eHealth Strategies

Country Brief: Scotland

Authors: D. Whitehouse, S. Giest, J. Artmann

October 2010

Commission,
ation Society and Media,
ICT for Health Unit

European Commission
Information Society and Media

About the eHealth Strategies study

The eHealth Strategies study analyses policy development and planning, implementation measures as well as progress achieved with respect to national and regional eHealth solutions in EU and EEA Member States, with emphasis on barriers and enablers beyond technology. The focus is on infrastructure elements and selected solutions emphasised in the European eHealth Action Plan of 2004.

Disclaimer

Acknowledgements

This report was prepared by empirica on behalf of the European Commission, DG Information Society & Media. empirica would like to thank Jos Dumortier, Time.lex CVBA for the review of the section on legal issues, and Professor Denis Protti (University of Victoria) for valuable feedback.

Reviewers

Alan Hyslop

Contact

For further information about this study or the *eHealth Strategies* project, please contact:

empirica	eHealth Strategies	
empirica Gesellschaft für Kommunikations- und Technologieforschung mbH Oxfordstr. 2, 53111 Bonn, Germany Fax: (49-228) 98530-12 info@empirica.com	**eHealth Strategies** c/o empirica GmbH Oxfordstr. 2, 53111 Bonn, Germany Fax: (49-228) 98530-12 eHStrategies@empirica.com	**European Commission** DG Information Society and Media, ICT for Health Unit Fax: (32-2) 02-296 01 81 eHealth@ec.europa.eu

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Bonn / Brussels, October 2010

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Executive summary

In June 2008, the Scottish Government published an “eHealth Strategy” for the period 2008 to 2011. This strategy is partly based on the goals defined in the “Better health, Better care” action plan from 2007 and succeeds the report “Building a Health Service fit for the future” and the policy document “Delivering for Health” from 2005. The Scottish eHealth strategy targets key priorities that have been established as part of the wider vision for more integrated care and the use of information to promote better, more efficient and safer care for patients.

In order to consider Scotland’s position regarding eHealth interoperability objectives the following eHealth applications have been examined: patient summaries and electronic health records, ePrescription, standards and telemedicine. In overview Scotland’s situation is as follows:

Scotland has developed the Emergency Care Summary which is widely used. The Emergency Care Summary was set up as part of changes to the provision of out-of-hours services in NHS Scotland. It was initially rolled out in late 2004 and early 2005 in two regions of Scotland. The roll-out across the remaining regions was completed in August 2006.

The electronic health record system is being implemented in a decentralised manner as the eHealth strategy states that a large single database is not preferred. Instead, Scotland envisages building up a clinical portal that presents information to clinicians from a variety of information systems.

The electronic transmission of prescriptions to pharmacies is routine in Scotland since 2007. It also includes a medication record and is referred to as the “ePharmacy. Today, more than 90% of the prescriptions issued in Scotland are sent electronically.

International standards are used in Scotland and the Information Service Division (ISD) of the NHS provides terminology services. In 2004, a data dictionary was developed and is now managed by the ISD.

The Scottish Centre for Telehealth undertakes research and implementation for telemedicine services. It has worked with the Joint Improvement Team, which leads on telecare, to develop a number of ‘telehealthcare’ services for patients in the community in Scotland. As part of the Partnership Improvement and Outcomes Division within the Scottish Government's Health Directorates, the Joint Improvement Team facilitates the implementation of successful telecare projects and has secured £16 million funding for the National Telecare Development Programme. This programme aims to help more people in Scotland live at home for longer, in safety and security, by promoting the use of telecare in Scotland.

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1 Introduction to the report

1.1 Motivation behind the eHealth Strategies study

Following the *Communication* of the European Commission (EC) on "eHealth – making healthcare better for European citizens: An action plan for a European eHealth Area",[1] Member States of the European Union (EU) have committed themselves to develop and issue national roadmaps – national strategies and plans for the deployment of eHealth applications addressing policy actions identified in the European eHealth Action Plan.

The *2004 eHealth Action Plan* required the Commission to *regularly monitor* the state of the art in deployment of eHealth, the progress made in agreeing on and updating national eHealth Roadmaps, and to facilitate the exchange of good practices. Furthermore, in December 2006 the EU Competitiveness Council agreed to launch the *Lead Market Initiative*[2] as a new policy approach aiming at the creation of markets with high economic and social value, in which European companies could develop a globally leading role. Following this impetus, the Roadmap for implementation of the "eHealth Task Force Lead Market Initiative" also identified better coordination and exchange of good practices in eHealth as a way to reduce market fragmentation and lack of interoperability.[3]

On the more specific aspects of electronic health record (EHR) systems, the recent *EC Recommendation on cross-border interoperability of electronic health record systems*[4] notes under "Monitoring and Evaluation", that "in order to ensure monitoring and evaluation of cross-border interoperability of electronic health record systems, Member States should: consider the possibilities for setting up a monitoring observatory for interoperability of electronic health record systems in the Community to monitor, benchmark and assess progress on technical and semantic interoperability for successful implementation of electronic health record systems." The present study certainly is a contribution to monitoring the progress made in establishing national/regional EHR systems in Member States. It also provides analytical information and support to current efforts by the European Large Scale Pilot (LSP) on cross-border Patient Summary and ePrescription services, the epSOS - European patients Smart Open Services - project.[5] With the involvement of almost all Member States, its goal is to define and implement a European wide standard for such applications at the interface between national health systems.

Earlier, in line with the requirement to "regularly monitor the state of the art in deployment of eHealth", the EC already funded a first project to map national eHealth strategies – the eHealth ERA "Towards the establishment of a European eHealth Research Area" (FP6 Coordination Action)[6] - and a project on "Good eHealth: Study on the exchange of good

[1] European Commission 2004
[2] European Commission 2007
[3] European Communities 2007
[4] European Commission 2008
[5] European Patients Smart and Open Services (epSOS)
[6] eHealth Priorities and Strategies in European Countries 2007

practices in eHealth"[7] mapping good practices in Europe - both of which provided valuable input to the present *eHealth Strategies* work and its reports. Member States' representatives and eHealth stakeholders, e.g. in the context of the *i2010 Subgroup on eHealth* and the annual European High Level eHealth Conferences have underlined the importance of this work and the need to maintain it updated to continue to benefit from it.

This country report on Scotland summarises main findings and an assessment of progress made towards realising key objectives of the eHealth Action Plan. It presents lessons learned from the national eHealth programme, planning and implementation efforts and provides an outlook on future developments.

1.2 Survey methodology

After developing an overall conceptual approach and establishing a comprehensive analytical framework, national level information was collected through a long-standing Europe-wide network of national correspondents commanding an impressive experience in such work. In addition, a handbook containing definitions of key concepts was distributed among the correspondents to guarantee a certain consistency in reporting. For Scotland, Diane Whitehouse provided initial information on policies and initiatives and examples for specific applications which has been further rigorously reviewed. Diane Whitehouse is a former European Commission project officer. She is a partner in The Castlegate Consultancy, a United Kingdom-based policy partnership. Over the 15 years, her work has focused on European policy in eHealth and on ICT use by older adults and persons with disabilities. Information on policy contexts and health system situation, policies and initiatives as well as examples for specific applications was collected by the overall project lead - empirica in Bonn, Germany.

The key tool to collect this information from the correspondents was an online survey template containing six main sections:

A. National eHealth Strategy
B. eHealth Implementations
C. Legal and Regulatory Facilitators
D. Administrative and Process Support
E. Financing and Reimbursement Issues
F. Evaluation

Under each section, specific questions were formulated and combined with free text fields and drop-down menus. The drop-down menus were designed to capture dates and stages of development (planning/implementation/routine operation). In addition, drop-down menus were designed to limit the number of possible answering options, for example with regard to specific telemedicine services or issues included in a strategy document. The overall purpose was to assure as much consistency as reasonably

[7] European Commission; Information Society and Media Directorate-General 2009

possible when comparing developments in different countries, in spite of the well-know disparity of European national and regional health system structures and services.

