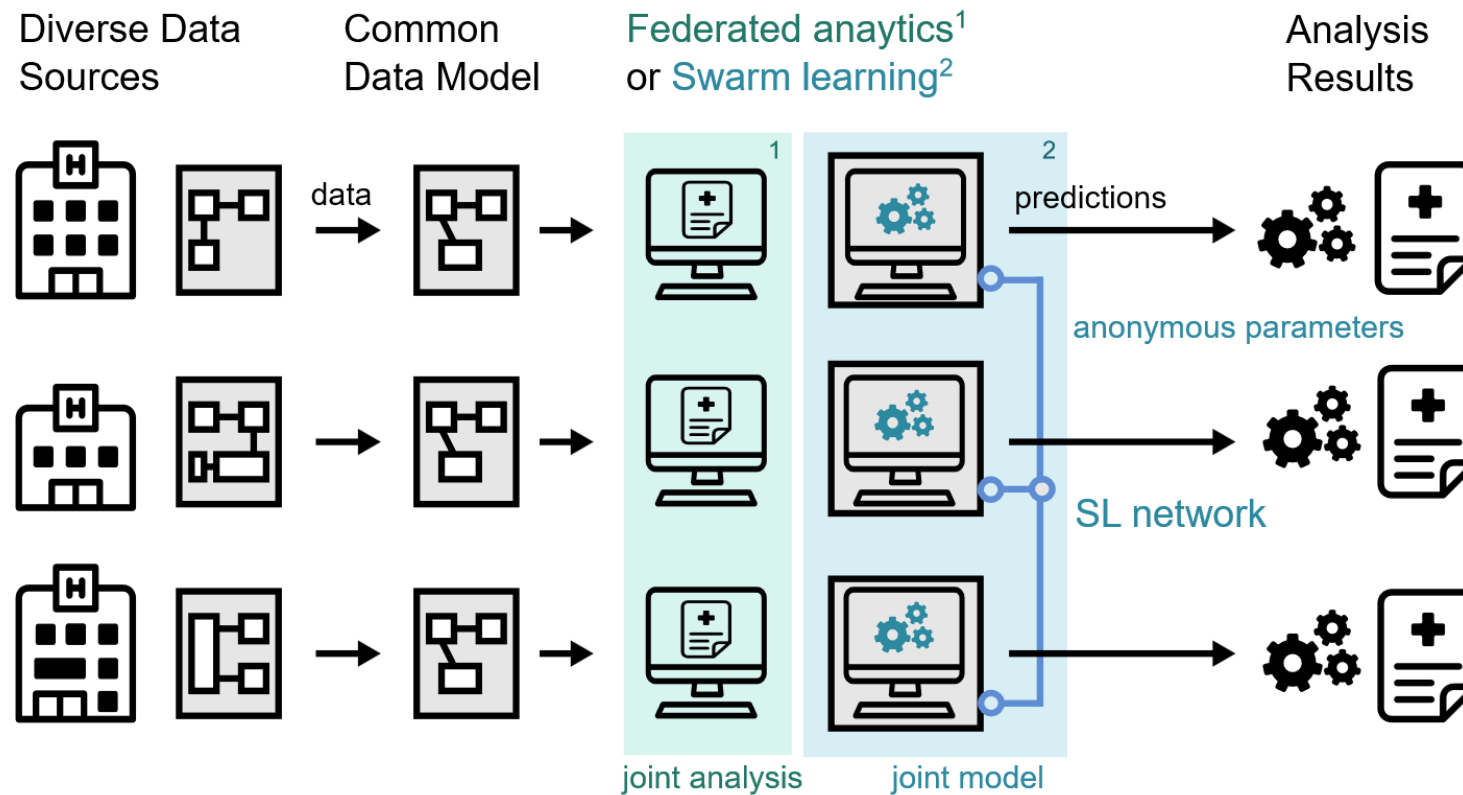*National Node Lead OHDSI Finland*

*eric.fey@hus.fi*

# Why?

**Experience shows:**
**Most time spend on data cleaning and curation!**

# Why OMOP?

Real-World-Evidence generation **at scale**

**Once the data look the same, you can run the same analytics => collaboration!**



Diverse Data Sources · Common Data Model · Federated anaytics[1] or Swarm learning[2] · Analysis Results

data

predictions

anonymous parameters

SL network

joint analysis · joint model

**International OMOP Studies through:**
- **OHDSI**
- **EHDEN** www.ehden.eu
- **DARWIN** www.darwin-eu.org
- **FinOMOP** link

