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Main expertise (1-2 lines): Jukka Jokinen has been responsible for the data analysis and data management of several epidemiological vaccine studies and clinical vaccine trials at Finnish Institute for Health and Welfare (THL). He was also responsible for the establishment of the Finnish National Vaccination Register (NVR).





National registers including vaccination register and the national information resource plan

Adult immunization Board (AIB) meeting

Jukka Jokinen

**Director of development, Department of Data and Analytics
Finnish Institute for Health and Welfare**

15.11.2024

National registers: entire country as a cohort

- Cancers 1953
- Health care personnel 1955
- Tuberculosis and STIs 1958
- Congenital anomalies 1963
- Occupational diseases 1964
- Special medication 1964
- Adverse drug reactions 1966
- Hospital discharges 1967
- Cancer screenings 1968
- Causes-of-death 1969
- Abortions and sterilisations 1977
- Exposure to cancer-hazardous material 1979
- Endoprotheses 1980
- Drugs (surveillance) 1982
- Visual impairments 1983
- Births 1987
- Infectious diseases 1989
- Dental implants 1994
- Prescribed drugs 1994
- Outpatient visits in public hospitals 1998
- **Outpatient visits in health care centres 2011**

Plus nine quality registers: diabetes, HIV, kidney, psychosis, spine, dental, heart, ICU, rheumatic



All these registers include the personal identification code

Structure of public primary care ten years ago

- 317 municipalities responsible for the primary care, including vaccinations
- Some had joined forces to form health care centers (HCC), n=153