Under Section B on eHealth implementation, questions regarding the following applications were formulated: existence and deployment of patient and healthcare provider identifiers, eCards, patient summary, ePrescription, standards as well as telemonitoring and telecare.

The data and information gathering followed a multi-stage approach. In order to create a *baseline* for the progress assessment, the empirica team filled in those parts of the respective questions dealing with the state of affairs about 3 to 4 years ago, thereby drawing on data from earlier eHealth ERA reports, case studies, etc. to the extent meaningfully possible. In the next step, national correspondents respectively partners from the study team filled in the template on recent developments in the healthcare sector of the corresponding country. These results were checked, further improved and validated by independent experts whenever possible.

Progress of eHealth in Scotland is described in chapter 3 of this report in the respective thematic subsections. The graphical illustrations presented there deliberately focus on key items on the progress timeline and cannot reflect all activities undertaken.

This report was subjected to both an internal and an external quality review process. Nevertheless, the document may not fully reflect the real situation and the analysis may not be exhaustive due to focusing on European policy priorities as well as due to limited study resources, and the consequent need for preferentially describing certain activities over others. Also, the views of those who helped to collect, interpret and validate contents may have had an impact.

1.3 Outline

At the outset and as an introduction, the report provides in chapter 2 general background information on the *Scottish* healthcare system. It is concerned with the overall system setting, such as decision making bodies, healthcare service providers and health indicator data.

Chapter 3 presents the current situation of selected key eHealth developments based on detailed analyses of available documents and other information by national correspondents and data gathered by them through a well-structured online questionnaire. It touches on issues and challenges around eHealth policy activities, administrative and organisational structure, the deployment of selected eHealth applications, technical aspects of their implementation, legal and regulatory facilitators, financing and reimbursement issues, and finally evaluation results, plans, and activities

The report finishes with a short outlook.

2 Healthcare system setting

2.1 Country introduction[8]

Scotland is part of the United Kingdom of Great Britain and Northern Ireland. The UK has many different Administrative levels and county/council areas. To summarise, **England** has 47 boroughs, 36 counties, 29 London boroughs, 12 cities and boroughs, 10 districts, and 3 royal boroughs. Northern Ireland has 24 districts, 2 cities (excluding Armagh, Newry and Lisburn, all recently given city status) and 6 counties. **Scotland** has its own government and parliament. The Scottish Government Directorate for Health and Wellbeing is responsible for health services in Scotland. **Wales** has 11 county boroughs, 9 counties and 2 cities and counties. The UK is a constitutional monarchy. The head of state is Queen Elizabeth II. The Parliament consists of the House of Lords (about 500 life peers, 92 hereditary peers and 26 clergy) and the House of Commons (650 seats whose members are elected by popular vote to serve five year terms unless the House is dissolved before that time).

The box below summarises the key facts about the healthcare situation there:

Key facts about the British healthcare situation:[9]

Life expectancy at birth: 79.9 years;

Healthcare expenditure as a % of GDP: 8.4% (OECD 2007);

WHO ranking of healthcare systems: rank 18;

Public sector healthcare expenditure as a % of total healthcare expenditure: 82% (OECD 2007).

2.2 Healthcare governance

Decision making bodies, responsibilities, and sharing of power[10]

The Directorate of Health and Wellbeing of the Scottish Government is responsible for health policy and the administration of the NHS in Scotland. The government's Chief Medical Officer for Scotland heads the Public Health Policy Unit and is the Health Minister's chief medical adviser. The Chief Executive of the NHS in Scotland leads the central management of the service and is accountable to ministers for the efficiency and performance of the service. The Chief Executive leads NHS Scotland and oversees the work of the 14 area health boards (i.e. the counterparts of English health authorities). As in England, the health boards are responsible for the planning and commissioning of

[8] eUser 2005

[9] Data from World Health Organization 2000; Health Consumer Powerhouse 2008; World Health Organization 2009

[10] Robinson, Dixon et al. 1999

health services for their resident populations and the health boards are responsible for the provision of services.

2.2.1 Healthcare service providers[11]

NHS Scotland provides healthcare to Scottish citizens or UK permanent residents, that is free at the point of need and paid for from general taxation. Though the public system dominates healthcare provision, private healthcare, and a wide variety of alternative and complementary treatments are available for those with health insurance or who are willing to pay for the services directly themselves.

For most people, contact with the NHS begins and ends in primary care. The professionals who provide these services are located in every community. They are composed of GPs, nurses, health visitors, community pharmacists, optometrists, dentists, physiotherapists, occupational therapists, podiatrists, speech and language therapists, and dieticians. They manage 90% of patient contacts with the health service, and co-ordinate the diagnosis, treatment and care of patients, while ensuring that more of these services are provided as close to home as possible. These professionals also have an important role in improving health, by helping patients to take more responsibility for actively managing their own health.

The key building blocks for primary care services are the Local Health Care Community Partnerships. These have developed into responsive and inclusive organisations. They are now the main focus for planning the development of community health services at the heart of a decentralised but integrated healthcare system in Scotland.

[11] Ministry for Health and Community Care 2003

Figure 1: Important features of primary healthcare organisation in Scotland

Political/administrative unit responsible for primary healthcare	Directorate of Health and Wellbeing of the Scottish Government is responsible for health policy and the administration of the NHS in Scotland while care is delivered through Local Health Care Community Partnerships.
Consumer Choice	Patients have a free-choice of GP who refers to further specialist care if needed.
Financing	The National Health Service in the UK is largely funded from general taxation (including a proportion from National Insurance payments).
Public or private providers	Self-employed GPs holding contracts with primary care trusts.
Gatekeeping function of the GP	General practitioners are a patient's first contact point.

2.3 Recent reforms and priorities of health system/public health[12]

In 2004, a National Health Service Reform was introduced in the United Kingdom[13], which included a funding package and a system reform by the NHS. Individual plans were developed for Scotland, Wales, and Northern Ireland. The goals of the reform included such issues as the modernisation of the health infrastructure, increased supply of health professionals, and the definition of national standards.

Scotland intends to exploit the power of knowledge in NHS Scotland with a technology-based knowledge network to be a new strategic and operational framework for delivering knowledge support for the health service. The NHS Education Service in Scotland in partnership with Health Scotland are working together to promote this work.

Currently ongoing reforms in the health and social care systems

The "Public Services Reform (Scotland) Bill"[14] was introduced in the Scottish Parliament on 28 May 2009. It is wide ranging, and covers the dissolution of certain public bodies and the establishment of new national bodies including those responsible for health and social work and social care scrutiny. It seeks to introduce order-making powers to make organisational change easier in specified public bodies and to remove or reduce "burdens" that are seen as holding back "economy, efficiency, productivity or profitability". It also proposes a duty on improvement and scrutiny bodies in Scotland to cooperate with each other and ensure an appropriate "user focus".

Section 5 of the Bill would set up a corporate body called Healthcare Improvement Scotland under primary legislation. It would have a national remit with the aims of "improving the quality of healthcare through supporting NHS Boards and independent

[12] Scottish Parliament 2004; Stevens 2004; Payne 2009

[13] Office of Public Sector Information 2004

[14] Scottish Parliament 2010

healthcare providers in improving patient care by bringing together the provisions of advice, and guidance, support for implementation and improvement and assessment, monitoring and reporting" It is proposed that Healthcare Improvement Scotland will be created by taking on all the current functions of NHS Quality Improvement Scotland and the functions of the Care Commission in relation to the independent healthcare services.

3 eHealth Strategies study results

The following sections present the results of the eHealth Strategies country study. In a first section, the eHealth policy actions undertaken in Scotland are presented. This is followed by a presentation of administrative and organisational measures. Section 3.3 presents results on key eHealth applications. Section 3.4 focuses on the technical side of eHealth, namely the role of patient and healthcare provider identifiers and the role of eCards. Legal and regulatory facilitators as well as financing and reimbursement issues are presented in sections 3.5 and 3.6. The report concludes with evaluation activities (3.7) in the country and an outlook (4).