**EU funded:**
- **SYNTHIA** www.ihi-synthia.eu
- **PHEMS** https://phems.eu/
- …

iCAN Digital Precision Cancer Medicine

# FinOMOP

- Started 2020

- Funded by local and EU grants (EHDEN)
  => integration into hospital IT infrastructure

- 10.5M hospital patients mapped to the OMOP CDM

- Mapping of governmental registries initiated in 2022:
  THL, HILMO, avoHILMO, FinRegistry, …

- Common mapping codebase (Github)

- Task-specific workgroups:
  CDM & Vocabulary, Analytics

**AIM: population-based health data infrastructure by 2026**

OHDSI Finland / FinOMOP

covering the whole Finnish population 5.6 Mio

10.5 Mio historical patients mapped to OMOP

All 5 university hospitals,
Ministry of Social Affairs
and Health - THL,
FinnGen, and more.

**Oulu**

**Kuopio**

**Tampere**

**Turku**

**Helsinki**
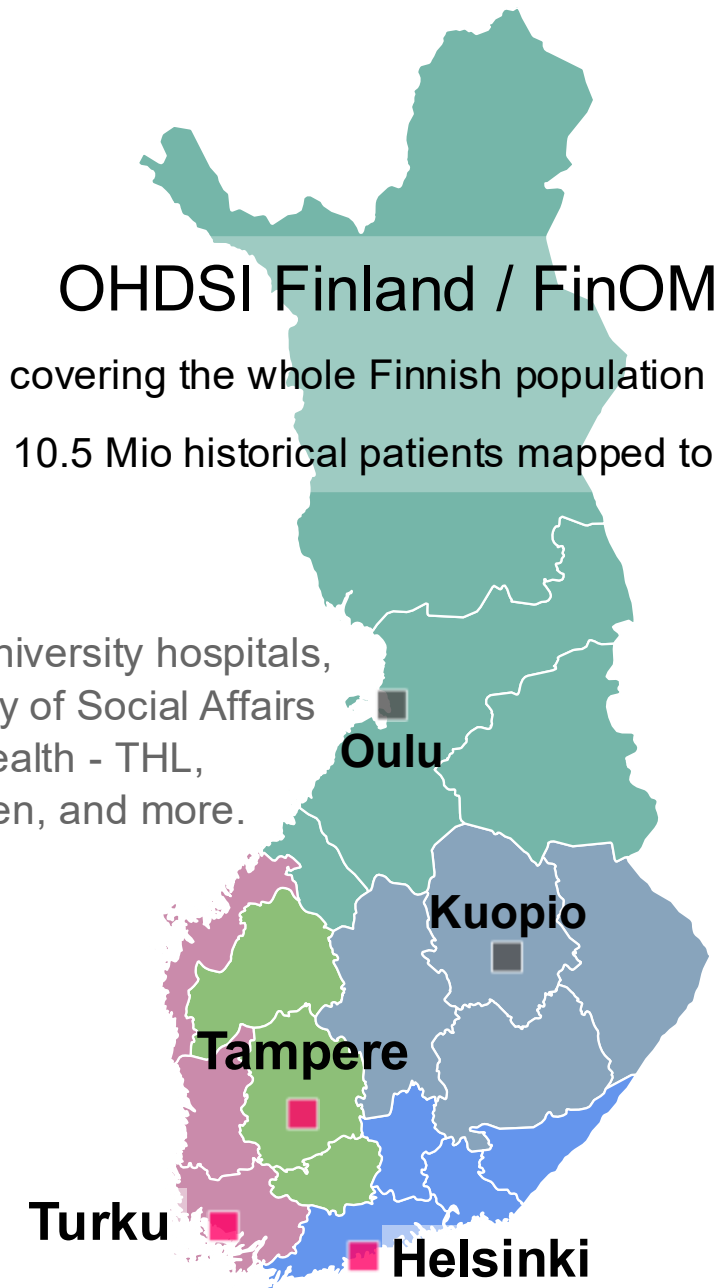
OHDSI
Finland

# OHDSI Finland regular WG's

**Create opportunity for knowledge exchange!**

**FinOMOP F2F meeting**, twice a year, rotating venue/city

☑ **Feb 2025 Tampere**          ☑ **Sep 2025 Oulu**