4.12.2024

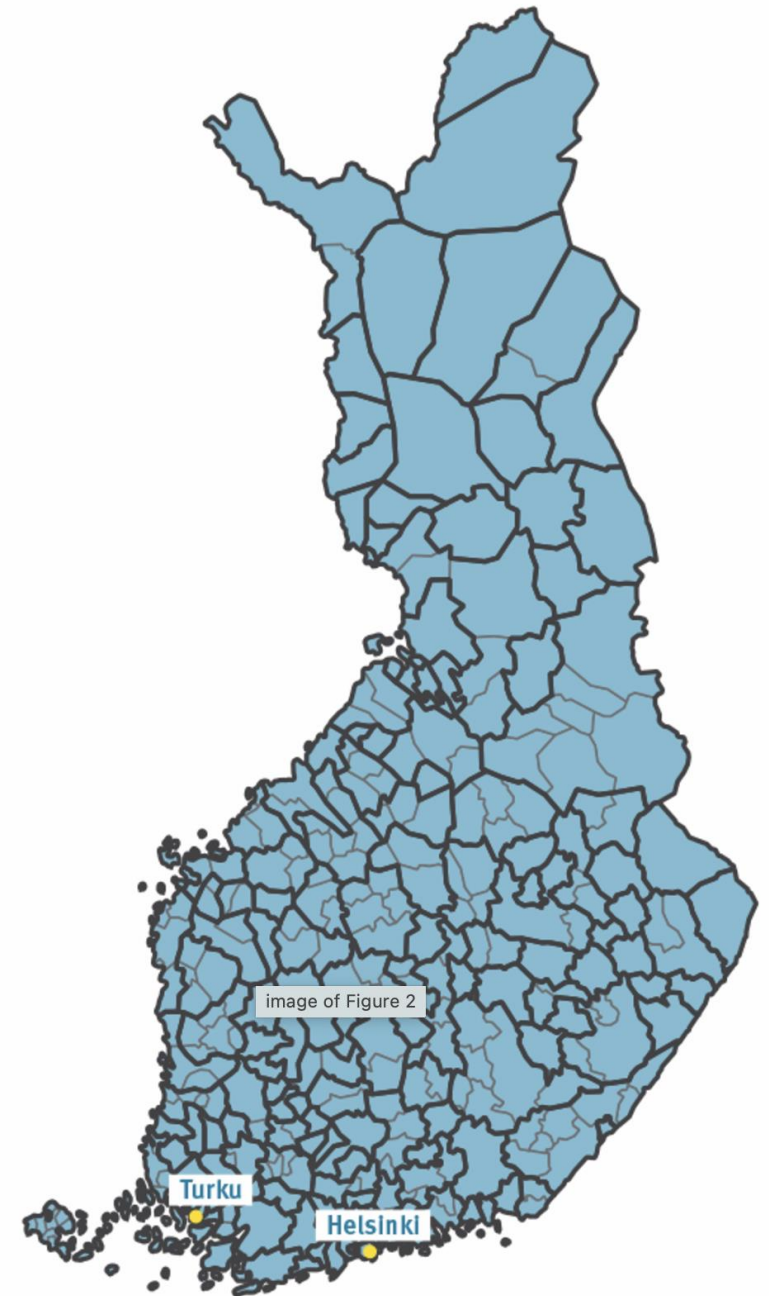


Figure 2
Map of administrative areas, municipalities and healthcare centres, Finland, 2015 (n=317 municipalities and 153 healthcare centres)

Finnish national vaccination register (NVR)

Timeline and the main milestones of the register

