



Embætti
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Directorate of Health



NTNU – Trondheim
Norwegian University of
Science and Technology



Karolinska
Institutet



AALBORG UNIVERSITY
DENMARK



Norwegian Centre for
E-health Research

The overall work in NeRN and a brief overview of the situation in the Nordic countries

Arild Faxvaag
on behalf of

The Nordic e-health Evaluation Network (NeRN)

UNIVERSITY OF OULU



Finnish institute for
health and welfare

li.u LINKÖPINGS
UNIVERSITET

A?

Aalto University

questions:

- what characterises the Nordic context and the Nordic Healthcare systems?
- what is the mandate of NeRN, what motivates the work?
- what's on our 2023-2024 agenda?
- what are the most fruitful e-health policy analysis, indicator development and data collection questions?
- what are our work streams?
- what are our insights - what have we learned?



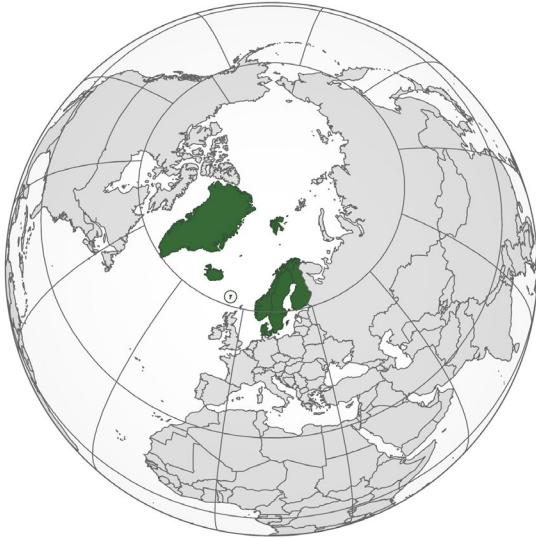


- way of life, history, religion and social structure
- long history of political unions
- 1962: Helsinki treaty: Framework for Nordic cooperation in the Nordic Council and the Nordic Council of Ministers (NCM)
- 2021-2024 NCM Action plan:

“The Nordic Region will be the most sustainable and integrated region in the world by 2030”

https://en.wikipedia.org/wiki/Nordic_countries

<https://www.norden.org/en/publication/nordic-region-towards-being-most-sustainable-and-integrated-region-world>



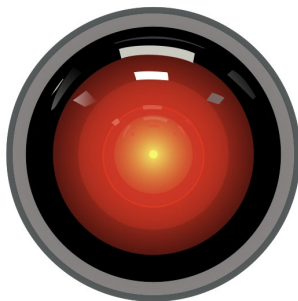
- welfare societies
- healthcare systems owned by the public
- healthcare policy = politics
- nordic cooperation - an important part of politics



1996: Knowledge
now a commodity



2009: computers and
networks now are
everywhere



2022: Reasoning no
longer restricted to
brains

e-health policy-making questions

- How are we to use IT to make our healthcare systems more valuable?
- How are we to create a perfect health knowledge and information market?
- How are we to use e-health to enhance clinicians' performance?
- How are we to use a HIS to create value for the patient?
- How are we to make things happen in e-Health?
- What will be the emergent practices when new systems are in place?
- Which health technology-related competences will be needed ?



digital health policy makers

- must not be afraid of taking risks
- must be prepared for successes as well as for failures
- must learn to become good at what they are doing
- must organise their work so that they become a part of a **learning healthcare system**



NeRN The Nordic e-Health Research network

- a subgroup of the NCM e-health group
- established in 2012 as “a forum for policy makers and researchers to jointly work towards measurable policy goals and data that can be exploited to steer decision making related to goals and their implementation”