**Working group meetings**, online, several times a year

FinOMOP Collaboration space

**Analytics WG**



*Marianna Niemi*
**HUS Helsinki University Hospital**

**CDM WG**
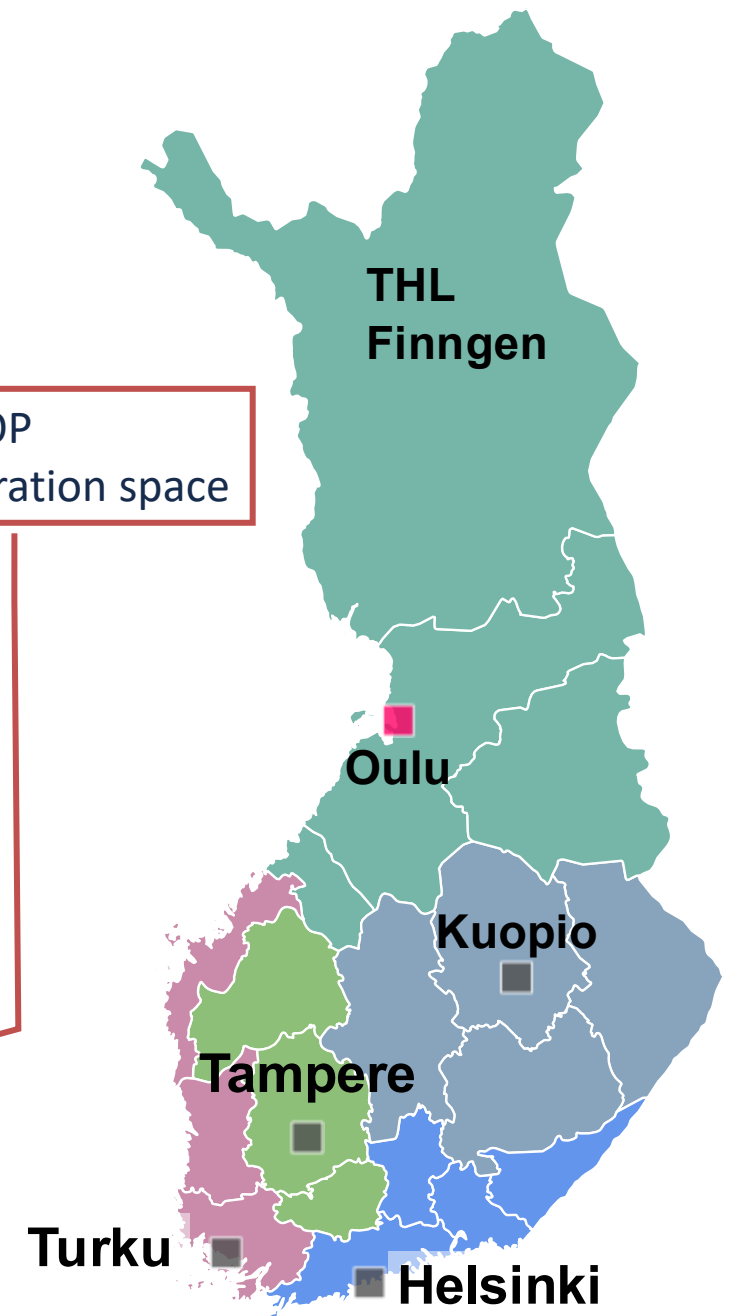


*Sampo Kukkurainen*
**PIRHA Tampere University Hospital**

**Vocabulary WG**



*Gustav Klingstedt*
**THL Finnish Institute for Health and Welfare**

THL Finngen

Oulu

Kuopio

Tampere

Turku

Helsinki

iCAN Digital Precision Cancer Medicine     OHDSI Finland

# Github: FinOMOP/FinOMOP_mappings

**Common codebase => Eliminate redundancies, maximize collective effort!**

# DARWIN Partner

## UK
- CPRD GOLD
- UK Biobank
- National Neonatal Research Database

## Netherlands
- Integrated Primary Care Information
- Netherlands Comprehensive Cancer Organisation

## Belgium
- IQVIA Belgium Longitudinal Patient Data

## France
- Bordeaux University Hospital
- Système National des Données de Santé
- Assistance Publique Hôpitaux de Marseille

## Portugal
- Unidade Local de Saúde de Matosinhos
- Egas Moniz Database

## Norway
- Norwegian Linked Health Registries
