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Suomen Telelääketieteen ja e-Health seura  
Finnish Society of Telemedicine and eHealth  
FSTeH

# Smart Digital Health in Nordic Countries

– experiences, acceleration and sustainability

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# Nordic countries and European Union



The co-operation between the Nordic countries is the world's oldest regional partnership.  
(Denmark, Finland, Iceland, Norway, Sweden, the Faroe Islands, Greenland and Åland)

Nordic countries have enjoyed free movement of labour for more than 60 years!

11th largest economy in the world and have successfully adapted our welfare model to the global economy. Area has one of the most highly educated populations in the world.

Finland, Sweden and Denmark are members of European Union (EU). EU citizen can use healthcare services in another EU or EEA country or in Switzerland. (Handy is European Health Insurance Card<sup>2</sup>)

# A Nordic vision for 2030:

## Creating the world's most sustainable and integrated health-tech region

**Nordic telehealth collaboration has a long history, since 1993**

**OPEN DATA & SHARING DATA is crucially important**

- Together creating a list of common indicators for monitoring availability, use and outcome of health information technologies in the Nordic countries
- Developing a Nordic model survey to monitor citizen views on eHealth
- Cyber security in the Nordic Countries
- Fictional personas for users => indicators of eHealth availability, use and outcome in the Nordic countries. Fictional personas are: Citizen, Patient, Clinician, Policy Maker, Industry CEO, Politician, Health institution manager, Researcher, IT Professional

Reference: Nordic eHealth Benchmarking, Towards evidence informed policies. TemaNord 2020:505

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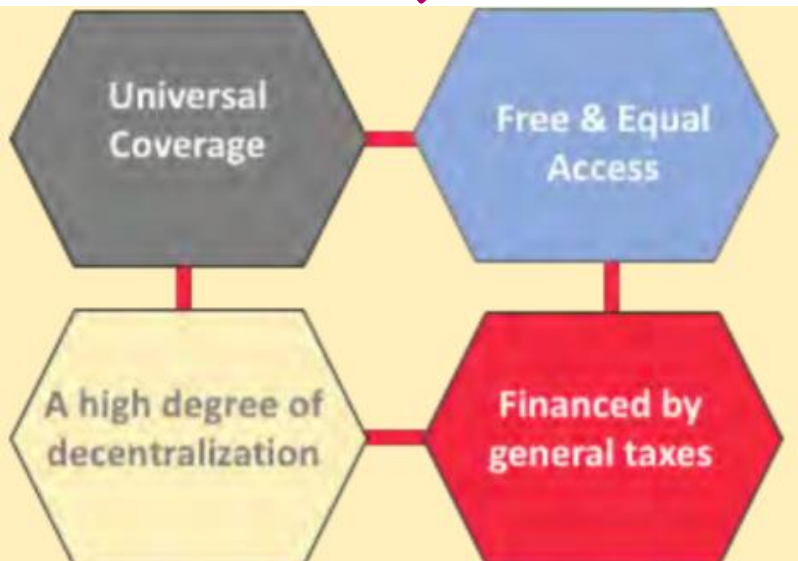
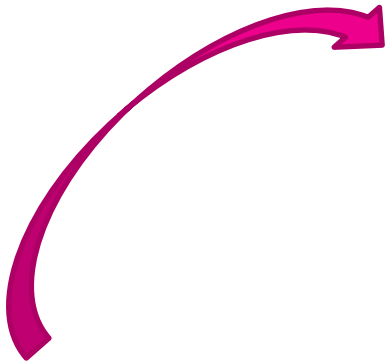
**INTEROPERABILITY is important:** All the Nordic countries use both national standards and different international standards. Especially HL7 standards are mentioned and so is SNOMED CT.