3.1 eHealth policy action

The eHealth strategies of EU and EEA countries are not always labelled as such. Some countries may indeed publish a policy document which refers to the ICT strategy in the healthcare sector. Other countries such as France and Germany have enshrined the central eHealth activities in legislation governing the healthcare sector. In Germany, the relevant law is the law on the modernisation of healthcare; in France the introduction of an electronic medical record is included in a law concerning social security.

Sometimes, also documents from domains such as eGovernment or Information Society strategies may contain provisions which concern eHealth. In cases where the healthcare system is decentralised, i.e. where power is delegated to the regional level, there may even be strategy documents regarding eHealth from regional authorities.

3.1.1 Current strategy or roadmap

In June 2008, the Scottish Government published an "eHealth Strategy"[15] for the period 2008 to 2011. This strategy is partly based on the goals defined in the "Better health, Better care"[16] action plan from 2007 and successes the report "Building a Health Service fit for the future" and the policy document "Delivering for Health" from 2005[17]. The Scottish eHealth strategy targets key priorities that have been established as part of the wider vision for more integrated care and the use of information to promote better, more efficient and safer care for patients.

eHealth Strategy 2008-2011

The strategy encompasses plans and actions concerning infrastructural, legal, financial issues, as well as standards and evaluations. Furthermore, specific applications are addressed, such as the goal that Scotland's emergency care summary service will be enhanced through additional items concerning patient information and a wider user base.

[15] Scottish Government 2008

[16] Scottish Executive 2007

[17] Kathleen Robson and Jude Payne 2005

For telehealth and telecare, the strategy's priorities are to support home based care for managing long term conditions, delivery of care in remote and rural settings, and improved ways of addressing unscheduled care. The strategy also has a specific section dedicated to financing models of eHealth.

Generally, the strategy document outlines the intention to provide technology in eHealth in Scotland to achieve improved outcomes for patients. It seeks to build on the progress previously made so as to move towards stronger and more integrated support for the provision of care. The description of eHealth is given as:

"Our vision for eHealth is simple: support for the overall NHS Scotland goals as set out in the Better Health Better Care Action Plan. This is about exploiting the power of electronic information to help ensure that patients get the right care, involving the right clinicians, at the right time, to deliver the right outcomes. It is therefore as much about transforming traditional processes as it is about technology."[18]

Scotland's approach can be described as incremental and pragmatic, as it builds on existing concepts and seeks to fill gaps where necessary.

Development towards current eHealth strategy through three reports since 2005 (Kerr Report/ Delivering for Health/Better Health, Better Care)

The eHealth Strategy 2008-2011 document is part of a process that began as a wide-ranging review of the Scottish National Health Service (NHS), the results of which were published in May 2005. In December 2005, the Scottish Executive published an action plan to implement the recommendations of the review. Following Scottish elections in May 2007 and a subsequent change of government, a second action plan was made available in December 2007. In all three documents, consideration is given to eHealth but it is situated within the context of a broader vision of a future Scottish NHS. The documents which have been published since 2005 are the following:

"Building a Health Service Fit for the Future: A National Framework for Service Change in the NHS in Scotland"[19] (May 2005) by the Scottish Executive (the Kerr Report).

"Delivering for Health"[20] (November 2005) which was the first response to the Kerr Report by the Scottish Executive.

"Better Health, Better Care"[21] (December 2007) was the response to the Kerr Report by the newly elected Scottish Government. In this Action Plan, eHealth is seen as a means to improve (1) the efficiency of the health service, (2) the access to health services in remote and rural areas, and (3) the timeliness of service delivery.

"Better Health, Better Care" addresses broader issues within the NHS. It is stated that the vision for Scotland is to move towards "a more mutual NHS where partners have real involvement, representation and a voice that is heard". In terms of this mutuality, the action plan contains a number of proposals that shift ownership and accountability to the people of Scotland and offer them the opportunity to take control of their health.

On a regional level, NHS Tayside and NHS Ayrshire and Arran provide examples of two regional eHealth strategies. These are the "NHS Tayside Strategic Programme for

[18] Scottish Government 2008, p.3

[19] Scottish Executive 2005

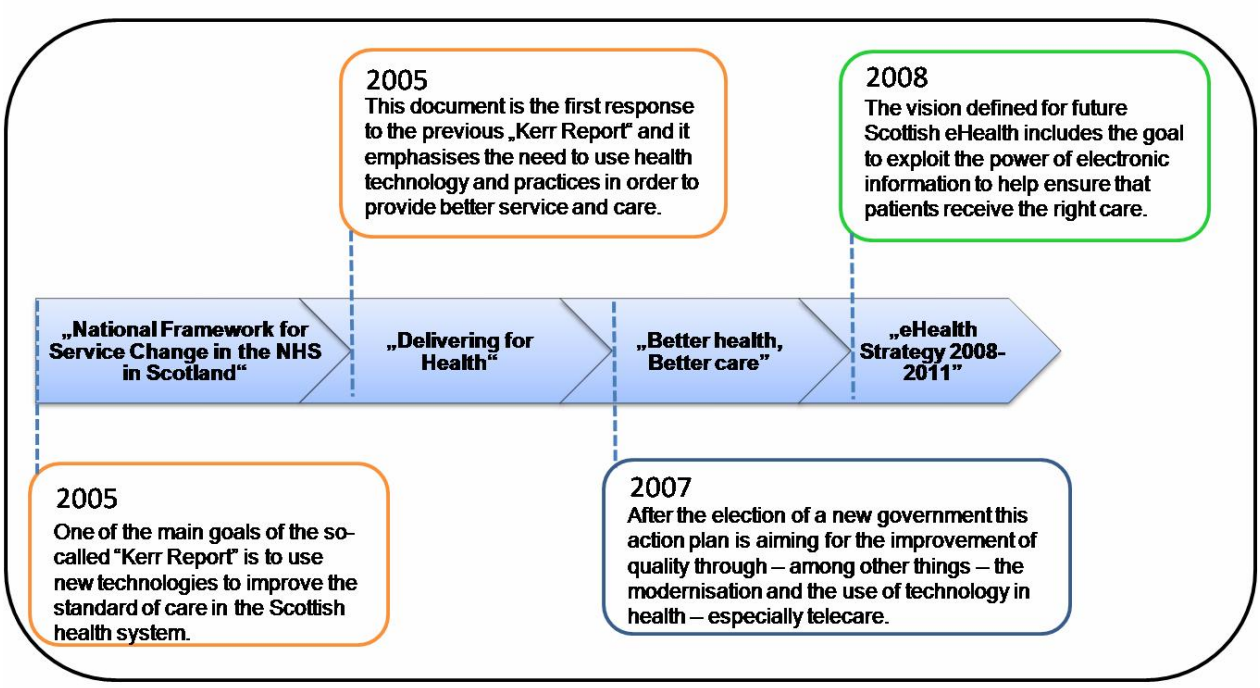
[20] Scottish Executive 2005

[21] Scottish Executive 2007

eHealth 2004-2009" (from July 2005) and the NHS Ayrshire and Arran eHealth Strategy 2006-2008" (from April 2006).

Figure 2 outlines the different Scottish policy documents which have been published over the years, 2005-2008.

Figure 2: Scottish policy documents related to eHealth



3.2 Administrative and organisational structure

In Scotland the work of the eHealth Directorate of the Scottish Government is guided by the eHealth Strategy and Programme Boards which oversee development and coordinate eHealth action.

Directorate for eHealth and the eHealth Programme Board

The Directorate for eHealth is part of the Scottish Government Health Department. Its strategic objective is to support improvements in patient care and service performance in line with Ministerial objectives. It comprises three divisions that are responsible for eHealth Programmes: eHealth Strategy, eHealth Architecture & Design. The eHealth strategy defines in detail the governance arrangements for programmes and projects and associated lines of responsibility.

The eHealth Programme Board reports to the Strategy Board and through its chair, the Chief Executive of NHS Scotland, to the Cabinet Secretary for Health and Wellbeing.

National Health Service National Services Scotland (NHS NSS) contributes specialist expertise, for example in procurement. The Scottish Government's eHealth Directorate supports local implementation of the eHealth Strategy guided by the eHealth Programme Board and the eHealth Strategy Board.