- Cancer Registry of Norway

## Finland
- **FinOMOP (national)**

## Network
- HARMONY

## Greece
- Papageorgiou General Hospital

## Sweden
- Gothenburg University - SMPA

## Estonia
- University of Tartu (Biobank)

## Denmark
- Danish Health Data Registries

## Germany
- IQVIA Germany Disease Analyser
- InGef

## Hungary
- Semmelweis University

## Croatia
- NAJS

## Spain
- IDIAPJGol
- Parc Salut Mar Barcelona, Hospital del Mar (IMIM)
- BiFAP
- Valencia Health System Database
- PRISIB
- H12O

Countries in Year 1
New countries in Year 2
New countries in Year 3

# iCAN Studyathon – FALCON Lung [cancer]



**Kimmo Porkka**
U. Helsinki & HUS

- **Most diverse federated oncology study to date**
- **17** data partners from **10** countries in Europe, North America, and Australia
- **30,153** NSCLC patients
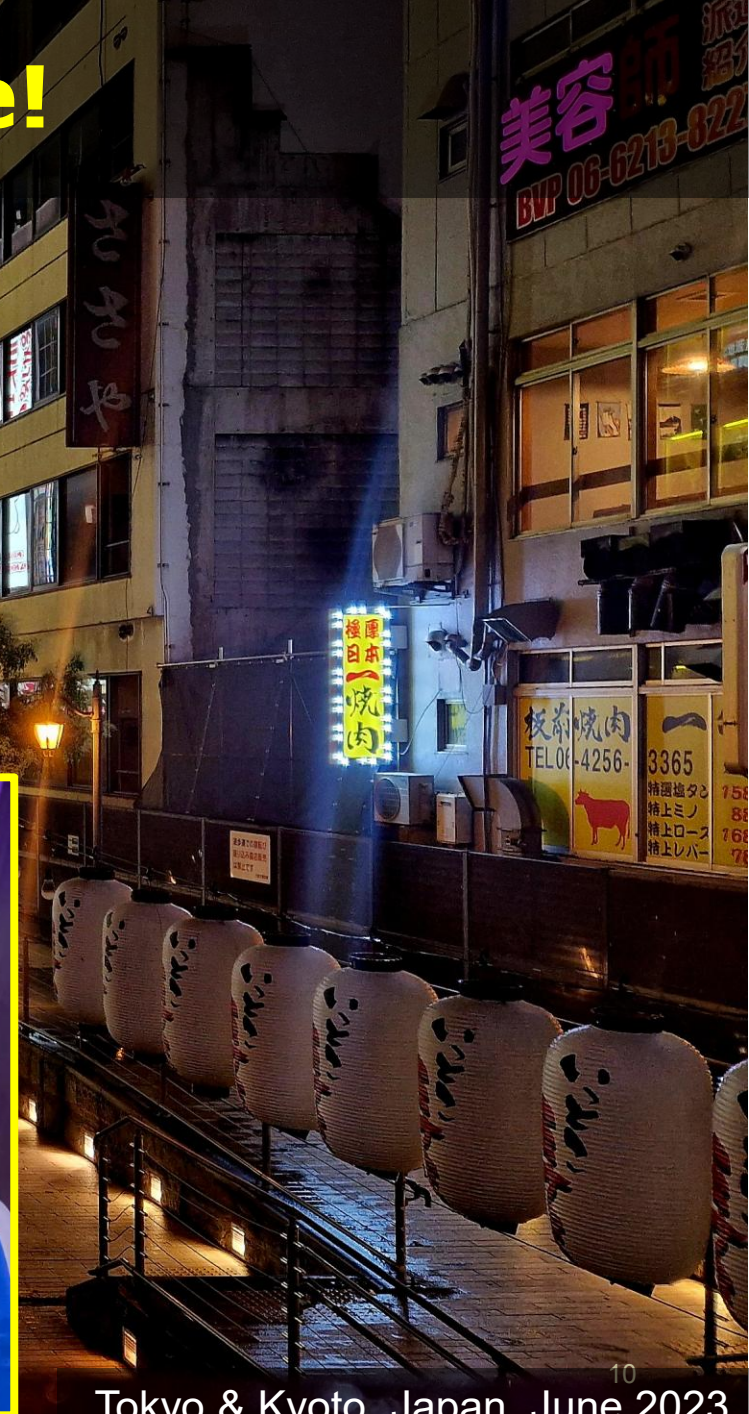
*Endpoint:*
- **Immune checkpoint inhibitors** (ICI) across different regions
- variations in care, treatment practices, and reimbursement strategies on **patients' outcomes** (overall survival).