Name	Position	Institution
Christian Nöhr	Professor	Aalborg, Denmark
Jeppe Eriksen	Assistant professor	Aalborg, Denmark
Camilla Kodahl Hjerimitslev	Researcher	Aalborg, Denmark
Sabine Koch	Professor	Karolinska, Sweden
Vivian Vimarlund	Professor	Linköpings universitet, Sweden
Guðrún Auður Harðardóttir	Project manager	Directorate of health, Iceland
Jarmo Reponen	Professor	Oulu, Finland
Johanna Viitanen	Assistant professor	Aalto, Finland
Tuulikki Vehko	Research manager	THL, Finland
Maiju Kyytsönen	Researcher	THL, Finland
Rune Pedersen	Senior researcher	NSE, Norway
Ove Lintvedt	Researcher	NSE, Norway
Espen Solbakken Nordheim	Researcher	NSE, Norway
Arild Faxvaag	Professor	NTNU, Norway
Olga Golburean	PhD student	NTNU, Norway
Signe Lohmann-Lafrenz	PhD student	NTNU, Norway

2012-2022 Outputs (reports):

1. Hyppönen, Hannele, Arild Faxvaag, Heidi Gilstad, Gudrun Audur Hardardottir, Lars Jerlvall, Maarit Kangas, Sabine Koch, mfl. Nordic EHealth Indicators : Organisation of Research, First Results and the Plan for the Future (2013). Nordic Council of Ministers, 2013.
<https://urn.kb.se/resolve?urn=urn:nbn:se:norden:org:diva-675>.
2. Hyppönen, Hannele, Maarit Kangas, Jarmo Reponen, Christian Nøhr, Sidsel Villumsen, Sabine Koch, Gudrun Audur Hardardottir, mfl. Nordic EHealth Benchmarking Status 2014. Nordisk Ministerråd, 2015. <https://urn.kb.se/resolve?urn=urn:nbn:se:norden:org:diva-3954>.
3. Hyppönen, Hannele, Sabine Koch, Arild Faxvaag, Heidi Gilstad, Christian Nohr, Gudrun Audur Hardardottir, Hege Andreassen, mfl. Nordic EHealth Benchmarking : From Piloting towards Established Practice (2017). Nordisk Ministerråd, 2017.
<https://urn.kb.se/resolve?urn=urn:nbn:se:norden:org:diva-4840>.
4. «Nordic EHealth Benchmarking Towards Evidence Informed Policies (2020)», 28. mai 2020.
<https://doi.org/10.6027/temanord2020-505>.
5. Nöhr, Christian et al. Nordic eHealth Research Network (NeRN): Executive summary of activities 2020 to 2022 (not yet publicly available)

