

Country Brief: Poland

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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.

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Executive summary

The Polish eHealth strategy “The Plan of the Informatisation for e-Health for the years 2010-2015” („Plan Informatyzacji e-Zdrowie na lata 2010-2015”) defines key goals and activities for the further development of an eHealth system in Poland and refers to the EU eHealth Action Plan (2004). In 2008, the “Strategy for the Development of the Information Society in Poland until 2013”¹ was launched by the Ministry of Interior and Administration and included the implementation of “ICT in the healthcare sector by the development of telemedical applications (e-health); including medical reporting, financial reporting, electronic healthcare records, e-prescription and information services, e.g. teleconsultations and registration on the Internet, etc”. Prior to this, in 2005, was another important document: the “Strategy of Development of Health in Poland” for the years 2007-2013.

In order to consider Poland’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 Poland’s situation is as follows:

In Poland, a basic patient summary is planned for 2013 alongside which the integration of registries into a Medical Information System will occur. Currently in use is a system managed by the National Health Fund² (NFZ), which concentrates more on cost control. Establishment of an IT infrastructure for Polish healthcare is also planned in order for Poland to become a member of the Electronic Health Record Area in Europe.

On April 27, 2010, Poland’s government highlighted the need for electronic prescription. Currently, ten software companies have bid for a contract to develop a national ePrescription programme. The decision as to which one to use is currently pending. This national initiative is accompanied by a regional ePrescription pilot in Wielkopolska, which started in 2009.

In Poland, a government-mandated competence centre, the “National Centre for Information Systems in Healthcare”³ (Centrum Systemów Informacyjnych Ochrony Zdrowia) is in charge of the standardisation processes in electronic healthcare and assisted by “Polish Company of Medical Standards” (Polskie Towarzystwo Standardów Medycznych) and the “Medical Technologies Assessment Agency”⁴. International standards are used in Poland and IHTSDO membership is under consideration.

At present telemedicine service are mostly used in small academic projects within Poland. However, large scale initiatives are in planning such as the developing of infrastructure required for teleconsultations, health teleconferences and teleeducation by 2011 in the Wielkopolska region.

¹ Ministerstwo Spraw Wewnętrznych i Administracji and [Ministry of Interior and Administration] 2008

² National Health Fund

³ Centrum Systemów Informacyjnych Ochrony Zdrowia and Healthcare]

⁴ Agencja Oceny Technologii Medycznych and [Medical Technologies Assessment Agency]

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1 Introduction to the report

1.1 Motivation of 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”⁵ 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*⁶ 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.⁷

On the more specific aspects of electronic health record (EHR) systems, the recent *EC Recommendation on cross-border interoperability of electronic health record systems*⁸ 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.⁹ 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)¹⁰ - and a project on “Good eHealth: Study on the exchange of good

⁵ European Commission 2004

⁶ European Commission 2007

⁷ European Communities 2007

⁸ European Commission 2008

⁹ European Patients Smart and Open Services (epSOS)

¹⁰ eHealth Priorities and Strategies in European Countries 2007

practices in eHealth"¹¹ 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 Poland 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 Poland, Adam Turowiec provided information on policy contexts and situations, policies and initiatives and examples for specific applications. Currently, he has a vice-chair of the AMI@Work Community¹² and of the rural@work Community¹³. He is also a vice-president of the Polish Association for Regional Development and Entrepreneurship.

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

¹¹ European Commission; Information Society and Media Directorate-General 2009

¹² AMI@Work and Family of Communities

¹³ AMI@Work and Family of Communities

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 Poland 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 Polish 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 introduction¹⁴

Poland has four levels of government: national (central), regional (voivodship), provincial (powiat) and municipal (gmina). There are 16 regions - voivodships, further divided into local governments, which include 314 provinces plus 65 urban provinces and 2478 municipalities - gmina. The municipality (gmina) is the smallest legal entity and at the same time the smallest unit of the administrative system in Poland that carries out public tasks on its own behalf and responsibility. Responsibilities of the municipalities include all issues with local significance. They provide the majority of public services, either as the municipality's own task, or delegated from a higher level of government. Powiat is a local self-governing community. Cities of more than 100,000 inhabitants have the powiat status, as well as those no longer being the seat of voivodships. Voivodship is the regional self-government community and the largest unit of the administrative system. Based on the Act of July 1998 there are 16 voivodships in Poland.

Poland is a member of the United Nations, the Council of Europe, the Organisation for Economic Co-operation and Development, the Central European Free Trade Association and the Central European Initiative.

