

National Health IT reform in Norway

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Abstract

Norway started with eHealth and telemedicine many years ago back in the nineties. Almost every GP has had an electronic medical record for the last 20 years. In 1997 we got the first action plan for e-health and this plan has been followed up every 2nd year with new action plans. The Government is committed to eHealth and we will introduce many new services both for the health sector and for the citizens in the coming years. Our latest e-health plan called “One Citizen – One record” has an ambitious goal to give each citizen access to their own electronic medical record. eHealth is a very important tool for the development of the future modern Norway.

Keywords: e-health, Electronic Medical Record, health system, standards, Ambient Assisted Living

Norway

Norway is a monarchy with a parliamentary form of government. There are three independent government levels – the national government, the county councils and the municipalities.

The Norwegian population reached 5.0 million in 21012. The life expectancy in Norway is among the highest in the world. The number of unemployed is about 3 %.

The regional level is represented by four regional health authorities, who have responsibility for specialist health care; and the local level represented by 434 municipalities has the responsibility for primary health care (including nursing care).

Norwegian health care expenditure is close to 11% of GDP. In public health spending per capita, Norway ranks among the highest of all OECD nations. But, we have a problem with the future health: More people

are falling ill, our population is ageing, more people need help for longer periods, more diseases are treatable with new technology, and the queues are lengthening for specialist health care services. These developments are not sustainable, and we need new solutions (ehealth) to deal with them.

The health system is primarily funded through taxes and the national social insurance system. The municipalities have the right to income taxes on their respective populations, while the regional health authorities must rely on transfers from the central government.

Regular general practitioners (GPs) are in practice self-employed, but financed by the national social security system, the municipalities and by the patient’s out-of-pocket payments.

In 1997, Norway introduced activity-based funding (Innsatsstyrt finansiering, ISF) based on the DRG system for somatic inpatient activity.

4 Regional Health Authorities

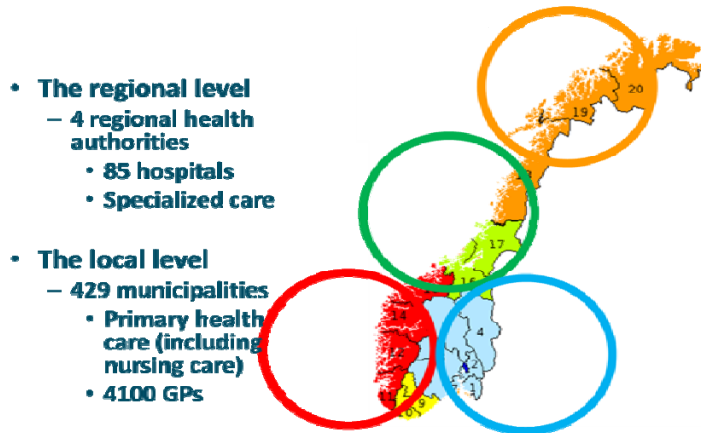


Figure 1. The four regional health authorities.

The key strengths of the Norwegian health care system are to provide a health care service for all based on need and regardless of personal income.

The health status of the Norwegian population is one of the best in the world.

In The 2001 Norwegian Hospital Health Reform The Norwegian Parliament decided that central government should take over the responsibility for all public hospitals.

The Government Strategy: Digital agenda

The Government strategy for ICT, “Digital agenda” is to be to be fully digitally in the communication between all the administration levels and the people.

Information technology will be used to make public services better, simpler and more efficient:

- Legislation will be changed to remove any obstacles to digitalization of the public administration

2001: The Norwegian Hospital Reform

- **The Norwegian Parliament decided that central government should take over the responsibility for all public hospitals**
 - **4 Regional Main Health Enterprises**
 - 50 Minor Health Enterprises
 - 350 institutions in the central government specialist health service have been transferred to the central government sector

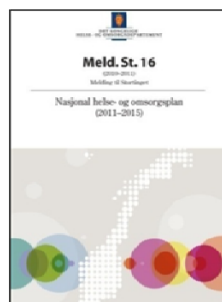


Figure 2. 2001: The Norwegian Hospital Reform.

- Establishing a secure system of digital mailboxes whereby all individuals and companies would each have a single mailbox for all digital mail from the public administration
- Carrying out for high-security electronic identification solutions

Difi: The Agency for Public Management and eGovernment

The Agency for Public Management and eGovernment (Difi) aims to strengthen the government's work in renewing the Norwegian public sector and improve the organization and efficiency of government administration.

The portal, *Standardiseringsportalen*, aims to inform its users about which standards are mandatory or recommended for use in the Norwegian public sector.

The Norwegian Directorate of Health

The Norwegian Directorate of Health is an executive agency and competent authority subordinate to the Norwegian Ministry of Health and Care Services. The political frameworks to which the Directorate is subject are the political platform of the government in office at any time and resolutions of the government and of Parliament. The Health Directorate is responsible for the implementing of eHealth and has several important projects in action:

- Electronic prescription
- Electronic messaging
- Electronic Patient Summary
- My vaccines
- Public Health Portal
- One Journal – one Patient
- Standards

The coordination reform

The Coordination Reform does reward the municipalities for investing in prevention in order to reduce the need for specialist health care services. The increased resources must to a greater extent go towards developing services in the municipalities. The hospitals should provide specialist care so that the patient can quickly return to his/her home municipality after completing treatment. With smart solutions, patients will receive proper treatment at the right place and right time.