Figure 2 – Strategic focus profiles in the eHealth policy documents

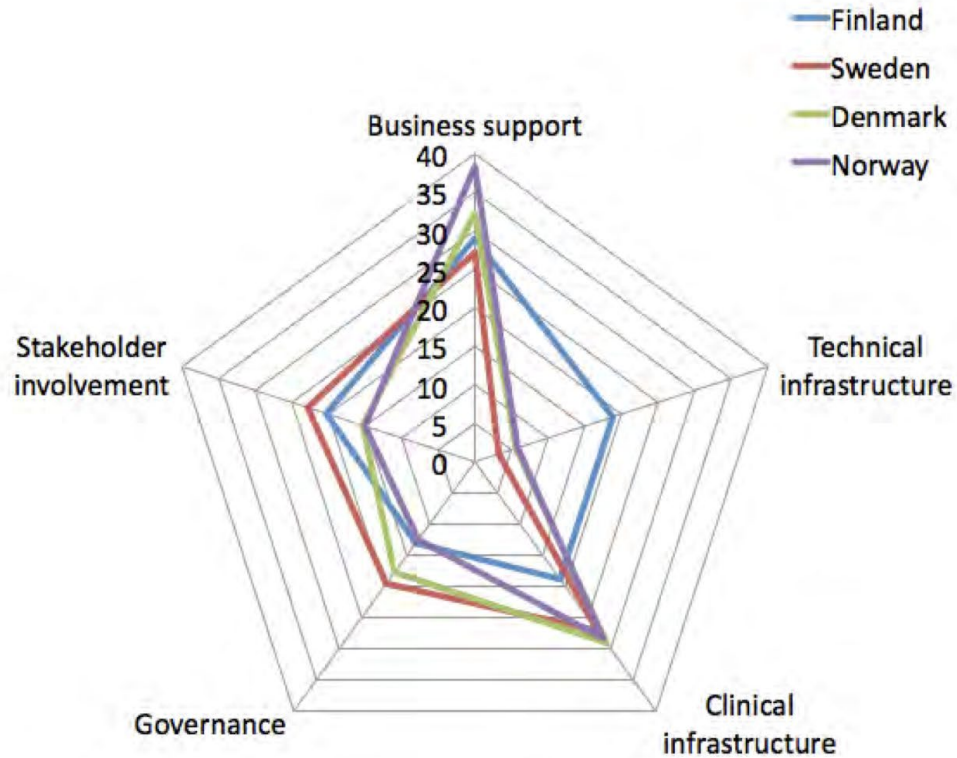


Figure 3 Timing of data collection for different types of indicators (Modified from a presentation of Francis Lau in a Medinfo 2010 workshop)