Since 1999¹⁵, the healthcare system has undergone major structural changes, and moved from a centralised system of national health service financed with state budget to a decentralised mandatory health insurance. Sixteen regional sickness funds were established apart from a separate fund for uniformed public employees such as army and railroad workers. However, in consequence of rising user discontentment with the reform, they were merged again into a single National Health Fund (NHZ) in 2003. The reasons for the discontentment with the reforms were multiple. The main causes seemed to be a bad image of reforms in the press coupled with the use of health reform issues for election campaigns. Decreased access to services during this period without notable improvements in service, quality and financial problems at the regional fund level were among the other reasons.

In 2005, the stewardship, management and financing functions in the Polish healthcare system were divided between three different types of institutions: 1) Ministry of Health; 2) National Health Fund and 3) Territorial self-government administration.

Unfortunately, these reforms were not able to prevent the Polish healthcare system from declining. The healthcare system suffers from structural inefficiencies which can not be remedied merely by capital investments. The Polish government therefore published a report "Recommendations of the White Summit Conference" in March 2008 in collaboration with the social partners¹⁶.

The box below summarises the key facts about the Polish healthcare system:

¹⁴ eUser 2005; Kuszewski and Gericke 2005

¹⁵ When the Law on Universal Health Insurance was introduced.

¹⁶ Ministry of Health 2003

Key facts about the Polish healthcare system:¹⁷

Life expectancy at birth: 75.4 years

Healthcare expenditure as % of GDP: 6.4% (OECD 2007)

WHO ranking of healthcare systems: rank 50

Public sector healthcare expenditure as % of total healthcare expenditure:
70.8% (OECD 2007)

2.2 Healthcare governance

Decision making bodies, responsibilities, sharing of power

The Minister of Health has the overall responsibility for healthcare and its organisation. For some areas, the Ministry has kept direct managerial functions, including the State Medical Emergency Service, health resort treatment, and the regulation of the medical professions. It is responsible for coordinating health policy programmes according to cost-benefit aspects.

On 1 January 1999, a new fundamental three-tier territorial division of the country was introduced, based on gminas, powiats and voivodships. At each level of the self-government administration, health authorities are responsible for three domains: general strategy and planning based on the identified health needs in a given region, health promotion, and the management of public healthcare institutions.

Health service delivery plans were regularly developed by voivodship self-governments. Currently, they are being prepared by the National Health Funds. The health service delivery plans define essential health needs and the volume of health services needed to meet them, as well as proposed solutions for existing health problems perceived from a long-term perspective. Planning for and meeting the health needs of the population are carried out along the time dimension (short-term, annual and long-term plans) and according to geographic/territorial considerations.

Healthcare service providers

The administration of most health services was transferred in 1991 from the national Ministry of Health and Social Welfare to the provinces (voivodships) and to a lesser extent to the local (gmina) authorities. The second step, from 1993 onwards, was to devolve ownership of most public sector health facilities to the provinces and to the local governments. The gminas previously had little involvement in healthcare services. Further, the old level of the powiats was re-established in 1998 and took over responsibility for county hospitals.

Hospitals provide healthcare services in four basic departments: internal medicine, surgery, obstetrics and gynaecology and paediatrics. The departments are used to classify hospitals according to referral levels. Hospitals that only have the four basic

¹⁷ Data from World Health Organization 2000; Health Consumer Powerhouse 2008; World Health Organization 2009

departments are known as first referral level hospitals and they are mainly established by county self-governments. Second referral level hospitals, mostly established by voivodship self-governments, provide services in other specialisations, e.g. cardiology, dermatology, oncology, urology or neurology, and are called voivodship specialised hospitals. The third referral level hospitals, mostly university or ministerial hospitals, provide highly specialised medical care performed by top medical specialists.

Outpatient specialised healthcare is strictly separated from inpatient healthcare structures. The outpatient specialised sector is mostly based in private medical practices, except in large cities, where outpatient specialised care has developed on the basis of the former specialised healthcare centres, operating now as independent healthcare institutions.