=> to lead to lower entering barriers and costs for vendors to start operating in the Nordic countries

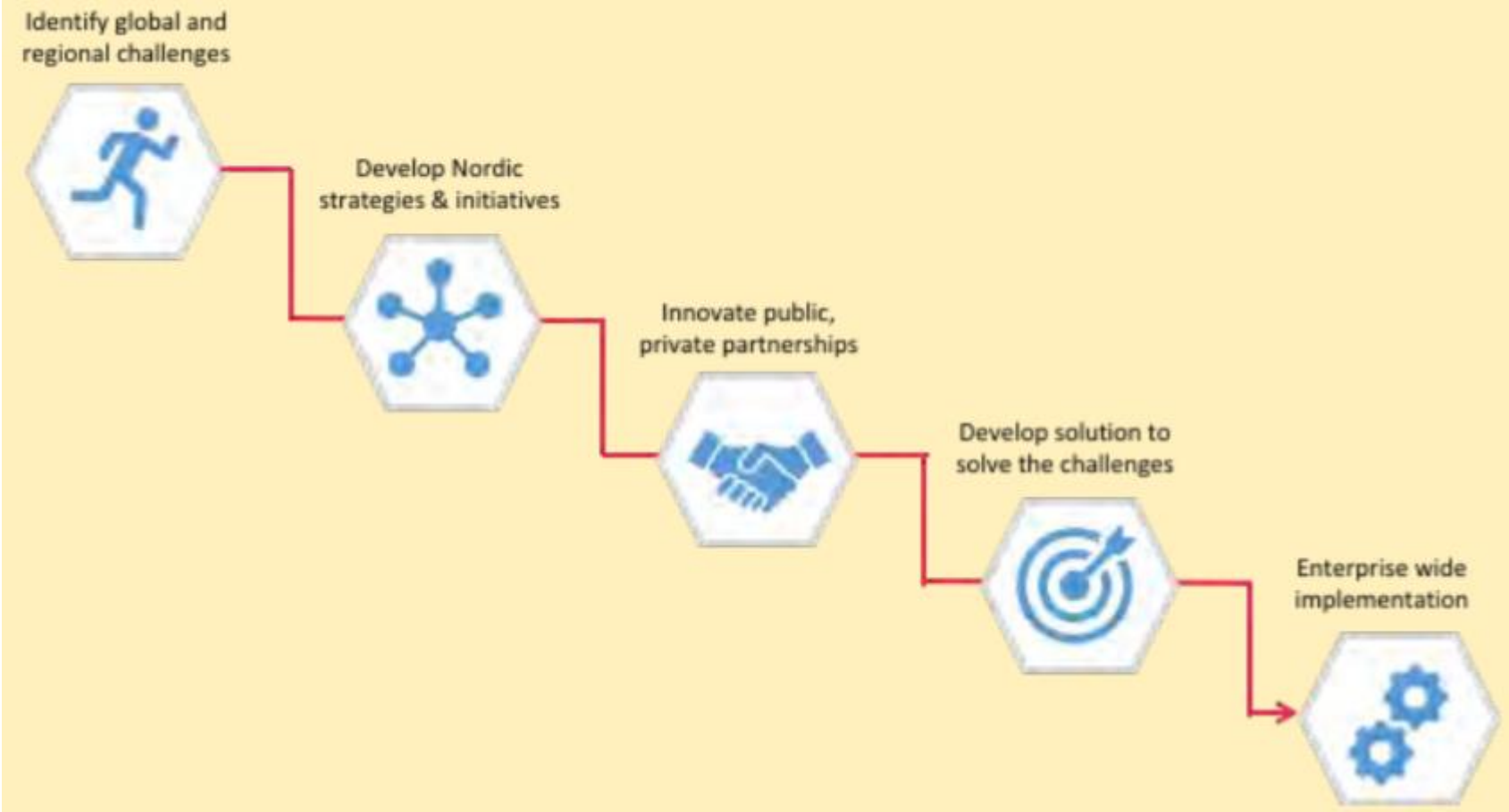
Reference: eHealth standardisation in the Nordic countries. Technical and partially semantics standardisation as a strategic means for realising national policies in eHealth. TemaNord 2019:537

# Smart Digital Health

# Basis of Nordic close collaboration



## Basic Foundation



## Identifying challenges to strategy and execution and implementation

# Smart digital health



Including eHealth, mHealth,  
Telehealth and eSocial Care



# Examples of Smart Digital Health successful implementations

**eHealth:** Cambio Clicinal Decision System, Using patient data to identify people at a higher risk, regional solution, *Sweden*. Klinikhealthcare for artificial intelligence to assess the need for treatment in an emergency, Central Ostrobothnia, *Finland*. VERA, for integrating health records, *Iceland*. JodaCare for information sharing, *Norway*. KMD Nexus for primary care, regional solution, *Denmark*. Danish eHealth Portal (sundhed.dk), *Denmark*.