Large-scale stakeholder involvement

Consultations regarding specific eHealth developments such as for the Emergency Care Summary and broader exercises to elicit the views of stakeholders take place to ensure

that patient's views are incorporated.

The eHealth Strategy underlines "the commitment that the eHealth programme will be patient focused, clinically led, and benefits driven." Thus, the document describes the composition and roles of the Clinical Change Leadership Group[22] (CCLG) which is the single national clinical representation group for eHealth.

The Nursing, Midwifery and Allied Health Professions (NMAHP) eHealth Leads Network was established to support the engagement of these professions in eHealth across NHS Scotland. The network is active in both local and national eHealth programmes and supports the CCLG. The network's eHealth Managed Knowledge Network aims to facilitate "an effective operational network of NMAHPs equipped with core knowledge management competences, accessing and sharing knowledge and information resources and good practice, and creating new knowledge as an integral part of eHealth activities within everyday professional practice for patient benefit."[23]

Public consultation through surveys, focus groups, interviews and analysis of complaints

The views of patients and the public have been captured through the Public Consultation on a Patients' Rights Bill[24]. This consultation was achieved through various means. They included an invitation to individuals and organisations to submit written responses; two national consultation events; a series of eight focus groups; and a series of health board-facilitated local consultation events. Continuing consultations and research projects arising from the "Better Together: the Scottish Patient Experience Programme"[25] aim to work with patients and staff across the country to improve the patient experience as stated in the "Better health, Better care" document.

3.3 Deployment of eHealth applications

3.3.1 Patient summary and electronic health record

In this study, the epSOS project's definition[26] of a patient summary was used as a general guideline. There a patient summary is defined as a minimum set of a patient's data which would provide a health professional with essential information needed in case of unexpected or unscheduled care (e.g. emergency, accident), but also in case of planned care (e.g. after a relocation, cross-organisational care path).

Lacking a standard definition, a patient's electronic health record (EHR) is here understood as an integrated or also interlinked (virtual) record of ALL his/her health-related data independent of when, where and by whom the data were recorded. In other words, it is an account of his diverse encounters with the health system as recorded in patient or medical records (EPR or EMR) maintained by various providers like GP,

[22] The Clinical Change Leadership Group (CCLG) was established to bring together senior clinicians from across NHS Scotland, who are involved in eHealth, and who provide clinical advice to the national eHealth Programme Board. The group meets every second month and hold twice-yearly joint meetings with the eHealth IM&T leads to ensure that clinical priorities and IM&T strategy are aligned in NHS Boards.

[23] NHS Education for Scotland

[24] Scottish Parliament 2010

[25] NHS Scotland

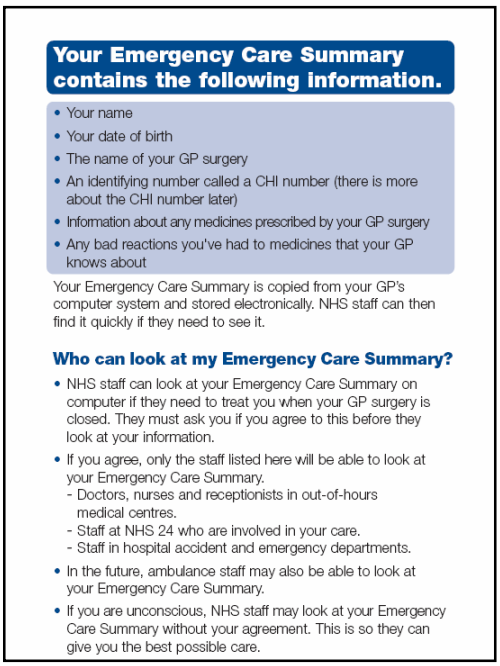
[26] European Patients Smart Open Services

specialists, hospitals, laboratories, pharmacies etc. Such records may contain a patient summary as a subset. As of yet, fully-fledged EHR systems rarely exist, e.g. in regional health systems like Andalucia in Spain or Kronoberg in Sweden, or in HMOs (health maintenance organisations) like Kaiser Permanente in the USA.

It should be noted that in most policy documents reference is made simply to an "EHR" without any explanation of what is meant by it, thereby in reality even a single, basic electronic clinical record of a few recent health data may qualify. As a consequence, this section can only report on national activities connected to this wide variety of health-related records without being able to clearly pinpoint what (final) development stage is actually aimed for or has been reached so far.

Emergency Care Summary (ECS) in place

Scotland has developed the Emergency Care Summary which is widely used. It is a summary of basic information about those aspects of an individual's health which might be important if urgent medical care is required. The Emergency Care Summary has been produced for all patients except for those who have exercised a right to opt out of the system. The data stored encompasses an electronic medication record, emergency care data and demographic details. More precisely, the following data is included:



Your Emergency Care Summary contains the following information.

- Your name
- Your date of birth
- The name of your GP surgery
- An identifying number called a CHI number (there is more about the CHI number later)
- Information about any medicines prescribed by your GP surgery
- Any bad reactions you've had to medicines that your GP knows about

Your Emergency Care Summary is copied from your GP's computer system and stored electronically. NHS staff can then find it quickly if they need to see it.

Who can look at my Emergency Care Summary?

- NHS staff can look at your Emergency Care Summary on computer if they need to treat you when your GP surgery is closed. They must ask you if you agree to this before they look at your information.
- If you agree, only the staff listed here will be able to look at your Emergency Care Summary.
  - Doctors, nurses and receptionists in out-of-hours medical centres.
  - Staff at NHS 24 who are involved in your care.
  - Staff in hospital accident and emergency departments.
- In the future, ambulance staff may also be able to look at your Emergency Care Summary.
- If you are unconscious, NHS staff may look at your Emergency Care Summary without your agreement. This is so they can give you the best possible care.

Scottish Emergency Care Summary data:

- Name, date of birth
- Name of the GP surgery
- Identifying number (the Community Health Index [CHI] number)
- Information about medicines prescribed by the GP surgery and any adverse reactions to medicines that the GP knows about

If the patient is conscious, the individual must give explicit consent for healthcare staff to see the record. The individual can opt out of having an Emergency Care Summary by telling his or her GP surgery. The individual can also ask to see the Emergency Care Summary and ask for any incorrect information to be changed (for more information on patient rights see section 0).

The Emergency Care Summary was set up as part of changes to the provision of out-of-hours services in NHS Scotland. It was initially rolled out in late 2004 and early 2005 in two regions of Scotland. The roll-out across the remaining regions was completed in August 2006. The formal announcement of the Emergency Care Summary was accompanied by a media campaign and the distribution of explanatory leaflets[27] to households and GP surgeries in Scotland (see picture on the right).

[27] Safer Scotland 2006

Generally, the Emergency Care Summary got mixed reviews in Scotland: A report published by Audit Scotland[28] notes that some healthcare staff expressed reservations about its contents. However, a 2009 issue of eHealth Insider[29] reported that 99% of the Scottish population have an Emergency Care Summary, and that emergency care summaries for NHS patients in Scotland have been accessed more than 1.5 million times since 2006.

The development of Emergency Care Summary standards is supported by the Primary Care Directorate within Scottish Government. The electronic health record system is being implemented in a decentralised manner since the eHealth strategy states that a large single database is not preferred. Instead Scotland envisages to build up a clinical portal that presents information to clinicians from a variety of information systems. The aim of the eHealth Strategy is to build a virtual electronic record building on elements that exist and introducing new technology such as a clinical portal. The portal will enable clinicians to have a single point of access to many pieces of information seamlessly.

SCI store as interim measure

As an interim measure, the Scottish Care Information Group, part of Information Services of the NHS National Services Scotland, supplies an application called SCI Store. This information repository provides clinicians with secure access to patient information (such as demographics, test results, documentation, and admission data) at the point of care. It has been implemented in all NHS Health Boards in Scotland.