Figure 1: Important features of primary healthcare organisation in Poland

Political/administrative unit responsible for primary healthcare	Primary healthcare is provided by GPs [Lekarz Podstawowej Opieki Zdrowotnej], who are employed by public or private healthcare institutions (that have a valid contract with the National Health Fund). Public healthcare institutions [Publiczny Zakład Opieki Zdrowotnej] are founded and supervised by regional and local governments. The Ministry of Health is responsible for shaping the health policy in the country.
Consumer Choice	Patients can freely choose their GP, however the third (and any further) change in a given year must be paid.
Financing	The public healthcare system in Poland is financed by state budget; an obligatory health insurance (paid to the National Health Fund) equals to 9% of person's income (of which 7.5% is deducted from the income tax).
Public or private providers	Both: Healthcare services can be provided by public or private healthcare institutions (that have to have a valid contract with the National Health Fund in order for a patient to have their services refunded).
Gatekeeping function of the GP	GPs are generally the first contact point for a patient. If specialist treatment is necessary, GPs direct their patients to dedicated doctors/institutions; only visits to a selected number of specialists do not require GP's referral e.g. gynaecologist, ophthalmologist, oncologist, psychiatrist, dermatologist and venereologist, and dentist.
Integrating health: initiatives for coordination	Apart from health plans provided by private institutions, there are four independent public healthcare systems that subordinate to the Ministry of Defence (also providing services for people working in military and their families), Ministry of Interior and Administration (also providing services for employees of the police and their families), Ministry of Justice, and Internal Security Agency.

2.3 Recent reforms and priorities of health system/public health¹⁸

The reforms of the healthcare system, initiated in 1989, were parallel with reforms of the national economy. Life expectancy was extended by four years as the low birth rate and the costs of pharmaceuticals and high medical technology continued to grow.

Positive effects of the reforms were manifested e.g. by shorter hospitalisations, improvement of primary healthcare, or restructuring of hospitals, including a decrease in the number of hospital beds. Following the system transformation in Poland, a number of solutions which were introduced over 1991-1998, focused on establishing a regulated market of services in the public healthcare system.

Numerous attempts to modify and improve the healthcare system failed to eliminate the negative phenomenon which was the reason why – in the public opinion – the public health service was assessed negatively. In the late nineties, the need to enforce new reforms was recognised as a priority by the Government of the Republic of Poland.

As a result the 1997 general health insurance act enforced on January 1st 1999 created a new insurance-budgetary model of healthcare funding. The state budget was no longer responsible for funding health services. The separation of functions of the payer for health services from the health service's organiser and provider became a crucial matter.

Currently ongoing reforms in the health and social care systems¹⁹

Current health policy reforms are primarily aimed at: tackling the demographic challenges of population ageing; reducing hospital debts; restructuring the health sector; introducing alternative sources of revenue for healthcare financing; optimisation of the health insurance system; and improving the control of rising health expenditures. A comprehensive health information technology programme on a national scale is planned to better inform health policies with routine health services statistics.

Furthermore, in the long lasting process of healthcare reform a painful shortage of relevant expertise was felt. Most fundamental decisions were made without careful analysis or empirical diagnosis. For example, decentralised sickness funds were implemented with no evidence they would be efficient in terms of health improvements or money savings. Similarly, the decision to cancel them was taken under the pressure of public opinion and critical voices were never verified.

Many attempts were initiated to solve the problem - to set up an institution staffed by professionals and with access to current information about developments taking place in other countries. By 2007 no success had been achieved. The decision made then was finally amended in 2008 when the National Institute of Public Health received its statute.

¹⁸ Ministry of Health 2003

¹⁹ Włodarczyk 2008

2.4 ICT use among general practitioners

This section will give a brief overview of important ICT related infrastructure and services data. It draws on earlier studies conducted by empirica, notably the Indicators eHealth study²⁰. Although the results of this study date from 2007 and may therefore not reflect the latest changes, a more recent pan-European survey is not available.

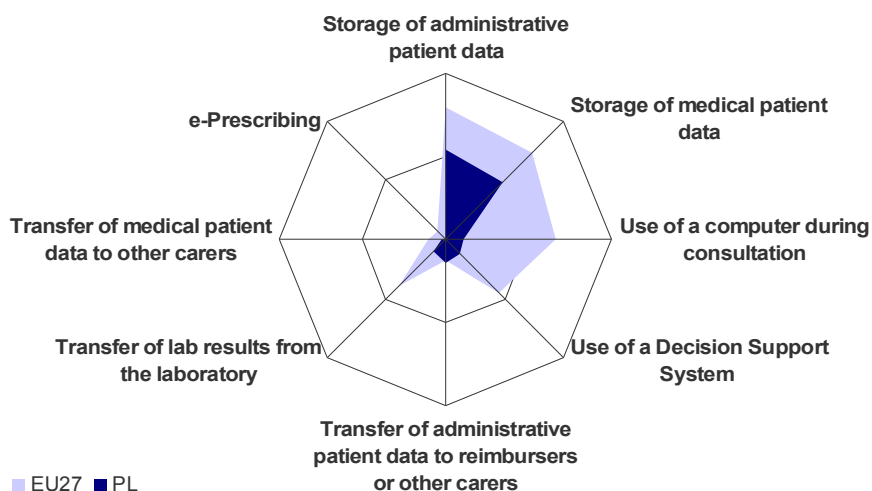
As of 2007, 72% of Polish GP practices use a computer. 62% of practices utilise an Internet connection. In Poland, broadband connections have not yet arrived in force; they are used in only 32% of GP practices.

