Appendix 1.3. Norway (COVID-19)

An example from Norway – collaboration between Telenor and the Norwegian Institute of Public Health

**Partnership**

MNO (Telenor); Norwegian Institute of Public Health; University of Oslo; Norwegian Computing Centre.

**Background**

Knowledge about a population's travel pattern is vital to understanding how an epidemic spread throughout a country and thus the population. Anonymised and aggregated mobility data from telecom operators can help understand and predict the spread of a virus, evaluate the effectiveness and the implementation of public health policies and measures.

Early in 2020, Telenor partnered with Norwegian Institute of Public Health, University of Oslo, and Norwegian Computing Centre, and created a Covid-19-model to predict how the SARS-CoV-2 virus spreads in Norway. The model consists of three layers: a population structure of each municipality; a disease transmission model of each municipality (SEIR metapopulation model); and the mobility data describing movements between municipalities. The health authorities assess situational awareness and through simulation, predicts the future evolution of the epidemic down to the municipality level.

The mobility data from Telenor Norway is aggregated and anonymized network data that is continuously streaming from Telenor's over 8000 base stations in Norway.

**Insights on this approach**

Due to pre-existing research collaboration between the involved partners, the project was quick to initiate and establish.

**Key steps taken for developing the institutional framework and analytical pipeline**

There are many components of the whole analytical pipeline: i) data extraction from mobile operator, ii) collection of health data, iii) and several models. The data extraction from the mobile operator is currently (Jan 2021) fairly stable, and is running daily, and supplying NIPH with the freshest data.

**Areas of improvement and challenges**

- A huge challenge has been changing requests related to data extraction.
- Easy to extract data when the dataset is already being generated; exploring additional, new extractions is always a challenge. (Cost of developer resources).

**Links for further information**

- Norwegian Institute of Public Health
  [https://www.fhi.no/en/](https://www.fhi.no/en/)
- Corona virus modelling at the NIPH
- Weekly, situational awareness reports
- Code for the SEIR-model is available on GitHub:
  [https://github.com/folkehelseinstituttet/spread](https://github.com/folkehelseinstituttet/spread)