Challenges related to Scotland's patient electronic health record

Non-technology barriers to data sharing, e.g., between primary and secondary care organisations;

Poor data quality at source (on GP systems);

Clinicians can decline to share data without providing a reason;

Relevant clinical professional groups do not currently share data, but should be encouraged to do so.

In terms of clinical letters (e.g. referral letters, discharge letters) and diagnostic test results, challenging aspects are threefold. They are related to concerns over information sharing; a lack of clarity regarding the organisational level which would decide how and to whom to make this information available; and apart from referral letters and lab results. The relatively small amount of other clinical information that is currently available in electronic form.

Another important obstacle to the development of electronic health records is the actual access to a patient data record. Here, the need for different user interfaces at different points of care delivery, e.g. in-patient, out-patient, accident and emergency is needed. Additionally, the creation of a manageable role-based access control model is strongly recommended.

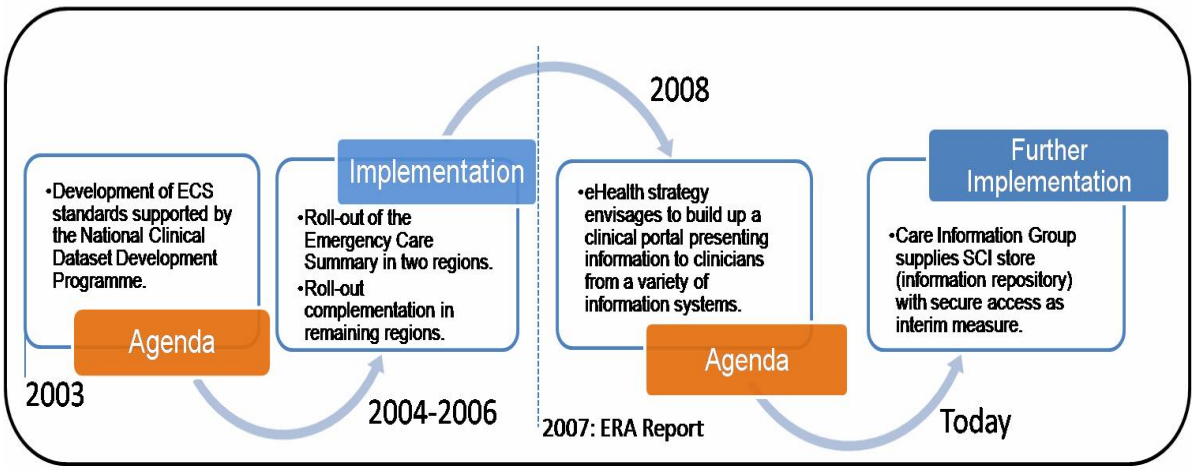
[28] Audit Scotland provides the Auditor General and the Accounts Commission with the services they need to check that public money is spent properly, efficiently and effectively.

[29] eHealth Insider 14 May 2009

Generally, ethical questions about what is in the patient's best interest, resource availability, and the state-of-readiness of different Boards to proceed also form part of the challenges ahead with regard to the creation of electronic health records in Scotland.

Figure 3 below summarises the development of a Scottish patient summary.

Figure 3: Patient summary in Scotland



3.3.2 ePrescription

In the framework of this study and following work developed in epSOS, ePrescription is understood as the process of the electronic transfer of a prescription by a healthcare provider to a pharmacy for retrieval of the prescription by the patient. In this strict sense, only a few European countries can claim to have implemented a fully operational ePrescription service.

Electronic transmission of prescription system in place

The electronic transmission of prescriptions to pharmacies is routine in Scotland since 2007. It also includes a medication record and is referred to as the "ePharmacy".

The development and implementation of this service has taken place within the "ePharmacy Programme: Electronic transfer of prescriptions (ETP) between GP practices and community pharmacies". The Scottish Government established a pilot project within the then Ayrshire & Arran Primary Care Trust (PCT) to develop a system to provide the necessary functionality for the electronic transfer of prescriptions between 2001 and 2002.[30]

This was followed by actions that aimed to create an ePrescription infrastructure.

Today, more than 90% of the prescriptions issued in Scotland are sent electronically.[31]

[30] Community Pharmacy Scotland 2010

[31] Scottish Government 13/07/2009

Measures taken to establish ePrescription in Scotland:

Connection programme from October 2004 to April 2005, which allowed access to the NHS net and NHS mail for community pharmacists;

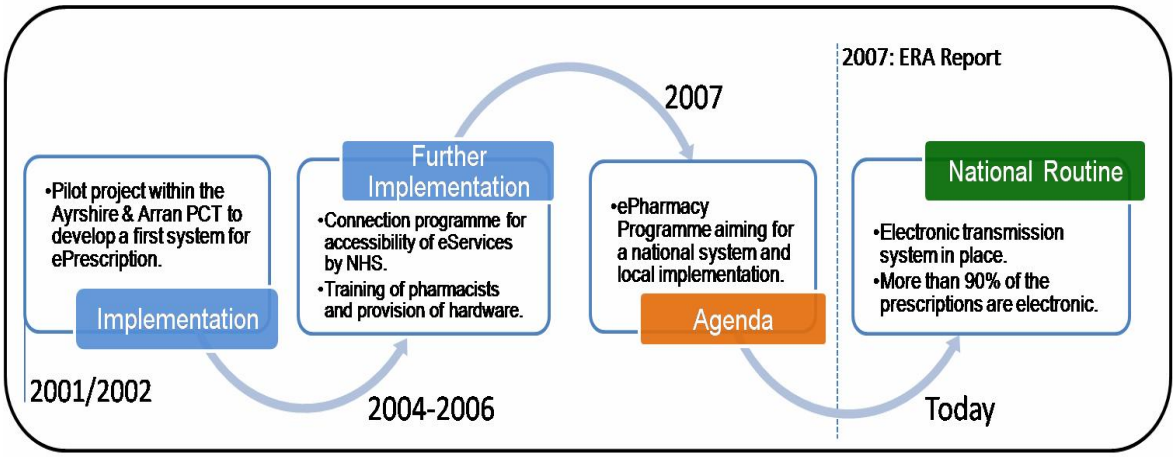
Completion of a community pharmacy contractor hardware audit;

Particular training of pharmacists and their staff;

Introduction of the Electronic Transmission of Prescription Information (ETP) system, which is a key building block in the rollout of the Acute Medication Service and the Chronic Medication Service.

Figure 4 summarises the development of ePrescription in Scotland.

Figure 4: ePrescription progress in Scotland



3.3.3 Standards

Standards are not only crucial to enable interoperable exchange of meaningful information in the healthcare system; they also ensure secure access to patient records by healthcare providers and citizens. This study aims to identify, among other usage, standards related to the domain of health informatics, such as the SNOMED Clinical Terms or the LOINC terminology.

In Scotland, the Information Service Division[32] (ISD) of the NHS provides terminology services that deal particularly with ICD-10, OPCS4, READ and SNOMED CT. ISD gives information on coding and terminology systems, offers training courses, and works closely with the Data Standards Service.

[32] ISD Scotland 2009

In 2004, a data dictionary was developed. It is managed by the ISD as a one-stop shop for health and social care data definitions and standards. It includes a generic dictionary, SMR[33] and clinical datasets as well as other standards.[34]

Information Service Division (ISD) provides terminology services

The United Kingdom is a member of IHTSDO (the International Health Terminology Standard Development Organisation) and Scotland therefore participates in these activities.

The "NHS Connecting for Health"[35] which is the ministry health agency in England which is responsible for delivering the National Programme for Information Technology in the NHS (NPfIT). Its primary role is to deliver new, integrated IT systems and services to help modernise the NHS and ensure care is centred around the patient while SNOMED CT is introduced.

The SNOMED CT standard may logically become the terminology of choice in Scotland, as it covers primary, community and secondary care and encompasses the coding systems used. However significant barriers are in place to ever migrating to SNOMED-CT most importantly a beneficial business case.

Coding systems used in Scotland by the NHS include:

Coding systems used by NHS Scotland:

The International Classification of Diseases, Tenth Revision (ICD-10) for diagnoses;

The Office of Population Censuses and Surveys, Fourth Revision (OPCS4) for procedures and interventions;

Read codes in primary care;

SNOMED CT.