Poland displays its best eHealth performance in the area of patient data storage. Administrative patient data is recorded in around 50% of Polish GP practises while at least some type of medical electronic patient data is registered in around 40% of the GP practices.

In Poland, computers are used in consultation with patients only to a limited extent (11% of the GP practices). 19% of Polish GPs use Decision Support Systems either for diagnosis or prescribing purposes. The electronic transfer of individual patient data has, as yet, not really arrived on the agenda of Polish GPs. An exception is the exchange of administrative patient data with reimbursers via networks, which is used by 23% of Polish GP practices. The exchange of medical data via networked connections is much less common: only 2% of the GP practices participating in the survey reported having exchanged medical data with other care providers while 10% received results from laboratories this way.

In Poland none of the GPs that participated in the survey reported using ePrescribing. In the 2010 there is a plan to introduce, based on the Structure Funds finance resources, pilot implementation of e-prescribing in one region of Poland called Wielkopolska. This will be also relevant to Polish participation in a European large project called epSOS.

²⁰ ICT and eHealth use among General Practitioners in Europe 2007

Figure 2²¹: eHealth use by GPs in Poland

Indicators: Compound indicators of eHealth use (cf. annex for more information), % values. Source: empirica, Pilot on eHealth Indicators, 2007.

The rather low level of eHealth use can be attributed to the fact that this policy field is relatively new in Poland. A first and very basic eHealth strategy has only been developed as late as 2004. An earlier World Bank project focused solely on the information infrastructure in Polish hospitals and therefore had no impact on ICT use in GP practices. Until now the lack of appropriate information technology has hindered the further development and use of eHealth applications. These infra-structural prerequisites are to be established in the upcoming years according to the priorities set in the national eHealth strategy of 2009.

3 eHealth Strategies survey results

The following sections present the results of the eHealth Strategies country survey. In the first section, the eHealth policy actions undertaken in Poland are presented. This is followed by a presentation of administrative and organisational measures taken. 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 the following chapters, 3.5 and 3.6. The report concludes with evaluation activities (3.7) in the country and an outlook (4.).

²¹ The notion of „compound indicator“ designates an indicator build from a set of other indicators/survey questions regarding the same topic. The compound indicator reflects an average calculated from different values. (see Annex) The final results of the study on eHealth Indicators is available at www.ehealth-indicators.eu.

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/roadmap

In general, policy strategies, which are developed by the Ministry of Health, are part of a wider vision on the development of an information society in Poland called PIOZ. The “Healthcare Digitalisation Programme” PIOZ is concerned with the implementation of IT projects (mostly financed by Structural Funds). This also applies for the eHealth strategy documents, published in 2004 and 2009 and finally accepted in 2010.

The Polish eHealth “ The Plan of the Informatisation for e-Health for the years 2010-2015” („Plan Informatyzacji e-Zdrowie na lata 2010-2015”) defines key goals and activities for the further development of an eHealth system in Poland. The key goals are the following:

Key goals of Polish eHealth strategy:

Facilitating access of citizens to information related to healthcare

Making the healthcare system more effective through electronic document flow implementation

Medical information system

Practical realisation and development of IT solutions which are compliant with EC’s recommendations in the area of Electronic Health Record

Further, the following key activities are laid out in the document. These include:

- Internet in every healthcare institution
- Implementation of uniform IT standards for healthcare providers
- Implementation of medical information system
- Integration of databases and registers (e.g. register of healthcare centres (ZOZ), register of pharmacies, register of healthcare professionals, patient registration system)
- Development of central information portal for the healthcare system
- Development programme for the central patient registration system
- Preparation of legislative framework for telemedicine
- e-learning trainings for medical personnel and children

Polish eHealth Strategy for the years 2004-2006 and 2009-2015

Earlier eHealth documents in Poland include the strategy prepared in 2004 by the Ministry of Health: “Poland – e-Health Strategy for 2004-2006”²². It was accepted as an internal document within this Ministry but not as an official policy document by the Council of Ministers. The document “Poland – e-Health Strategy for 2004-2006” became practically available for a broader audience in the December 2004.²³

The main strategic targets of the national health strategy cover:²⁴

- The development of an information technology infrastructure in healthcare institutions;
- The creation of central databases and registers for the healthcare system;
- The promotion of access to healthcare information;
- Safety and security of medical data;
- Availability of telemedicine services;
- Health-related education and health promotion

Both, Polish eHealth Strategy for the years 2004-2006 and the eHealth Strategy for the years 2009-2015 refer to the EU eHealth Action Plan (2004).