- **2010:** First one-time collection of vaccinations
- **2013:** First vaccination coverage reports
- **2015:** All public health care centers included

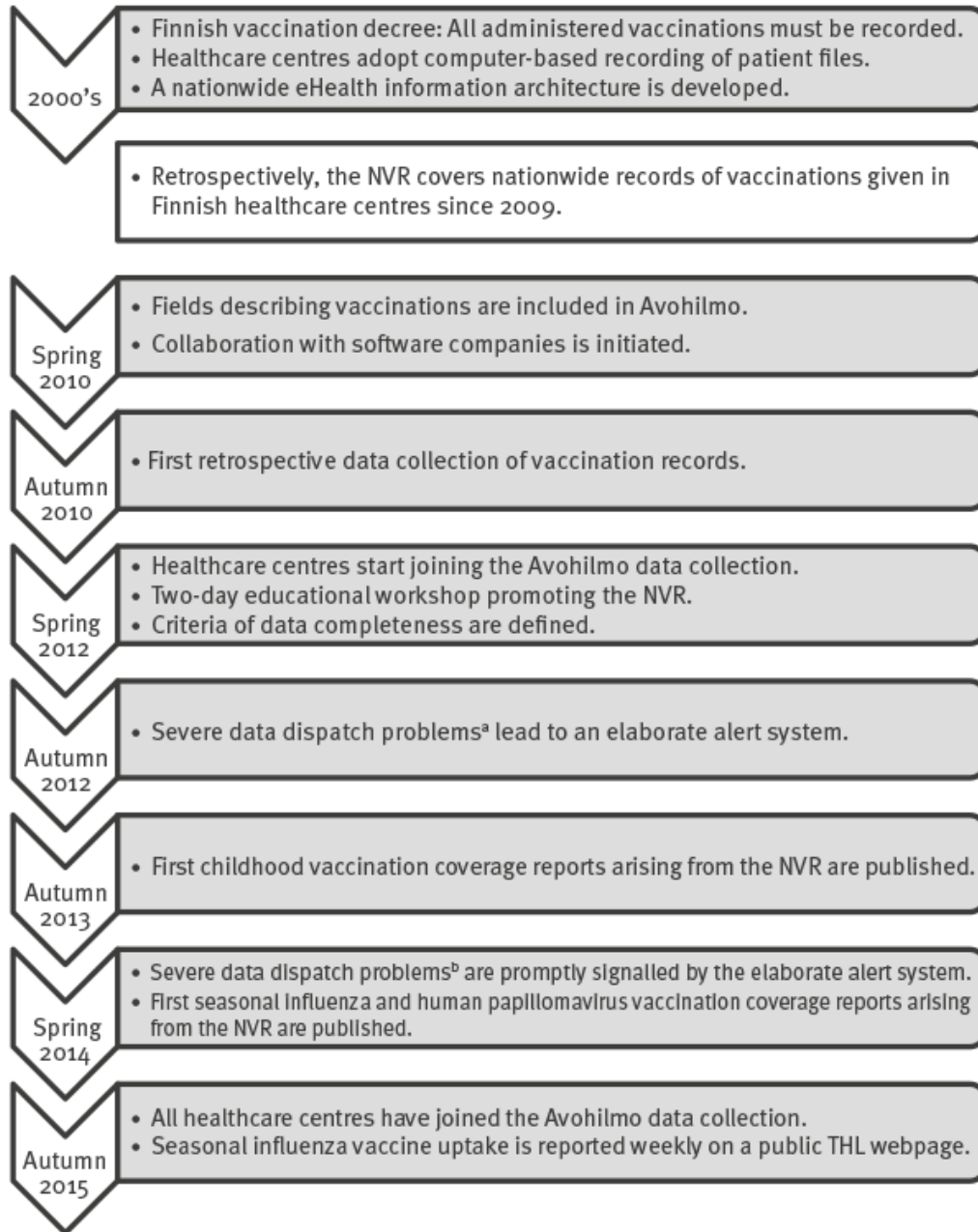
The implementation of the NVR was guided by two principles: (i) to avoid double entry of data and (ii) to avoid double collection of data.