3.3.4 Telemedicine

The use of telemedicine applications is recognised as beneficial to enable access to care from a distance and to reduce the number of GP visits or even inpatient admissions. Commission services define telemedicine as "the delivery of healthcare services through the use of Information and Communication Technologies (ICT) in a situation where the actors are not at the same location"36. In its recent communication on telemedicine for the benefit of patients, healthcare systems and society, the Commission re-emphasises the value of this technology for health system efficiency and the improvement of healthcare delivery[37].

In Scotland, there are a range of terms and definitions used to describe this area of activity – telehealth, telecare and the convergence of these as 'telehealthcare'. The Scottish Centre for Telehealth undertakes research and implementation for telehealth

[33] Scottish Morbidity Record

[34] ISD Scotland

[35] NHS Connecting for Health 2010

[36] Europe's Information Society

[37] European Commission 2008

services. It has worked with the Joint Improvement Team, which leads on telecare, to develop a number of 'telehealthcare' services for patients in the community in Scotland.

Scottish Centre for Telehealth and the Joint Improvement Team

The Scottish Centre for Telehealth was established in 2006. It supports and guides the development of telehealth for clinical, managerial and educational purposes across Scotland. Its approach involves working across boundaries with industry, local authorities and NHS Boards to develop recognised models for redesigning care. The focus is on the support for long-term conditions (with an initial emphasis on COPD[38], paediatrics, and unscheduled care and in remote and rural areas). Furthermore, the Centre provides advice to NHS Boards, and it helps to evaluate the potential benefits of these new technologies.[39]

Scottish Government allocates the equivalent of US $6.1 million for telecare technology designed to help elderly persons

As part of the Partnership Improvement and Outcomes Division within the Scottish Government's Health Directorates, the Joint Improvement Team facilitates the implementation of successful telecare projects. The Joint Improvement Team was established in late 2004 to work directly with local health and social care partnerships across Scotland. In addition, the Joint Improvement Team has secured £16 million funding for the National Telecare Development Programme. This programme aims to help more people in Scotland live at home for longer, in safety and security, by promoting the use of telecare in Scotland. It does so through the provision of a development fund and associated support.[40]

In March 2010, the Scottish Government announced that it will allocate the equivalent of a further $US 6.1 million for telecare technology designed to help elderly persons receive telehealthcare services while in their homes. According to Scotland's public health minister Shona Robison, every local authority will receive up to the equivalent of $US 183,000 for vital high-tech devices. One example is "rumbling pillows" that can alert elderly people with hearing difficulties to the outbreak of a fire. Ultimately, up to $US 8.2 million could be spent through the programme on medical devices, since local health authorities and councils are required to provide matching funding. The Scottish government has invested almost $US 25 million equivalent in telecare technology since 2006.[41]

Challenging aspects of telehealth deployment have been identified by a review[42] of the Scottish Centre for Telehealth that took place between November 2008 and January 2009. The recommendations made summarise several broad challenges that remain after almost three years of operation of the Centre. These challenges are further examined in section 3.7 on evaluation.

In response to the second challenge that was identified in the review, the Scottish Centre for Telehealth joined NHS24 in April 2010. In a statement made to confirm these developments, the Cabinet Secretary said that "New technology offers some incredibly exciting possibilities for giving people better access to healthcare in the 21st century. The Scottish Centre for Telehealth has already been helping individual NHS boards devise

[38] Chronic Obstructive Pulmonary Disease

[39] Scottish Executive 2007

[40] Joint Improvement Team 2010

[41] Management in Practice 2010

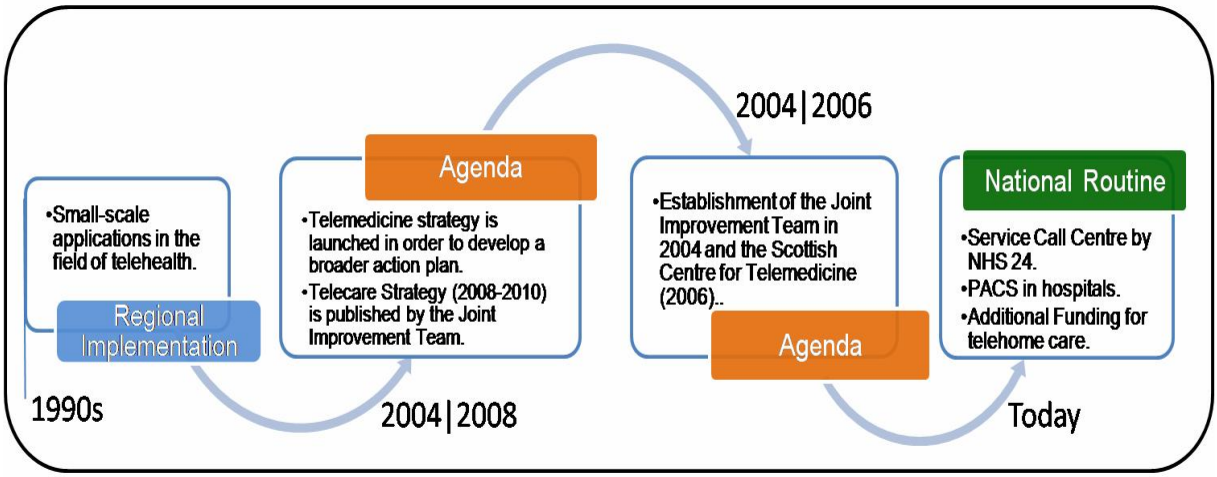
[42] eHealth Directorate 2009

ways of using technology to reach out to patients in our more isolated areas and those with mobility issues. But by integrating it within NHS24, we can ensure that use of telehealth is spread right across Scotland and benefits patients in all our communities."[43]

Additional challenges - and an echo of the need for greater certainty of funding – can be found in two evaluation reports. They are the Evaluation of the Telecare Development Programme Executive Summary[44] by York Health Economics Consortium (YHEC) and the Monitoring Telecare Progress[45] document by Newhaven Research) These aspects are further addressed in the evaluation section 3.7.

Figure 5 summarises the development of telemedical applications in Scotland.

Figure 5: Telemedicine services in Scotland



3.4 Technical aspects of implementation

A key prerequisite for the establishment of an eHealth infrastructure is the ability to uniquely identify citizens/patients and healthcare professionals. This part of the survey deals with identifiers and how they are stored. This section does not deal with the tokens through which identification can or will take place, although one such possibility would be via an eCard. The current section focuses solely on whether or not unique identifiers are in place in Scotland and for which purpose.

3.4.1 Unique identification of patients

Community Health Index Number

Scotland has a dedicated patient ID which is called the "Community Health Index Number" (CHI number). The number is based on the health index, which mainly supports primary care services. The Community Health Index Number is a unique numeric identifier, which is allocated to each patient on first registration with a GP. It has been in existence since the early 1970s and was extended nationwide by the early 1990s.

[43] Scottish Centre for Telehealth 2010

[44] Joint Improvement Team 2009

[45] Newhaven Research 2009

The Community Health Index database consists of eight regional databases linked by a search index according to the Community Health Index Advisory Group in the Scottish National Health Service. The plans for eHealth infrastructure appear to treat the Community Health Index as a single unique number for each patient; however, it is likely to continue in its present distributed form which is similar to the plans made for the national electronic health registry (see section 3.3.1).

Apart from the CHI number, a national insurance number is issued to everyone entitled to take up employment in the United Kingdom. This number is used to determine the eligibility for services and benefits, but not healthcare. Although a plastic card is issued providing the details of the national insurance number, its use is very limited since the individual hardly ever has to quote the number on a form.

3.4.2 Unique identification of professionals

General Medical Council, Nursing and Midwifery Council and Health Professions Council

Healthcare professionals have a dedicated ID in the form of being on a register. All qualified doctors who wish to practice in the United Kingdom must be registered with the General Medical Council[46]. When doctors first make contact with the General Medical Council they are given a unique, seven-digit reference number which they keep throughout their professional career. However, having a number does not mean that the doctor is on the register. The policy that governs the regulation of doctors is set by the United Kingdom's Department of Health and Parliament at Westminster. The General Medical Register has established a General Medical Register Scotland office[47] in order to respond effectively to the devolution of power to Scotland[48].