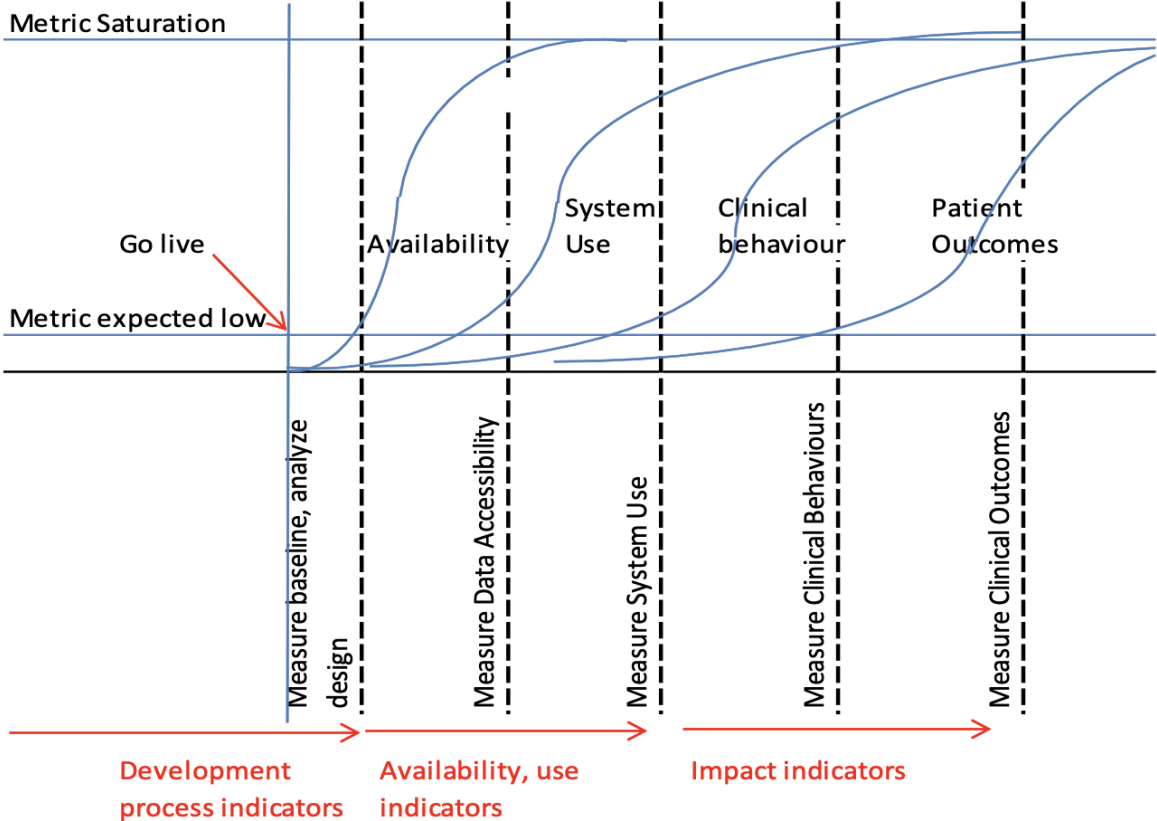
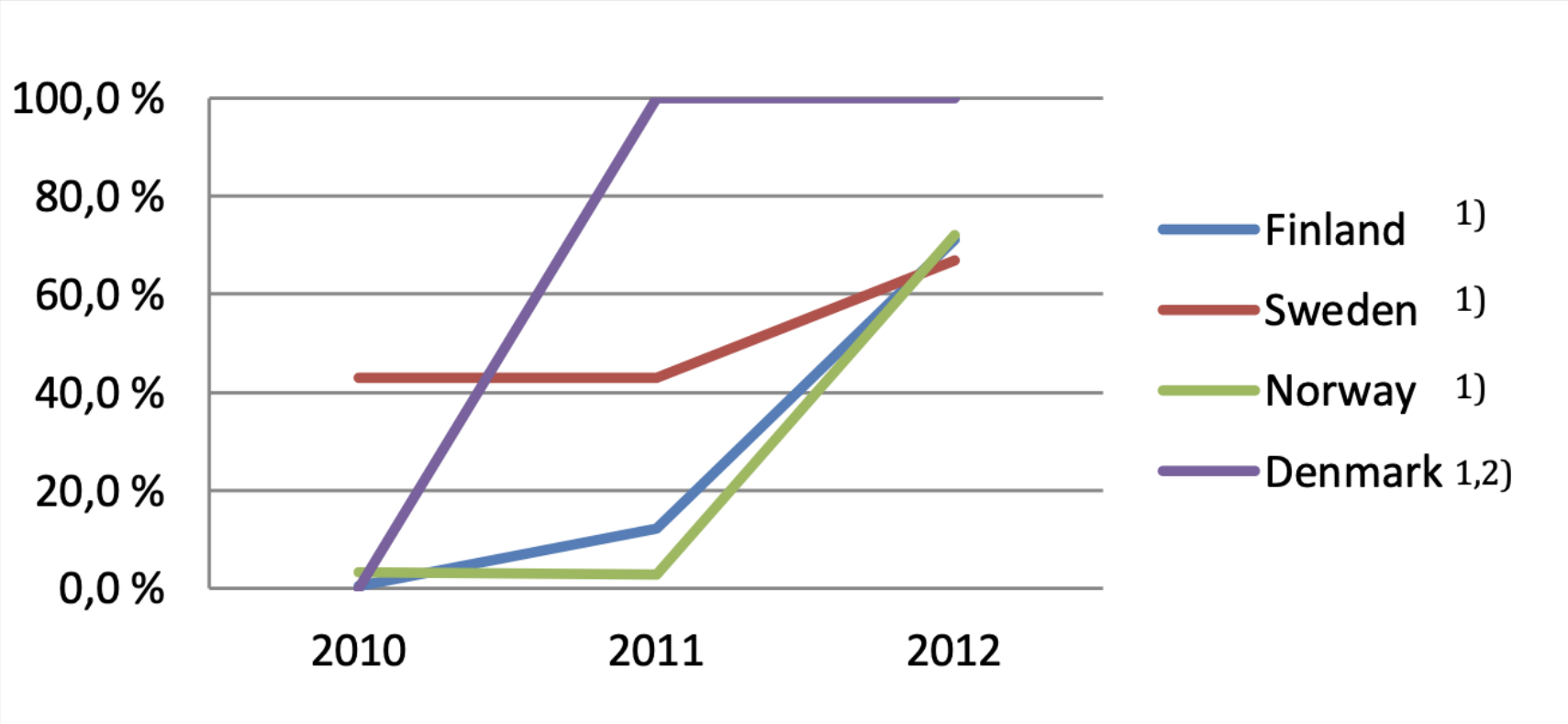


Figure 4 Demonstration of Nordic availability of a complete list of medications that the patient is taking (as of late 2012).



