

# eHealth

priorities and strategies  
in European countries



**Fact sheet**

# Finland

March 2007

Towards the Establishment  
of a European eHealth  
Research Area





# Finland

## Strategic perspective

The development and implementation of eHealth solutions in Finland is heavily influenced by the strongly decentralised Finnish health care system — the 430 municipalities are each responsible for providing and developing health services for their residents. Moreover, specialised care (secondary and tertiary care) is provided in public hospitals, of which five are university hospitals, 15 central hospitals and around 40 other smaller specialised hospitals. In addition, public health provision is supplemented by private health care services.

The Ministry of Social Affairs and Health established its first Strategy for the Utilisation of Information and Communication Technologies in Welfare and Health in May 1996, as part of Information Society policies aimed at facilitating information transfer between organisations. Already then, the strategy was built around the principle of citizen-centred, seamless service structures. Among the main targets were the horizontal integration of services (social, primary and secondary care) and the development of shared, coordinated services delivered closer to home.

Citizens and patients were envisioned as informed and participative agents in the healthcare delivery process. To realise this vision the use of ICT was seen as essential; and partnership between service providers and industry was encouraged. In addition, a new contract-based model, paving the way towards regional level service provision, was introduced between municipalities and private service providers.

The strategy was updated in 1998, placing specific emphasis on several issues, including: the adoption of digital patient and client records in all levels of healthcare and social services, combined with nationwide interoperability between distributed legacy systems; support of high level security and privacy protection, allowing citizens access to their patient records via the



Internet, as well as maintenance of a personal digital health and welfare record; and improved management of service chains.

In 2002, as part of the National Program for Securing the Future of Health Care, the government decided that “a national electronic patient record” should be introduced by the end of 2007. The strategy for the national Electronic Health Record (HER) was published in January 2004. In addition, the national project to develop the use of ICT in social services started in 2003. In 2005, a plan to build a national EHR archive was added to the national policies under the umbrella of Prime Minister Matti Vanhanen’s information society program.

The Finnish eHealth roadmap is currently in preparation and is expected to be finalised in 2006. The starting point has been the implementation of the EU eHealth Action Plan.



# Finland

## Implementation perspective

Infrastructure: Health information is transferred using broadband networks managed by commercial tele-operators. There is no specific eHealth network. Instead secure commercial communication channels (e.g. Virtual Private Network (VPN) channel, Secure Internet Protocol (IP) Channel) are typically rented for healthcare purposes. Hospital regions and many municipalities have also implemented closed intranets, mainly based on VPN-technology. Secondary care hospital intranets are connected together either via VPN/ATM channel or via the internet. The National Insurance Agency, KELA has its own nationwide ATM-network. There are also two VPN-based pharmacy networks. Private service providers have institutional (virtual) sub-networks, one of which is nationwide (Mehiläinen) and the rest are smaller regional networks. All service providers are connected to the internet.

### HEALTH INFORMATION FLOW

On the national level there is electronic communication between KELA and pharmacies for drug reimbursement, between KELA and service providers for ordering of drugs and materials and between service providers and the National Research and Development Centre for Welfare and Health (STAKES) for national statistical data collection.

Regional information transfer is based on regional directory services and interoperable systems, which are already working in six of the 21 hospital regions. In the eastern part of the country a common information system (KAAPO-system) is used as the basis of regional information transfer, while the TELLAPPI network covers the whole Northern part of Finland. Eleven of the 21 hospital regions are using a common online certification service. The most commonly used communication standards in Finland are derived from the HL7 family (at present the HL7 CDA R2.x family standards). EDIFACT is used in some applications but newer applications are using XML. For security purposes messages are placed in a SOAP-envelope.

eHealth services: eServices used on a regular basis include:

- Regional level telemedicine services;
- transfer of images, eReferrals, laboratory results and care summaries between primary and secondary care;
- eConsultation;
- billing and eBooking.

### LEGISLATION

Temporary legislation on implementing seamless service chains was introduced in 2000. Since then a Ministerial Work Group (WG) prepared permanent legislation and another Ministerial WG has defined the national ICT architecture and supporting services. These WGs finalised this work in 2005, and have since steered the respective implementation processes.

### ELECTRONIC HEALTH RECORD (EHR)

96% of all primary care health centres use EHRs as the main method for medical documentation, and almost all (20 of the 21) hospital districts and 89% of the private sector service providers currently use an EHR system at least to some extent. The national requirements, such as standards (CDA R2, Dicom, ISO/OID), content and structure of EHRs, as well as data security and data safety guidelines will now be implemented in existing EHR systems.