The Nursing and Midwifery Council registers all nurses, midwives and specialist community public health nurses who wish to practice in the United Kingdom. The Council ensures that they are properly qualified and competent to work in the United Kingdom. When they first join the register, each practitioner is issued a unique personal identification number (PIN).

The Health Professions Council is a regulator that keeps a register of health professionals who meet the Council's standards for training, professional skills, behaviour ,and health. It regulates 14 health professions: arts therapists, biomedical scientists, chiropodists/podiatrists, clinical scientists, dieticians, occupational therapists, operating department practitioners, orthoptists, paramedics, physiotherapists, practitioner psychologists, prosthetists/orthotists, radiographers, speech and language therapists. It has been doing so since 2001.

The data collected through these three Councils is connected through an online facility in order to allow professionals to register and to allow citizens to search the UK-wide registers to see if a particular health professional is on a register.

It is not clear whether these registers will form the basis for identifying healthcare professionals in an eHealth environment. At present, there is no evidence that any regulator views eHealth or an eHealth environment in a way that requires a different type

[46] General Medical Council 2010

[47] General Medical Council

[48] Devolution means the devolving of regional powers to Scotland and away from a centralised base in Westminster. It contributes to ensuring that regulation remains appropriate in Scotland.

of registration. All of the regulators emphasise the need for continuing professional development. Increasingly, registrants must provide periodic evidence of relevant continuing professional development to remain registered. The continuing professional development submissions are likely to contain the only reference to eHealth experience.

At the present time, a discussion is ongoing on the information that is available through the List of Registered Medical Practitioners[49]. A General Medical Council meeting[50] held in January 2009 concluded that both registers – the List of Registered Medical Practitioners and the Specialist Medical Register[51] – would benefit from the inclusion of additional information and more recent, even if not current, information about each registrant.

The content of both registers, and how much of their content is to be available to the public, is under review. This is part of a broader process that is examining the recertification and revalidation of the status of medical doctors. The topic of eHealth as a new criterion, category or specialisation within those registers did not arise.

3.5 Legal and regulatory facilitators

Legal and regulatory issues are among the most challenging aspects of eHealth: privacy and confidentiality, liability and data-protection all need to be addressed in order to make eHealth applications possible. Rarely does a country have a coherent set of laws specifically designed to address eHealth. Instead, the eHealth phenomenon has to be addressed within the existing laws on professional liability, data protection etc.

NHS Code of Practice (2008)

In Scotland, there is no specific legislation for eHealth. However, all institutions have to conform with the Data Protection Act and the Freedom of Information Act. The “NHS Code of Practice (Scotland) July 2008 describes the "best practice in relation to the creation, use, storage, management and disposal of NHS records". It provides information on legal obligations that apply to NHS records, including electronic records, with references to existing legislation. The document outlines the regulations for health records in general. For electronic records, the following procedures are defined:

Patient confidentiality and the security of records applies to paper and electronic records;

Where records are kept in electronic form, wherever possible they should be held within an Electronic Document and Records Management System (EDRMS) which conforms to the standards of the European Union "Model Requirements" (MoReq);

Electronic health record information systems should be password protected and passwords are changed at regular intervals;

Documented procedures are required for the safe storage and retrieval of health records, both manual and electronic;

There are procedures for the safe storage and retrieval of health records, both manual and electronic.

[49] General Medical Council 2010

[50] General Medical Council 2009

[51] General Medical Council 2010

For the safe transmission of electronic patient data no information identifying the patient should be faxed.

The document does not specify:

The location of the data. The location must provide appropriate access to relevant data by authorised personnel with due regard for security.

The authority that is in charge of the registry for a decentralised electronic health record.

Furthermore, there are provisions in the law for the use of electronic patient record data for research, employment or insurance purposes provided the explicit consent of the patient is obtained.

With regard to electronic prescriptions traditionally, legislation has required prescriptions to be in writing and the signed paper form had to be submitted by the pharmacist when claiming reimbursement from the NHS. In 2007 a new description of the term "prescription", explicitly mentioning the electronic form, was therefore introduced through the National Health Service (Primary Medical Services Section 17C Agreements) (Scotland) (Amendment) Regulations 2007 and the National Health Service (Pharmaceutical Services) (Scotland) (Amendment) Regulations 2007. Ever since electronic prescriptions are allowed and considered equal to paper based ones. The patient does however remain the right to receive a paper copy.

Patient Rights Bill and Data Protection Act include e.g. EHR provisions

3.5.1 Patient rights[52]

Patient rights in Scotland were especially on the agenda throughout 2008. In that year the Scottish Government initiated consultations among citizens on the terms of a new Patient Rights Bill. After different forms of consultations, the "Patient Rights (Scotland) Bill"[53] was introduced 17 March 2010. It defines information confidentiality terms and the duty of health professionals and health services to inform the patient at any time. It aims to extend patient rights. At the same time, it calls for greater patient responsibility, such as in attending agreed appointments and in offering staff feedback on health services.

Furthermore, the 1998 "Data Protection Act"[54] defines patient rights in terms of access to personal data and processing of data. The regulations in this act, which especially apply to health records and stored data, are summarised in the document "How to see your Health Records"[55]. In general, the following patient rights are defined (exception to these regulations applies if, for example, the NHS shares personal health information to investigate a serious crime or to protect a child):

[52] Scottish Parliament 2010

[53] Scottish Parliament 2010

[54] Scottish Parliament 1998

[55] Health Rights Information Scotland 2010

Patient rights in Scotland:

The Emergency Care Summary is created automatically, but a right to opt out can be exercised if patients wish this. Healthcare staff have to ask for permission before viewing an Emergency Care Summary - at least if the patient is responsive (i.e. conscious).

An audit record is kept of everyone who has looked at a patient's Emergency Care Summary.

In general there is an assumption that patients presenting for treatment give implied consent for access to health records.

No information can be deleted from a health record except through a court order. The patient can ask for changes to be made to the record. Both the original information and the amendment are then available.

The law contains procedures to allow access to the electronic health records for patient representatives[56].

The patient has access to a paper copy of the electronic health record[57].

3.6 Financing and reimbursement issues

The Scottish Department of Health is the largest single source of funding for eHealth. Scottish Department of Health as source of funding.

Scotland's eHealth budget is set out below. It incorporates support for key elements of the existing IT infrastructure of NHS Scotland, such as national products like the Scottish Care Information Store (see section 3.3.1 for further details) and the Emergency Care Summary. It includes significant contributions to the investments made in connecting the NHS Scotland through the N3 broadband contract. It also incorporates the funds being made available to take forward new work in support of the improvements set out in the eHealth Strategy.[58]

Figure 6: Operating budget costs for eHealth in Scotland

Financial Year	Revenue £ Million	Capital £ Million	Total £ Million
2008-2009	£ 72.2*	£ 55	£ 127.2
2009-2010	£ 97.2*	£ 60	£ 157.2
2010-2011	£ 139.7	£ 50	£ 189.7
Total	£ 309.1	£ 165	£ 474.1

[56] The Scottish Government 2009

[57] Office of Public Sector Information 1990

[58] Scottish Parliament 6 May 2009

Note: *Budget Bill amendment – Revenue reduced by £ 5 million in 2008-2009 and returned in 2009-2010.

The first national survey of Information Management and Technology (IM&T) expenditure was carried out throughout the financial year 2006-2007. It highlighted that IM&T expenditure in Scotland was just under £227 million. Some 78% of the allocated money – a combination of capital and revenue – was spent on computer software, hardware, and related services.[59]

In terms of financial resources received from international funds, the Scottish Telecare Strategy of 2008 aimed at engaging in European pilots for third generation telecare/telehealth through the European Commission Seventh Framework Programme.[60] Furthermore, experts from Scottish institutions are participants in European studies or European co-financed projects.