In 2008, the “Strategy for the Development of the Information Society in Poland until 2013”²⁵ was launched by the Ministry of Interior and Administration. It is aiming for “a society where citizens and enterprises consciously use the potential of information as economic, social and cultural value, with effective support from a modern and friendly public administration”. This also includes health, as a key task of the policy paper is to implement “ICT in the healthcare sector, by the development of telemedical applications (e-health); including medical reporting, financial reporting, electronic healthcare records, e-prescription and information services, e.g. teleconsultations and registration on the Internet, etc”.

“Strategy of Development of Health in Poland”

Another important document is the “Strategy of Development of Health in Poland” for the years 2007 until 2013. The document was prepared by the National Centre for Health Information Systems on behalf of the Polish Ministry of Health. The Strategy was accepted by the Council of Ministers on June 21, 2005. The context of eHealth related activities is covered in the operational objective 2.2 titled: “Reduction of information deficiencies in the domain of formation of health politics”. The specific tasks conducted in the context of eHealth area enlisted in the strategy are the following:²⁶

- Development of the system of health information with the aim of the analysis of the level of demanded health services;
- Promotion of access to health-related and service provision information for citizens (repositories of health contents, national health portal);
- Development and implementation of the information system supporting management in hospitals and other health facilities;
- Development of information system on medication orders and consumption.

²² Ministerstwo Zdrowia [Ministry of Health] 2004

²³ Mariusz Duplaga, Mikołaj Leszczuk et al. 2007

²⁴ Duplaga 2007

²⁵ Ministerstwo Spraw Wewnętrznych i Administracji and [Ministry of Interior and Administration] 2008

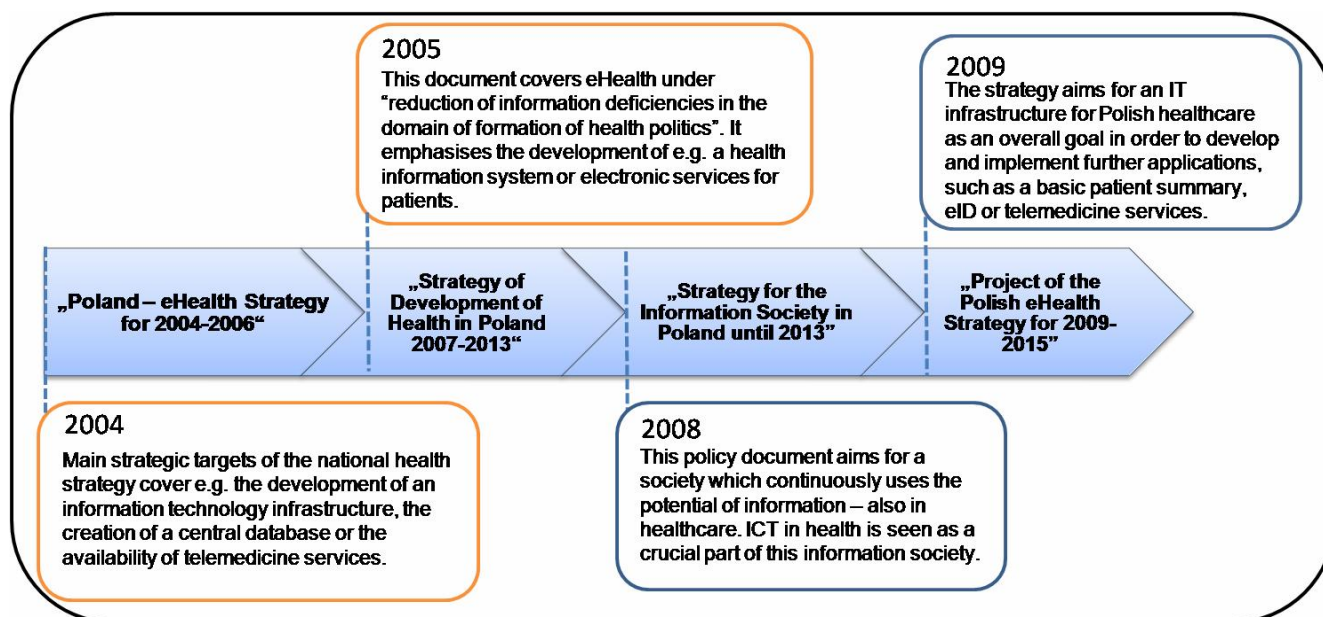
²⁶ Duplaga, Leszczuk et al. 2007

Lodz Voivodship develops first regional policy paper on eHealth

At a regional level, the Lodz Voivodship developed a policy paper called “Strategy of the development of the information society in Lodz Region for 2007-2013”²⁷. This programme was realised through a European Regional Operating Programme. The strategy determines priorities, directions and the height of investments which the Lodz Region should intend for projects and actions connected with the subject eHealth from 2007 to 2013. The priority of this first Polish regional initiative is the “[i]mproved quality of medical services and increased effectiveness of the healthcare system by ensuring the role of one of the driving forces behind the innovative development of the Voivodeship for eHealth issues”.²⁸ Key projects, which derived from the Lodz strategy, are the following:

- RSIM – Regional System of Medical Information
- MeDICIS – Regional Platform of Information and Distance Medical Advice
- SIMPRE – Regional System of Data Interchange and Management of the Patient's Information
- CAPPRO – Programme of Training on and Creating the Capital of eHealth Knowledge
- HECTOR – Cluster of eHealth Innovations

Figure 3: Polish policy documents related to eHealth



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3.2 Administrative and organisational structure

In 2008, the Ministry of Health established a competence centre for health, the “National Centre of Health Information Systems”²⁹. It focuses on the harmonisation of the Polish healthcare system related to recommendations issued by the European Commission, including those specific to eHealth. It is financed by the Ministry of Health budget, which

Centre of Health Information Systems

²⁷ Łódzkie. and Region] 2005

²⁸ Lodz Region

²⁹ Centrum Systemów Informacyjnych Ochrony Zdrowia and Healthcare]

comes from state budget. Some investments are to be financed from the Structural Funds and benefits from the 7th European Framework Programme. The most important responsibilities of the centre include the following:

Responsibilities of the Polish Centre of Health Information Systems:³⁰

Maintenance of the system of health information used for monitoring the health status

Modelling health-related processes aimed at semantic, technical, organisational, legal and social interoperability between information systems used in healthcare

Linking the health information system with central national and insurance registers and introduction of common patient identifiers

Development of electronic patient records and of the health insurance card

Support for telemedicine in the area of standardisation, coordination and interoperability of the systems used in Poland and in the context of trans-border cooperation.

Additional institutions, which manage and coordinate the implementation and day-to-day running of the infrastructure, are the following:

- Polish Social Insurance Institution
- Agricultural Social Insurance Fund
- National Health Fund
- Regional Governments
- Polish Telemedicine Society

All these institutions have been established as public interest bodies.

There are also several regional level centres and units focused on eHealth-related technology transfer. Examples of these institutions and organisations acting at regional level and focusing on eHealth and the telemedicine area are:³¹

- Krakow Centre of Telemedicine³²
- Centre of Innovation, Technology Transfer and University Development, at Jagiellonian University Krakow³³
- Centre of Advanced Technology "Akcent-Malopolska"³⁴
- Silesian Centre of Advanced Technologies³⁵

In terms of stakeholder involvement, the Ministry of Health announced a public consultation deadline in the course of the Polish eHealth strategy project for the years 2009-2013. Finally this document after much reorganisation was called "The Plan of the Informatization for e-Health for the years 2010-2015" („Plan Informatyzacji e-Zdrowie na

³⁰ Duplaga 2007

³¹ see above

³² Krakowskie Centrum Telemedycyny and Telemedicine],

³³ Centre for Innovations and Technology Transfer and University Development (CITTRU),

³⁴ Centre of Innovation and Technology Transfer

³⁵ Śląskie Centrum Zaawansowanych Technologii and [Silesian Centre of Advanced Technologies]

lata 2010-2015”). This was related to a special website, which facilitated and invited stakeholders to form an opinion on these plans.

According to the statements published on the website, there are positive and negative reactions to the eHealth strategy project. Mostly formal issues are criticised, such as the lack of a legal framework (Ministry of Regional Development), a wrong nomenclature (President of the General Statistical Office) and no timetable for the implementation of specific tasks (Ministry of Finance). Some also paid attention to the possible technical risks of the strategy, for example the Inspector General for Personal Data Protection or the Polish Technology Association. Part of the consulted authorities also expressed their willingness to actively participate in the process of working on the implementation of the assumptions, which can be found in the strategy – these are the President of the Polish Insurance Institution, the President of the Polish Confederation and the Private Employers “Lewiatan”.

A challenging aspect of the administrative and organisational structures of eHealth in Poland is that a change of existing laws and procedures as well as the deployment of new arrangements is still pending.

3.3 Deployment of eHealth applications

3.3.1 Patient summary and electronic health record (EHR)

In this study, the epSOS project's definition³⁶ 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/her diverse encounters with the health system as recorded in patient or medical records (EPR or EMR) maintained by various providers like GPs, 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.