Ehealth

The use of information technology in the health care sector had its beginning as early as the 1960's, mainly in the administrative sector.

At the beginning of the 1980s, it was clear that health care would come to constitute a major market for ICT solutions. In 1997 we got the first **National Action Plan** for the ICT sector in health. In 2000 we got the next action plan; **BIT for Bit** aimed at electronic messaging. More action plans followed.

As part of the **Si @! –plan** the Norwegian HealthNet was established in 2004. The Norwegian Health Net "**Norsk Helsenett**" is owned by the Ministry of health and care services. It was founded as a state-owned enterprise in 2009 and is providing a secure communicating platform for all ehealth communication.

In the strategy plan **Interaction 2.0** in 2011 we got the implementation programs about "e-prescription" and "the national message boost."

In 2009, the pilot project of the National Health Register was established to coordinate and modernize the national medical quality registers and the central health registers.

National plans related to eHealth

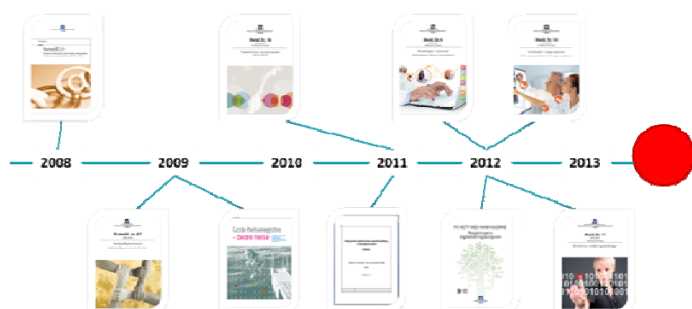


Figure 3. National plans related to eHealth.

Electronic health records

GPs had virtually full coverage of EHR systems (> 90 percent) from the start of the 2000s, while hospitals came up at the same level at the end of the 2000s. This puts Norway among the countries in the world with the greatest degree of implementation of EHR in the health care service.

Advanced imaging diagnostic devices produce very large amounts of information systems (RIS/PACS) to manage. Also other equipment such as high-resolution video is used more and more and produces large amounts of information. In intensive care and surgical units different monitoring devices continuously produces information about the patient's condition. The information from medical devices should be saved in the EPR system.

"My Health" online

Through the "My Health" online, patients and users will gain online access to their own medical records. In addition, residents will be offered self-service solutions for the electronic dialogue with healthcare professionals. Information about health care, such as quality, waiting times, services and user experiences, will give citizens the opportunity to make real choices relating to their own treatment. Services should be available to

citizens through the national health portal, "helsenorge.no".

Ambient Assisted Living

In Norway, as in the rest of the World, the big tide of change comes from the rise of non-communicable diseases – from chronic life style conditions such as diabetes, obesity and lack of physical exercise – and from cancer, mental health, dementia and the needs of an ageing population.

One fundamental lesson from this knowledge is that we will need innovative approaches to public health challenges. There will be an ever growing market for new medicines, for new interventions, for new technology and for new instruments that can help address the need of known and unknown patient groups. Ambient Assisted Living solutions in Norway should be compatible and work in other parts of the world. We think it is important to have this future work on implementing AAL based on international standards.

White Paper: One Journal – One Patient

In 2012 the Government released a White Paper "Storingsmelding" about the future of ehealth. The government's goal is one citizen - one journal. By exploiting

Population pyramid



Figure 4. Population pyramid.

the opportunities offered by modern technology Norway wants to achieve the goal of improved quality, improved patient safety, more efficiency and better use of resources. Norwegians are online and in Europe we are at the top in the use of information and communication technology (ICT) in the health sector. But we need clearer objectives, better coordination, current legislation and new technological initiatives.

Government issued in 2012 a new regulation that allows for all who treat the same patient in an established community to use a common medical record for the patient. Common journal provides easier access to necessary health information- an electronic patient record that can be used throughout the health care system for the benefit of patients.

The work of selecting a technical solution is under preparation.

The government will contribute to uniform solutions through requirements for standardization of systems and a strategy for standardization.

Conclusion

Norway started with eHealth and telemedicine many years ago back in the nineties. Almost every GP has had an electronic medical record in the last 20 years, and in

2005 Norway was the first country in the world to be fully digital within digital Roentgen (x-ray) in the hospital. But there is still a long way to go to become an eHealth country with seamless and integrated digital services for all. The Government is committed to eHealth and we will introduce many new services both for the health sector and for the citizens in the coming years. eHealth is a very important tool for the development of the future modern Norway.

References

- [1] The Norwegian Government. Available from: <http://www.regjeringen.no/en/dep/hod.html?id=421>
- [2] The Agency for Public Management and eGovernment (Difi). Available from: <http://www.difi.no/artikkel/2009/11/about-difi>
<http://standard.difi.no/>
- [3] The Norwegian Directorate of Health. Available from: <http://helsedirektoratet.no/Sider/default.aspx>
- [4] The Citizen Portal. Available from: <http://helsenorge.no/en/Sider/default.aspx>