3.7 Evaluation results/plans/activities

From a public policy perspective, evaluation is a key activity in the policy-cycle. It provides insights into the success or failure of a policy or project and leads to new policy goals and new methods of implementation. The need for evaluation of eHealth policies and projects has been stressed time and again by the EC, not least in order to further the spread of eHealth in the process of healthcare delivery.

In Scotland, the eHealth Directorate, through the eHealth Programme Board, is responsible for evaluating eHealth activities. It is stated that "[t]he eHealth Programme Board requires that the business case for any project funded by Scottish Government eHealth Directorate includes details of how the project will be evaluated. Project evaluation should address: measurable quality improvements; benefits realisation, and, where appropriate, efficiency savings. Projects must report regularly to the eHealth Programme Management Office, including details of progress against planned milestones, risks and issues."[61]

Furthermore, “Audit Scotland”[62] carries out healthcare reviews. It supports the Auditor General and the Accounts Commission to make sure organisations that spend public money in Scotland use it properly, efficiently and effectively. This is done by carrying out financial and performance audits – that is, detailed and systematic investigations – of various aspects of how public bodies work. These audits mainly form a part of a larger process rather than being stand-alone.

Several evaluations of eHealth in Scotland have been carried out, two of which address the telemonitoring and telecare sector.

The recent Review of the Scottish Centre for Telehealth[63] assessed the Centre’s method and structures. It was published in October 2009 by the eHealth Directorate. Owing to the

[59] Scottish Parliament 6 May 2009

[60] Joint Improvement Team 2008, p.16

[61] In reply to a written question in the Scottish Parliament about how the evaluation of eHealth projects through to implementation is carried out, Nicola Sturgeon replied, 16 July 2009; S3W-25263

[62] Audit Scotland

[63] eHealth Directorate 2009

brief time permitted for the review (which took three to four months), the document provides a high level assessment rather than a detailed analysis. The review aimed to:

Examine the Centre's current method of working;

Examine the Centre's success, or otherwise, in guiding the development and implementation of telehealth applications in Scotland;

Make a series of recommendations about the funding of telehealth beyond March 2009.

The assessment of these three aspects was encapsulated in the following main recommendations:

Recommendations with regard to the Scottish Centre for Telehealth:

The Centre's governance arrangements should be streamlined and improved;

The telecare landscape should be simplified with the Centre joining one of the Special Boards (since a number of organisations have overlapping and complementary areas of responsibility): the best fit would be NHS24[64];

Telehealth and telecare programmes should be more closely integrated, and the terms (and definitions) used should be simplified;

The Centre should become more strategic, focusing on a few clinical areas initially, for example stroke and paediatrics, moving them from pilot to universal use;

The Centre requires a telehealth strategy that is underpinned by an IT infrastructure plan;

Action is required to improve bridging and videoconferencing services;

Consideration should be given to the introduction of an element of core funding for national telehealth solutions.

As the result of this eHealth Directorate review, and the recommendations outlined above, the Scottish Government announced on October 2, 2009 that the Scottish Centre for Telehealth would be integrated into NHS24 in 2010. This re-organisation has now taken place.

Two further evaluation reports, both concerning telecare, were carried out by researchers from the York Health Economics Consortium and Newhaven Research, both commissioned by the Joint Improvement Team.

Between 2006 and 2008, an independent evaluation of effectiveness and impact of the Telecare Development Programme as carried out by the York Health Economics Consortium. The study monitored activities funded by the Programme in order to assess their effect. The study had the following objectives:

To develop an overall monitoring and evaluation framework that is cost-effective and fit for purpose;

To assist local Partnerships to identify and collect the information needed to undertake effective monitoring and evaluation;

[64] NHS24 provides comprehensive up-to-date health information and self care advice for people in Scotland. It can be reached through a phone service and http://www.nhs24.com.

To provide an evidence base at the conclusion of the project demonstrating both the extent of any efficiency gains attributable to telecare solutions, and of specific benefits delivered to particular users, or groups of users of telecare services;

To assess the performance against the objectives of the Telecare Development Programme. These include both quantitative (reduce the use of care homes) and qualitative (improve the quality of life of users of telecare services) targets.

While targeted efficiency savings appear to have been met or exceeded, several concerns were noted. These are grouped as follows:

Concerns related to the Scottish Telecare Development Programme:

Uncertainty about the availability of future capital and operational funding;

High demand on resources that are required to change the existing culture and work practices. This is evident not only among healthcare staff but also within partnerships (e.g., healthcare and social services) that have jointly implemented a telecare solution;

Lack of awareness of telecare solutions;

Lack of buy-in by healthcare staff.

In 2008, the Joint Improvement Team commissioned Newhaven Research to carry out a review of the Telecare Development Programme that followed on from the evaluation by the York Health Economics Consortium. The resulting report, "Monitoring Telecare Progress"[65] was published in May 2009. This report provides evidence of progress against the telecare business plan and in broader terms, against the Telecare Strategy 2008-2010. Among the principal findings are the following aspects:

Cost efficiencies continue although these can only be estimated;

Telecare significantly improves the quality of life of both clients and carers;

In the third year of the Telecare Development Programme, telecare is not perceived across all partnerships as a mainstream service; for a significant minority it remains, and will remain, a peripheral activity;

Uncertainty about future telecare funding remains. Various attempts to charge for responder services have produced very different results.

Organisational culture and work-practice issues remain. These range from difficulties in recruiting and retaining staff, through the additional, telecare-specific training requirements, to the absence of cross-service cohesion.

[65] Newhaven Research 2009

4 Outlook

Scotland has its own Parliament and Executive. It is one of the four home countries of the United Kingdom. It has the right to pursue its own concepts of eHealth development.

Scotland tends to follow a rather incremental and pragmatic approach to eHealth.

First, eHealth in Scotland is dedicated towards improving healthcare more than increasing technology. Developments and changes are applied to Scotland's healthcare system; technology is used to provide additional improvements or as a tool for further enhancement of the system. These changes are mostly defined at a national level and are then delegated for local implementation in combination with national supervision of the eHealth Directorate and the eHealth Programme Board.

Second, stakeholders are very involved in the process in Scotland. Patient consultations and the inclusion of a variety of networks into NHS development are regarded as essential to ensure improvements. This approach is also connected with the idea that a patient should not only receive more rights within the health system but should also take on more responsibility for his/her own health management.

The goals and strategies that have been developed in Scotland have built mostly on existing structures. Thus, tools are created that fit the system, and not the other way around.

Health Services are devolved to Scotland's own parliament and executive from the UK Parliament. The funding for the Scottish Government comes from the UK Treasury allocated as part of the annual spending review.

5 List of abbreviations

CCLG	Clinical Change Leadership Group
CHI number	Community Health Index number
COPD	Chronic Obstructive Pulmonary Disease
DRG	Diagnosis Related Group
EC	European Commission
EDRMS	Electronic Document and Records Management System
EEA	European Economic Area
EHR	Electronic Health Record
EMR	Electronic Medical Record
EPR	Electronic Patient Record
epSOS	European patients Smart Open Services
ERA	European Research Area
ETP	Electronic transfer of prescriptions
EU	European Union
GDP	Gross Domestic Product
GP	General Practitioner
HCP	Healthcare Provider
HL7	Health Level Seven International (authority on standards for interoperability)
HPC	Health Professional Card
ICT	Information and Communication Technology
ID	Identification (e.g. number, card or code)
IHTSDO	International Health Terminology Standards Development Organisation
IM&T	Information Management and Technology
ISD	Information Service Division
IT	Information Technology
LSP	Large Scale Pilot
MoReg	Model Requirements
NHS	National Health Service
NMAHP	Nursing, Midwifery and Allied Health Professions

NPfIT	National Programme for Information Technology
OECD	Organisation for Economic Co-operation and Development
PCT	Primary Care Trust
PHS	Personal Health System
PIN	Personal Identification Number
R&D	Research and Development
SMR	Scottish Morbidity Record
UK	United Kingdom
WHO	World Health Organization
YHEC	York Health Economics Consortium

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