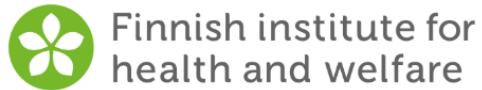**for details -> see Kimmo's talk later**

Beyond the Data: Study-a-thons Reshape You!

EHDEN Alopecia, Nov 2023

Beyond Borders: Connect everywhere!

Masanobu Oshima
President JCA

Tokyo & Kyoto, Japan, June 2023

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# Data harmonization & federation teams & collaborators

**Finnish institute for health and welfare**

**Terhi Kilpi**
Anna Hammais
**Gustav Klingstedt**
Persephone Doupi
Arto Vuori
Jan Magnusson

**varha**
The wellbeing services county of Southwest Finland

**Arho Virkki**
Pia Tajanen-Doumbouya
Tommi Kauko
Otto Ettala

**fimea**

**Piia Rannanheimo**
Minttu Kokko
Janika Nättinen
Vesa Kiviniemi

**productivity leap**
Pasi Rikala
Anna Virtanen

**BC Platforms**
Tomi Laitinen

**medaffcon**

**BCB medical**
Aaro Mustonen

**FINBB**

**Marco Hautalahti**
Johanna Mäkelä

**iCAN** Digital Precision Cancer Medicine
UNIVERSITY OF HELSINKI

**FINGENIOUS®**

**HUS** Helsinki University Hospital

**Marianna Niemi**
**Perttu Koskenvesa**
Annu Kaila
**Johanna Niklander**
Oscar Brück
Juho Lähteenmaa
Johanna Mattson
Taneli Raivio
**Tietohallinto**

**iCAN**

**Tomi Mäkelä**
**Satu Mustjoki**
Kimmo Porkka
Eric Fey
Esa Pitkänen
Valtteri Nieminen
Alexey Ryzhenkov
Salma Rachidi

**The Wellbeing Services County of Pirkanmaa**

**Kati Kristiansson**
**Sampo Kukkurainen**
Leena Hakkarainen

**FINNGEN**

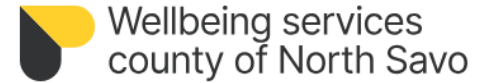**Javier Gracia Tabuenca**
Sam Padmanabhuni
Tarja Laitinen
Aarno Palotie

**DZNE**

**Joachim Schultze**
**Hartmut Schultze**
Stefanie Warnat-Herresthal

**Wellbeing services county of North Savo**

**Arto Mannermaa**
Simo Ryhänen
Jani-Matti Tirkkonen
Arto Vesterbacka

**Pohde** The Wellbeing Services County of North Ostrobothnia

**Minna Mäkiniemi**
Jani Tikkanen