**mHealth:** Coalalife to collect heart information, regional solution, *Sweden*. KaikuHealth for intelligent patient monitoring and Docrates Private Cancer Clinic, *Finland*. SidekickHealth improving health by collecting information, *Iceland*. Patient reported outcome (PRO), *Denmark*. Pieces of intelligent jewelry: Heart2Save, Necklace detects abnormal heart rhythm, Oura ring, *Finland*

**Telehealth:** OpenTeleHealth for remote patient monitoring, Northern region of *Denmark*. Kanta for patient data repository for use in telehealth, *Finland*. Kvikna for information management, *Iceland*. Motitech for people with dementia, *Norway*. Zenicor for early diagnosis of arrhythmias and stroke prevention, *Sweden*. Columna Cura (Systematic) Creates a clear overview for employees and citizens and share information across sectors, regional solution, *Denmark*.

**eSocial Care:** Coalalife for providing collected heart information to GPs, regional solution, *Sweden*. VideoVisit for virtual home care, city of Helsinki *Finland*. RoomMate for sharing image information to increase safety for all citizens, *Norway*. Stiki Solutions, to secure information collected in a healthcare system, *Iceland*. Telepsychiatry, home-based video consultations, regional solution, *Denmark*.

# Examples of solutions reported (COVID-19 pandemic time) 1/2

<http://healthtechnordic.com/covid19/> and [Nordic Smart Digital Health White paper](#)

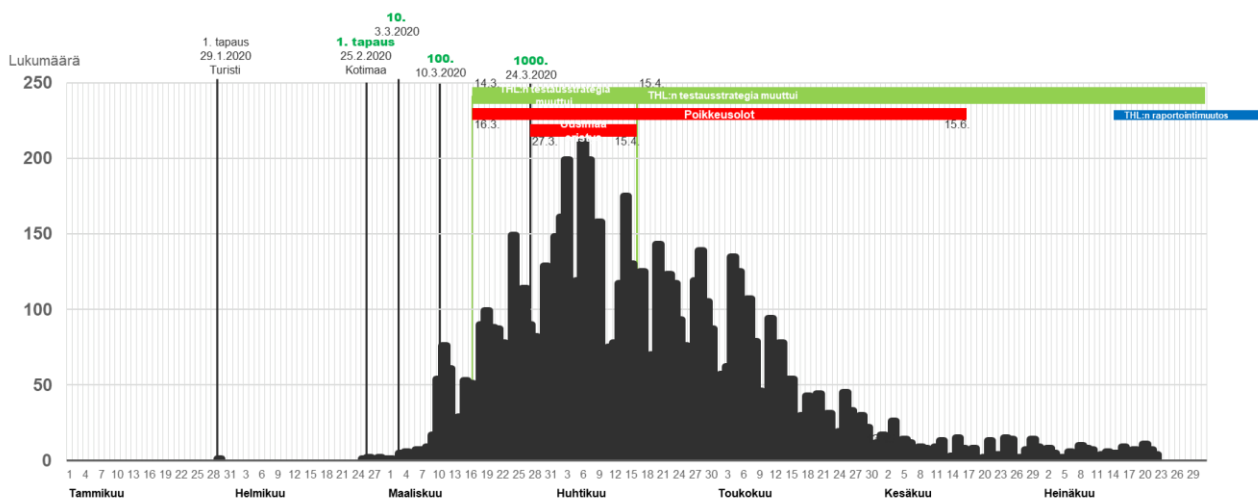
- **Remote monitoring of chronic diseases**
- **Mobile teams**
- **Secure online communication between patient and professional**
- **Emergency care and ambulance**
- **Reallocating personnel**
- **Digital visits in primary care, Public-private partnerships** improve diabetes self-management e.g. a large number of unique patient tools and right care, at the right time, by the right team
- **Mental health**
- **Occupational health and re-entry strategy for employers**
- **Care backlog**



# Examples of solutions reported (COVID-19 pandemic time) 2/2

- **Finnish Case:** The symptom assessment of coronavirus (COVID-19 infection) disease ([Omaolo.fi](https://omaolo.fi)), 22.7.2020 people have fulfilled 465 000 of COVID system assessment
- Principles: Test–track–isolate–treat - for the moment results have been excellent

