

eHealth

priorities and strategies
in European countries



Fact sheet

Denmark

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Towards the Establishment
of a European eHealth
Research Area





Denmark

Strategic perspective

The Ministry of Health launched its first strategy for the development of Electronic Patient Records (EPRs) in 1996, when through a number of decentralised, regional pilots the need for standards and common terminology was identified. The National Strategy for Information Technology in Hospitals followed in 1999 with the main objective of establishing EPRs as the core of IT systems in hospitals.

The latest strategy, the National Strategy for Information Technology in the Health Care System (2003 – 2007), was published in 2003. Its core principle is that “shared information is the foundation for seamless care and patient involvement” and its main strategic targets are:

- high professional quality of care,
- straight answers,
- shorter waiting time,
- high level of user satisfaction,
- better information about service and quality,
- efficient use of resources,
- freedom of choice.

Major structural reform of the healthcare sector takes effect from January 2007. The existing 15 Counties (14 Counties plus Copenhagen Region) will then be consolidated into five regions, and the number of municipalities will be reduced, from the current 271 to 99.

Implementation perspective

The responsibility for implementation of each of the 29 initiatives in the strategy is shared per initiative among the following organisations: Ministry of Interior and Health, National Board of Health, Association of County Councils and Copenhagen Hospital Corporation, MedCom and the Danish Standards Association.

EHR strategy: Most of the initiatives in the first period (2003 – 2005) related to the development and implemen-



tation of electronic health records (EHRs). The focus was on initiatives aiming at the development of, e.g., common standards, concepts, and classifications as well as on initiatives ensuring good integration between EHRs and the other IT systems available in the health care service. Based on standards elaborated by the National Board of Health, the "Basic Structure for Electronic Health Records" (BEHR) presents a conceptual model for clinical process and a reference information model specifying the requirements on the ICT system to ensure search and exchange of data. BEHR aims to create the foundation for a nationally coordinated EHR adoption in the hospital sector and be the take-off point for cross-sectorial use of information in health records.

To ensure consistent clinical terminology, the National Board of Health is translating SNOMED-CT into Danish and developing synonyms for commonly used local terms (SUNDTERMS - Healthy terms).

In addition, the EHR Clinical Content Project launched in the Capital Region in May 2004 is intended to standardise multi-professional shared clinical content in hospitals on the basis of current processes – rather than



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evidence based medicine guidelines. Working groups have already been established for more than ten specialties, from a target of almost 40 specialties.

EHR IMPLEMENTATION: THE USE OF ELECTRONIC PATIENT

Records in primary care is well established. Almost all general practitioners (GPs) offices are computerised. The 2003 fiscal agreement between the government and the county hospital owners required that Electronic Health Records based on shared standards be implemented in all Danish hospitals by the end of 2005. The five new hospital regions (2007) have adopted the principle of "one patient – one HER" within each region and are building their EHR on the BEHR specification, while sharing basic IT architectural principles.

INFRASTRUCTURE THE DANISH HEALTHCARE DATA NETWORK:

Counties, local authorities and other organisations have secure intranets. At first, the local networks comprised the "logical" Danish healthcare data network. This was made possible by agreeing on uniform technology and communication standards, thereby avoiding problems with communication across the regions. Now, these networks are linked by the Danish Healthcare Data Network (Internet based) through VPN connections, via a cooperative agreement with MedCom. The penetration and rates of use of the Healthcare Data Network is as follows: GPs 97%, specialists (full time) 74%, pharmacies and hospitals 100%, local authorities 44%. The types of eHealth services delivered through the network currently include:

- referrals and discharge summaries,
- prescriptions,
- teleradiology – teledermatology services,
- laboratory results look-up through the National Health Portal.

NATIONAL HEALTH PORTAL:
The public National Health Portal, Sundhed.dk, was launched in December 2003. It provides a single access point to Danish healthcare services for both citizens and

professionals. Using their digital signature, citizens can avail of a variety of services such as: book GP appointments, order medications and renew prescriptions, review their medication data and communicate with healthcare authorities. In addition, the portal offers, e.g., directory services, general and disease-specific health information, access to national guidelines, basic information regarding hospitalisations. In the context of providing care and by using their special security certificates, healthcare professionals can access patient data and laboratory results, and utilise various other resources (e.g. guidelines and clinical pathways).

ELECTRONIC DATA INTERCHANGE (EDI) – STANDARDISATION:

More than 3 million EDI documents are sent per month, which represents 80% of all communications in the primary healthcare sector. MedCom developed EDI standards in 1996 based on the EDIFACT syntax. During MedCom VI, an XML version of these standards were developed for hospital communications. MedCom also tests and approves computer systems for the reception and dispatch of EDIFACT and XML documents, as well as XML web service solutions.

Future activities

EPRESCRIPTION - MEDICINE PROFILE:
The Medicine Profile is an electronic overview of the purchase of prescription medications in Denmark. All purchases are automatically registered in an individual, personal medical profile for every citizen. This is achieved by substituting earlier EDI-based prescription messaging with XML messages sent directly to the National Health Portal. The personal profile can be accessed by the citizen, the treating physician and by the pharmacies authorised by the patient. The project aims to improve quality of drug therapy, while giving a valuable overview of patient compliance. A national prescription server has also been built, which will enable patients to fill their prescriptions in any pharmacy.



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SUP MODERNISATION WEB-EPR PROJECT:

The purpose is to make standardised extracts of registered patient data available across county boundaries through look-up, rather than actual sending of the data, e.g. as required when a patient receives treatment in a county other than the one where he or she resides. Communication takes place in encrypted form on the MedCom network, either via local user control or through the National Health Portal. The modernisation of SUP to the WEB-EPR solution will expand communication beyond hospitals, and enable citizens, GPs, specialists and the home care services of local authorities to access selected EPR data.

MULTI-NATIONAL EHEALTH COOPERATION:

Expansion to cross-border networks, as demonstrated for example in the Baltic eHealth project, is a future target. The objective of Baltic eHealth, which is coordinated by the Danish Centre for Health Telematics, is to facilitate the use of telemedicine across national borders in the Baltic Sea Region. Having established a secure Internet-based infrastructure between Denmark, Norway, Sweden and hospitals in Estonia and Lithuania, the next step will be to further consolidate the infrastructure and increase the number and type of services available through the network.



Core resources

National IT strategy 2003-2007 for the Danish Health Care Service. National Board of Health - The Ministry of the Interior and Health, May 2003. Available online at:

http://www.sst.dk/publ/Publ2004/National_IT_strategy.pdf

Danish National Board of Health:

<http://www.sst.dk/default.aspx?lang=en>

MedCom - The Danish Healthcare Data Network.

<http://www.medcom.dk/wm109991>

Sundhed.dk - The Danish National Health Portal.

<http://www.sundhed.dk>

About eHealth ERA

This fact sheet is the outcome of research in the context of the *eHealth ERA* project (Towards the Establishment of a European Research Area). The project is implemented by empirica GmbH (co-ordinating partner, Germany), STAKES (Finland), CITTRU (Poland), ISC III (Spain), CNR (Italy) and EPSRC (United Kingdom), based on a Coordination Action contract with the European Commission.

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