³⁶ European Patients Smart Open Services

Planned basic patient summary and an integrated medical information system

In Poland, it is planned to implement a basic patient summary by 2013, which mainly focuses upon an electronic medical history. Currently in use is a system managed by the National Health Fund³⁷ (NFZ), which has the purpose of cost control. The patient does not have access to the information stored.

The system consists of several sub-systems, implementation of which began in 2007. The system gathers mainly statistical data that are related to medical procedures undertaken in a given healthcare provider institution, and was mainly created for cost control.

Furthermore, it is also planned to establish an IT infrastructure for Polish healthcare in order to become a member of the Electronic Health Record Area in Europe. Therefore, this goal is emphasised in the eHealth Plan 2010-2015. To pursue these plans, Poland took part in working groups for the European eHealth Action Plan, as well as incorporated the document "Together for Health. A Strategic Approach for the EU 2008-2013"³⁸. The functionalities and patient data, which the planned EHR will encompass, are the following:

- Administrative/demographics
- Electronic medication record
- GP record/summary
- Medical history
- Emergency care data

At that time it is not completely clear how Poland will deal with condition-specific summaries, as there are some registries collecting information about patients suffering from certain illnesses. Here, the Polish eHealth Plan claims that this variety of registries should be extended, but also integrated into a Medical Information System in the future (this goal is also reflected in the legislation project 3.5 below).

As a challenge for the implementation of patient summaries and an EHR in Poland, it can be stated that there is a lack of nationwide accepted and adapted standards, as well as good practices dealing with medical information on patients in an electronic form. Additionally, the level of development of dedicated healthcare IT solutions is relatively low. So far, also a plan is missing which outlines the full protection of personal data for 40 million records, which would also contain sensitive data.

3.3.2 ePrescription

In the framework of this study and following work in epSOS³⁹, ePrescription is understood as the process of the electronic transfer of a prescription by a healthcare provider to a pharmacy for retrieval of the drug by the patient. In this strict sense, only few European countries can claim to have implemented a fully operational ePrescription service.

³⁷ National Health Fund

³⁸ Commission of the European Communities 2007

³⁹ European Patients Smart Open Services

ePrescription programme by the Polish government

Just recently, April 27, 2010, Poland's government emphasised the need for electronic prescription, which could help doctors choose the right medicines. Currently, ten software companies have bid for a contract to develop an ePrescription programme. The simplest version of the programme enables a doctor to fill in the virtual prescription form, which saves a pharmacist's time because doctors' handwriting is usually indecipherable. A more advanced version makes it possible both for a doctor and a pharmacist to check all medicines ever prescribed to a given patient and the most complex programme helps a doctor choose medicines, shows how much they cost and whether they interfere with medicines that a patient is currently taking. The government wants to spend 3 million zloty (770,000 euro) on an ePrescription programme. The decision as to which company will develop the programme is still pending.⁴⁰

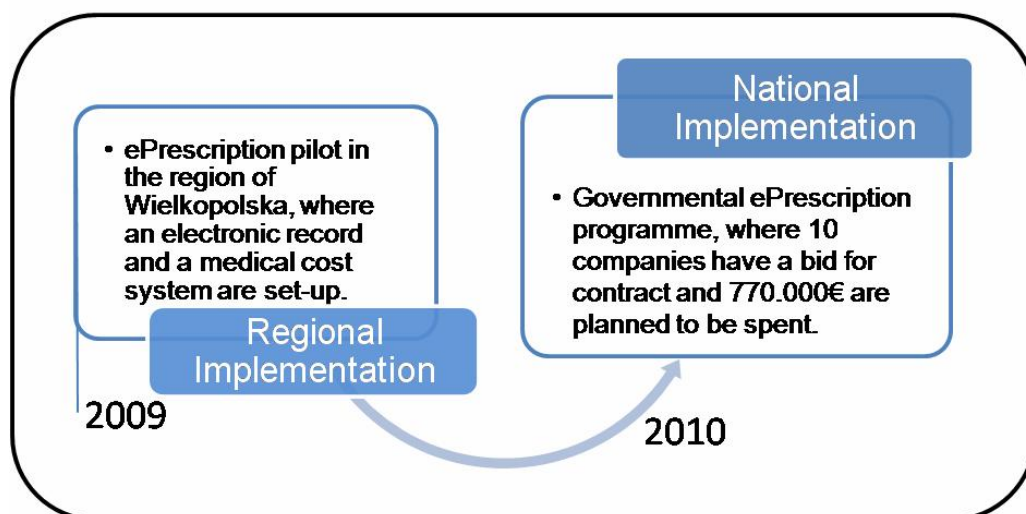
ePrescription pilot in the region of Wielkopolska