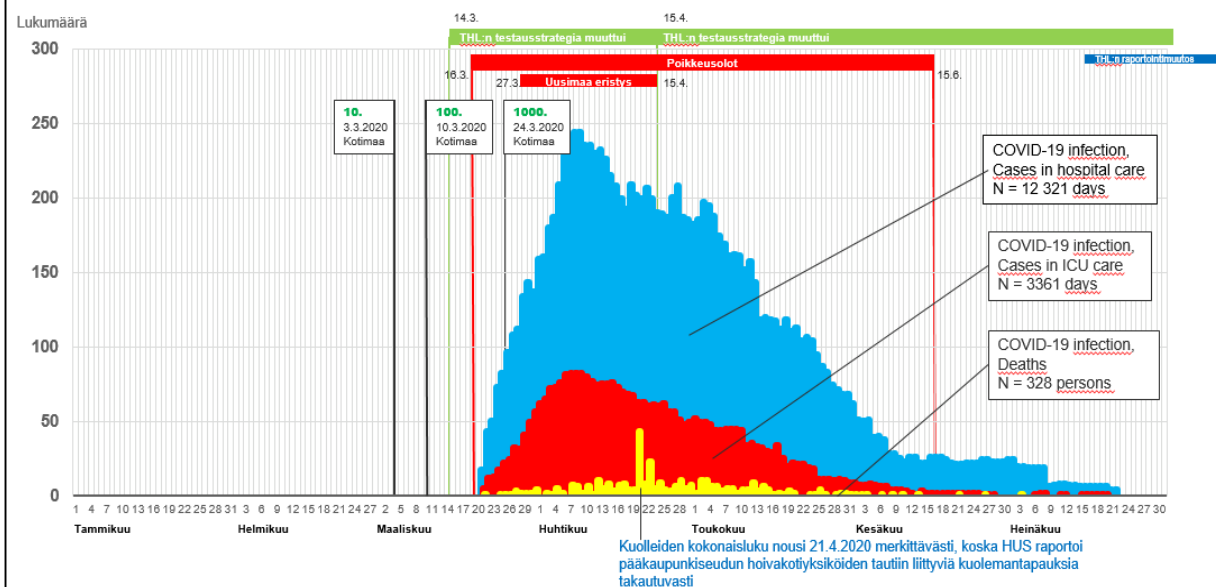
Finland: COVID-19-infection, laboratory-confirmed cases by laboratory sampling date, daily, 1.1.–22.7.2020, Finnish Institute for Health and Welbeing (THL), Infectious Disease Register (N = 7372).



23.7.2020

Vesa Jormanainen

Finland: laboratory-confirmed COVID-19-infection cases in hospital ward care and intensive care units (ICU), deaths, daily, 21.3.–22.7.2020.



thl 23.7.2020

Vesa Jormanainen

# How to develop eHealth business including the private sector?

- Hospitals and care centers taking a role as (more) dynamic testbeds
- Nordic supply chain management for healthcare where expertise, inventories, other resources and data are activated and used in real-time
- Incentives development for an overall change in process management. To be discussed: What kind of flexible incentive models do we see or develop?
- Shift to proactive and holistic lifelong health starting from the genetics, nutrition, safe environment and activity as tools for development of personalized care and prevention chronic diseases

# What tools are the optimal for supporting the private sector in telehealth business – to be discussed

- What is needed in the private sector so that it, in turn, boosts the general development of eHealth in the Nordics and wider?
- Analysis on how do we actually encourage shift from treatment to prevention (models/processes)
- Risk capital by the public and private sectors together
- Innovative and open procurement systems
- Promotion of Nordic M&As (Mergers And Acquisitions Data)
- Pilots, projects and think-tanks are valuable and needed; sharing of data and more joint projects, more use of failures and learn from them
- Nordic cybersecurity vs data transparency resources

# One world – OneHealth – technology as tool for better Health Coverage for All

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- COVID-19 reminds us that infectious diseases will spread as long we have people who do not have access to healthcare, resources for adequate food and clean water and system for waste water.
- Health also includes collaboration and connection to other people, and building safe environment



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# Thank you!

Special thanks to FSTeH board members:

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