The vaccination records in the NVR were therefore designed to be collected directly from the patient information systems and as part of other pre-existing nationwide register collections * (Primary care Register)

“No duplicate entry or collection is an excellent principle that underpins the system design in Finland as shown by Baum et al.” *Eurosurveillance editorial 4/2017*

* Baum U, Sundman J, Jääskeläinen S, Nohynek H, Puumalainen T, Jokinen J. **Establishing and maintaining the National Vaccination Register in Finland.**

Euro Surveill. 2017;22(17). <https://doi.org/10.2807/1560-7917.ES.2017.22.17.30520>

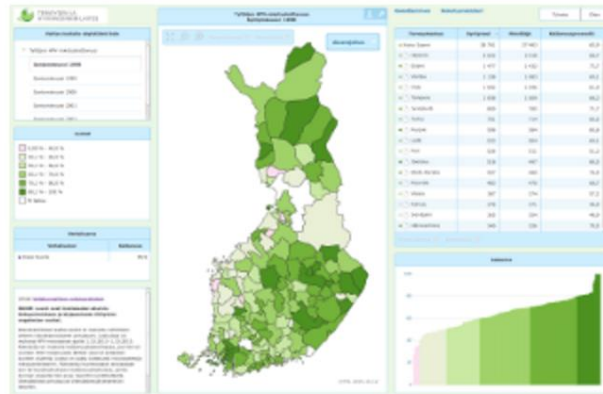


Publish early, publish often

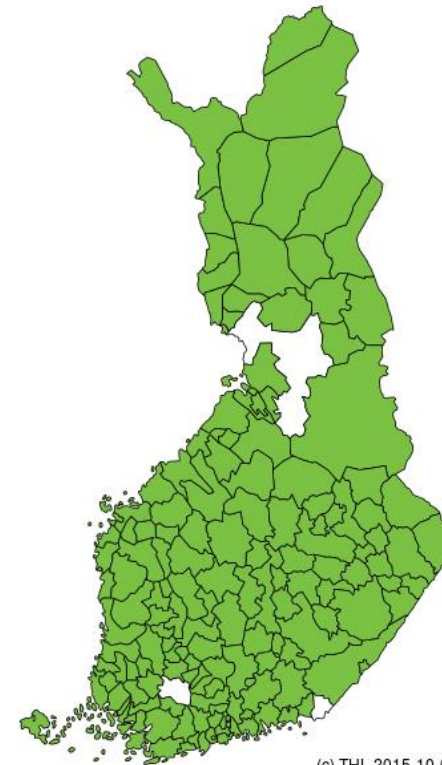
8th HCC-specific coverage report in October 2015