Objective: To develop and pilot an updated set of indicators that can be used to assess and compare the impact of national-level digital health programmes in the Nordic countries.

Activities:

A1: Analysis of Nordic and national-level policies on e-Health / Digital healthcare: The analysis will include the parts of the NCM action plan for 2021 to 2024 that are relevant to healthcare systems, health-related research, innovation as well as digitalisation in general.

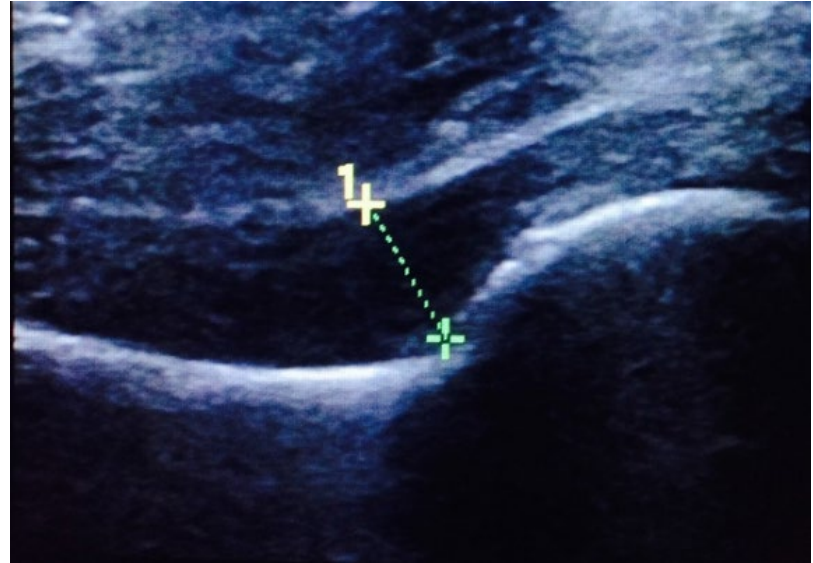
A2: Define areas for indicator development: The insights on strategic objectives and planned actions will be used to define and describe areas for indicator development

A3: Refine existing indicators and develop new indicators when needed

A4: Test and validate the developed indicators This should be done as part of the many national-level evaluation projects

policy analysis questions

- what characterises the domains in which digital health policies are to be enacted?
- what are the value chains?
- which properties of healthcare systems must all digital health policy makers take into account?
- what's the influence of what's already there?
- what else is there that influence the fate of a digital health policy?
- what characterizes an assessable [digital health] policy objective?



NeRN 2023-2024 themes:

- Employee experience theme (including big procurement projects)
- Citizen experience theme
- Policy analysis and indicator development theme
- Employee's use of EHR in an occupational health perspective theme
 - reducing clinical burden and Physician burnout topics are related to this theme

Insights:

- asking end-users does not catch everything that is of value
 - we also need to make measurements
- healthcare systems have emergent properties
 - e.g. continuity of care, patient safety, a learning healthcare system
- healthcare systems have “eternal properties” e.g.
 - we first do no harm
 - we carry out our work by means of our knowledges, tools and skills
 - we are accountable
 - we aren't parasitic
- healthcare systems are a part of a wider healthcare ecosystem:
 - a health information economy
 - a healthcare knowledge economy
 - a healthcare competence economy

value chains

Value chain	Input	Outcome	Benefactor	Main constraint
Healthcare	Health problems	Years to life Life to years	Citizen	Availability of expertise
Knowledge development	Health data	Knowledge	Knowledge user	Availability of data from the domain
Education and training	Healthcare situations	Competence	Employers	Availability of situations

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