Semantic interoperability is included as a target in the EHR project. The interoperable core data set is presently in the early implementation phase. Headings of the EHR and its metadata will be harmonised as well as the main data types. STAKES maintains the code server where all relevant codes and classifications are stored and from which they can also be downloaded electronically.

### ePRESCRIPTION

A national pilot was launched in 2002. The piloting of the system ran in 2004–2006. At present, permanent ePrescription legislation is under preparation. The system is based on a national ePrescription database hosted by KELA, strong authentication and a smart ID-card for professionals with eSignature systems and SSL-secured messages from health care providers and pharmacies to the database.



# Finland

## HEALTH PORTALS

A national health portal for citizens is being constructed. The prototype of the portal is shown at a public website ([www.terveysuomi.fi](http://www.terveysuomi.fi)). The portal will be finalised during 2007. There are also several municipal and hospital portals with general information for citizens as well as health problem/disease specific portals maintained by patient associations, or other third sector organisations. The major portal for health professionals is Terveystietti ([www.terveysportti.fi](http://www.terveysportti.fi)), maintained by the Finnish Medical Society Duodecim. A decision support system for professionals has been built and is being offered as part of the Terveystietti services.

## Future activities

For reasons of practicality and economy, the information management system in Finland should at least in part be organised at the national, rather than the regional level. At the heart of the national Finnish ICT infrastructure for social and health care will be a national digital archive for patient documents. In addition, there will be one logical connectivity centre for eHealth communication. Exchanging data between organisations will be conducted on a national basis and not regionally. The service will be maintained by the Social Insurance Institution (KELA). The legislation which obliges all health organisations to join the national IT architecture for health will come into force at the beginning of 2007, and the system should be built by the end of 2011.

There will be a national PKI system for health care professionals. The system will be administered by the National Authority for Medico-legal Affairs.

A common standardised secure infrastructure will offer new opportunities to develop processes and roll out new digital services. For instance, citizens will be better able to access their own data and monitor its use through their PKI-based Citizen Certificate in their Smart ID-cards. This card is managed by the Population Register Centre ([www.fineid.fi](http://www.fineid.fi)) and already over 60,000 have been distributed.

Rapid diffusion of ePrescription is anticipated after the legislation is issued in the beginning of 2007. Work on technical and semantic interoperability will continue, as well as development and diffusion of eHealth applications and services.

Under the upcoming legislation, the Ministry of Social Affairs and Health will have a stronger role in steering eHealth Activities in close cooperation with other national authorities such as STAKES, the Social Insurance Institution and the National Authority for Medico-legal Affairs. There will also be a permanent national advisory board for eHealth activities. The members of that board, representing different interest groups, will be nominated by the government.

## Core resources

### Health Services in Finland.

#### Finnish Ministry of Health and Social Affairs.

<http://www.stm.fi/Resource.phx/eng/subjt/health/hserv/index.htm>

#### Healthcare Policy Reference List.

#### Ministry of Social Affairs and Health.

<http://www.stm.fi/Resource.phx/eng/subjt/health/index.htm>

#### Strategy for the Utilization of ICT in Welfare and Health.

#### Tietotekniikan Hyödyntämisstrategia (In Finnish).

#### Ministry of Social Affairs and Health.

<http://pre20031103.stm.fi/suomi/tao/julkaisut/hyodstra/tteknis.htm>

[http://www.tietoyhteiskuntaohjelma.fi/tietoyhteiskuntaneuvosto/jaostot/fi\\_FI/sosiaali-ja\\_terveydenhuolto/](http://www.tietoyhteiskuntaohjelma.fi/tietoyhteiskuntaneuvosto/jaostot/fi_FI/sosiaali-ja_terveydenhuolto/)

#### Doupi P, Ruotsalainen P, eHealth in Finland: present status and future trends. *International Journal of Circumpolar Health* 63:4 2004, p.322-327.

[http://ijch.oulu.fi/issues/634/634\\_Doupi.pdf](http://ijch.oulu.fi/issues/634/634_Doupi.pdf)

#### Ministry of Social Affairs and Health: eHealth Roadmap - Finland.

<http://www.stm.fi/Resource.phx/publishing/store/2007/02/pr1172737292558/passthru.pdf>

## 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 (coordinating 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.

The European Commission, Directorate General Information Society and Media, supports this project to contribute towards greater transparency across Member States and other participating countries on eHealth strategies as well as innovation-oriented research and technology development (RTD) initiatives, including the coordination of Member States' eHealth strategy formulation and implementation.

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