Kunnat joista on voitu laskea kattavuuksia

Interaktiivien karttaesitys



Avaa



Kaikki terveystakeskukset

Valitse terveystakeskus

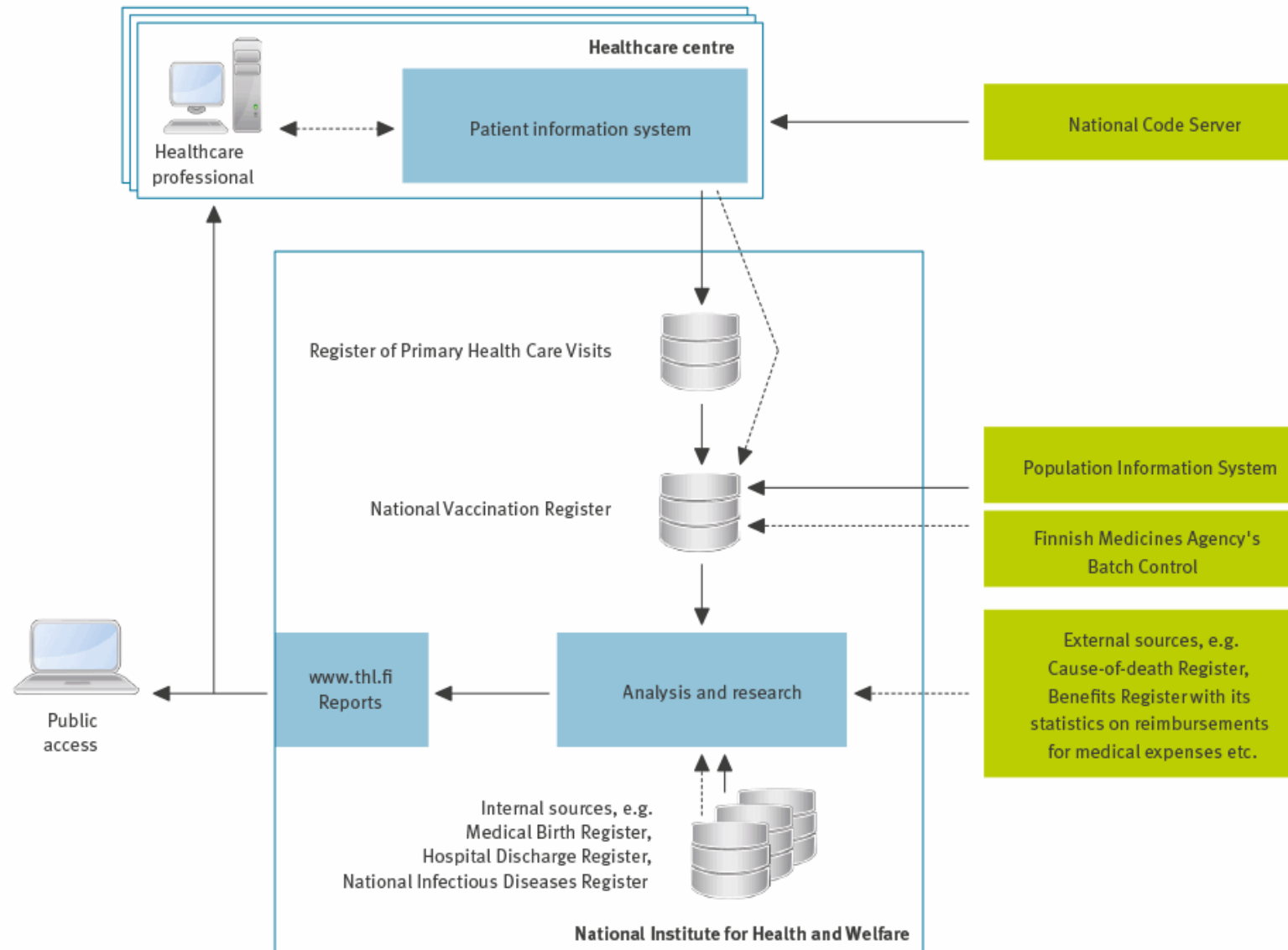
Kunnat ja terveystakeskus

Valitse kunta

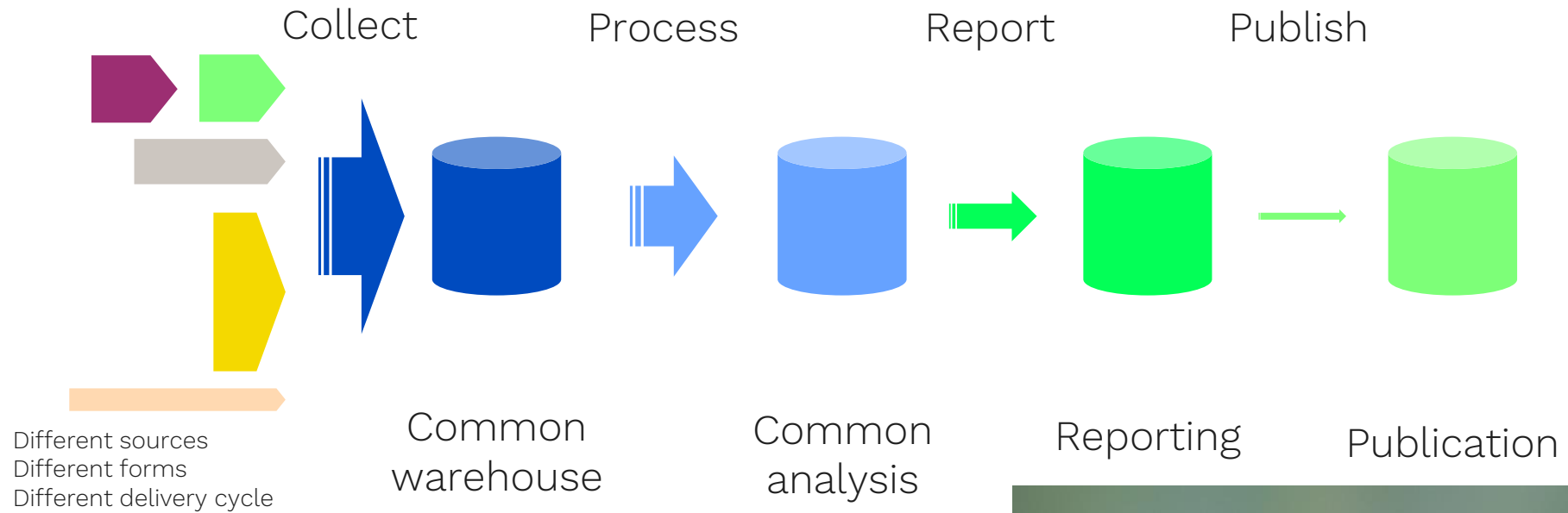
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Implementation model of the NVR



Data metamorphosis



National legislation for THL changed in 2020

- No longer register-based
- Currently based on intended use



Major reform: Finnish wellbeing services counties

As of 2023

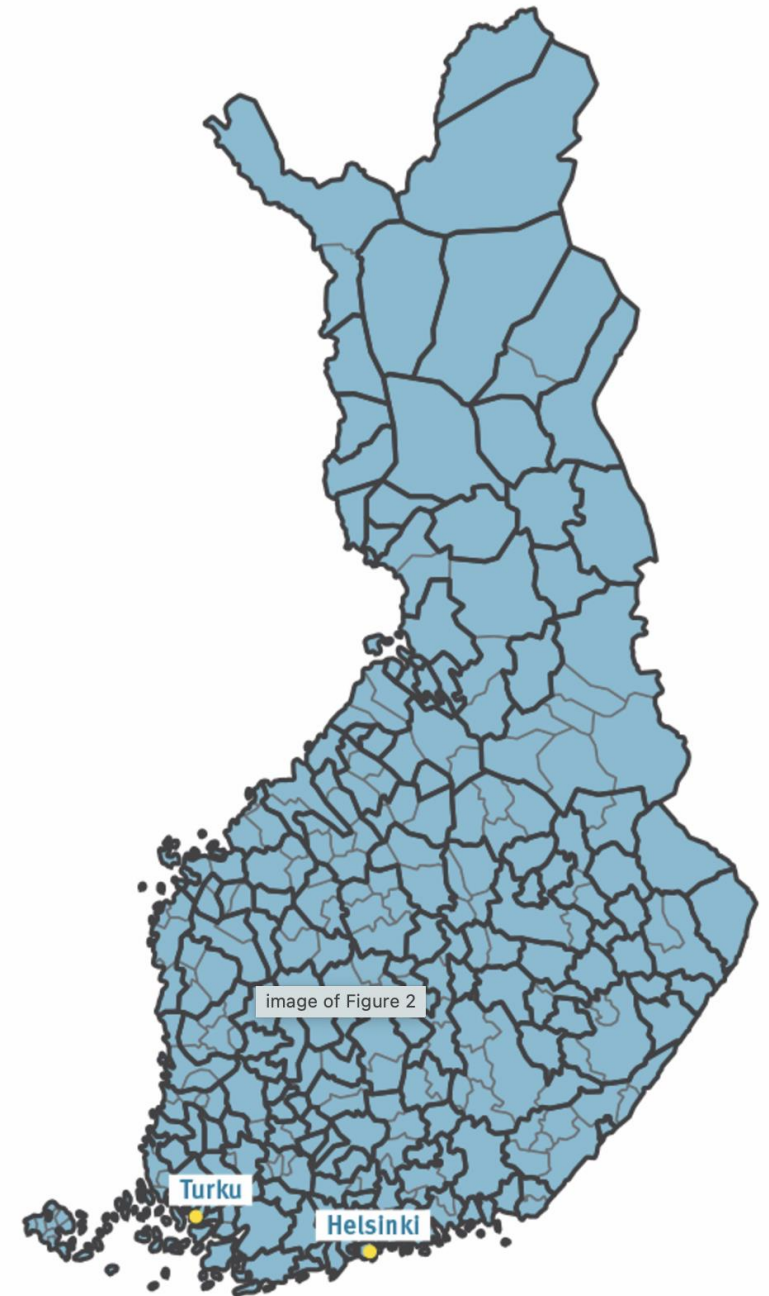
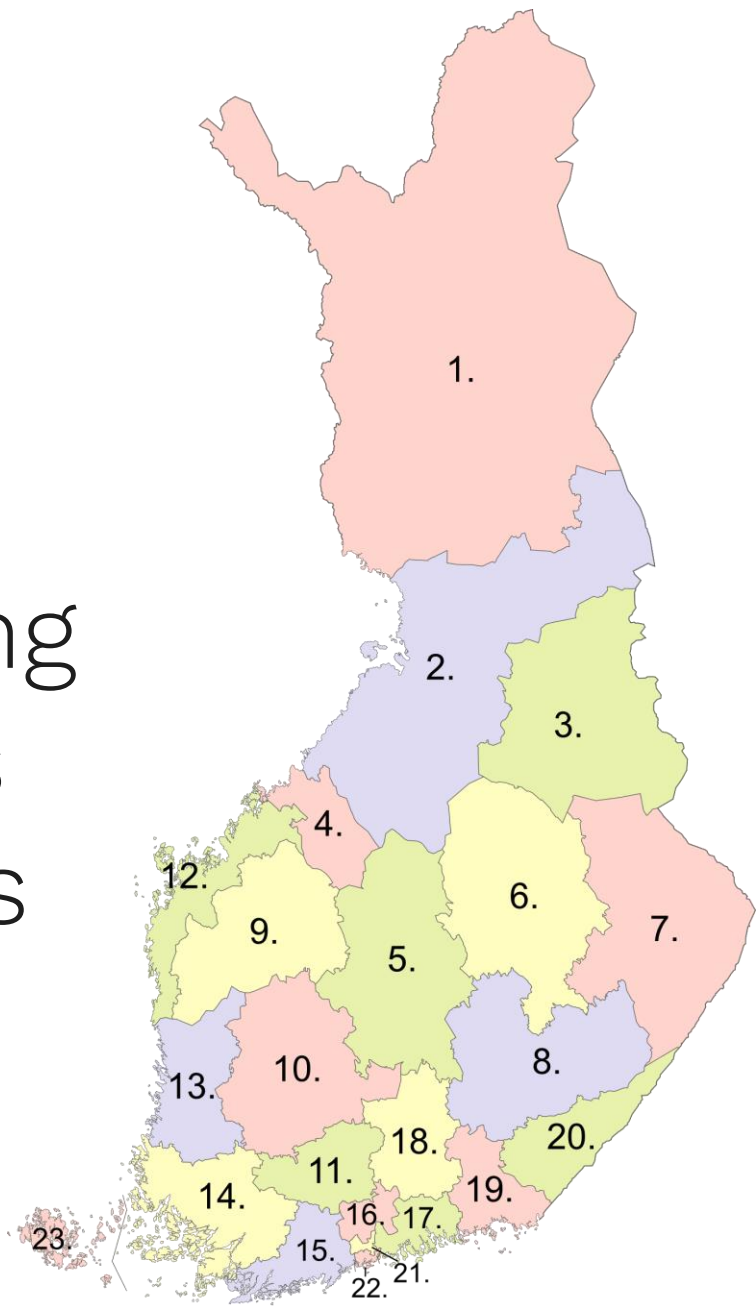


Figure 2
Map of administrative areas, municipalities and healthcare centres, Finland, 2015 (n=317 municipalities and 153 healthcare centres)

The context has changed

- We have non-innumerable number of counties
 - We have sufficient number of innovation around the country
 - We can identify innovative solutions that we want to spread
 - We are building means to spread innovative solutions
-
- What about the data?



Modified and added principles after the major reform

- The more we use the data, the better the data quality
- The more early we note problems in data quality, the easier it is to correct them
- Major reform expected in data partnership:
 - Data collection is old days
 - Data exchange is the future

The future is in combining efforts in data metamorphosis



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Thank you