This national initiative is accompanied by an ePrescription pilot in the region of Wielkopolska, which started in 2009. This programme is currently in an initial phase and so far the adequate equipment has not been fully distributed nor the regional healthcare system been prepared. In the beginning of the pilot, 200 doctors will take part. Patients will be given a normal paper prescription, but doctors will be obliged to set up an electronic record, enclosing all information compatible with the paper version. It will allow the doctor to share estimated medicines cost with the patient and will also provide further information for pharmacists. The National Health Fund is aiming to save time and money through the ePrescription system, as well as provide information on progress and history of a treatment. Additionally, the system is said to limit the misuse of medicine.

Challenging aspects that emerged throughout the beginning of the regional pilot in 2009 and 2010 are that there are many complementary investments needed – mostly into technical and infrastructural equipment. Furthermore, it will hardly be possible to implement a complementary ePrescription system before every patient has their own healthcare ID card however there is an idea to use new National ID documents that will be fully electronic with proper chip.

⁴⁰ National Center for Marketing and Price Study 27-04-2010

Figure 4: ePrescription progress in Poland



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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 Poland, a government-mandated competence centre, the “National Centre for Information Systems in Healthcare”⁴¹ (Centrum Systemów Informacyjnych Ochrony Zdrowia) is in charge of the standardisation processes in electronic healthcare. Additionally involved are also the non-governmental organisation “Polish Company of Medical Standards” (Polskie Towarzystwo Standardów Medycznych), the “Medical Technologies Assessment Agency”⁴² (Agencja Oceny Technologii Medycznych) and partially the Ministry of Interior and Administration in terms of integrating different IT systems or implementing the planned Electronic Citizen ID card.

While carrying out these tasks, the Centre cooperates closely with units of the Ministry of Health and other government institutions, provincial departments of Social Affairs and the provincial public health centres in the field of medical statistics, local authorities and the National Health Fund.

The Medical Technologies Assessment Agency (AOTM, 2006) was restructured in 2009, which led to further responsibilities in the following areas of healthcare:

- Evaluation of healthcare services;
- Issuing recommendations regarding the quality of healthcare services in compliance with the lists of benefits guaranteed, the removal of services from the list of guaranteed benefits and how to implement financial services in healthcare;

⁴¹ Centrum Systemów Informacyjnych Ochrony Zdrowia and Healthcare]

⁴² Agencja Oceny Technologii Medycznych and [Medical Technologies Assessment Agency]

- Classification of drugs and medical devices as guaranteed benefit and preparation of the assessment reports of these benefits;
- Issuing of statements on draft health programmes.

While an IHTSDO membership is under consideration in Poland, the communities showed their interest in implementing Snomed CT. Further international standards in Poland are the following:

International Standards used in Poland:

HL7 v2/v3

ICD 9/10

EN/ISO 13606

CPT-PL⁴³

EDIFACT⁴⁴

The existence of many different standards is identified as an obstacle in Poland. In case of the creation of an electronic platform for data collection, analysis and publication it is recommended that Poland becomes a member of IHTSDO to implement Snomed CT. It would be connected to licensing, implementation and training costs, but is still considered as a coherent and useful system, which contains all functionalities needed.

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”⁴⁵. 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 delivery⁴⁶.

Telemonitoring and telecare services are at that time mostly applied in small academic projects, such as the telemedicine pilot in Greater Poland (Telemedycyna Wielkopolska⁴⁷). Applications used in the projects include telemonitoring, mobile monitoring and teleconsultations between health professionals. Hereby, teleradiology is seen as the most important improvement.

Telemedicine in small academic projects

⁴³ Current Procedural Terminology - Polish

⁴⁴ Electronic Data Interchange For Administration, Commerce and Transport

⁴⁵ Europe's Information Society

⁴⁶ European Commission 2008

⁴⁷ Wielkopolskie Centrum Telemedycyny [Centre for Telemedicine in Greater Poland]

Telemedicine Centre of Wielkopolska plans regional telemedicine project

Yet, although benefits of telemedicine have been noticed, there are still only small projects ongoing. Therefore, the further development of telemedical services has been made a priority in the Polish eHealth strategy and large-scale initiatives are in planning: For example the Telemedicine Centre of the Wielkopolska region is planning a project financed by the Financial Mechanism EEA⁴⁸, which is aiming to build up the infrastructure required for teleconsultations, health teleconferences and teleeducation by 2011. Furthermore, these services will allow professionals from clinical departments of the Medical Science University to share knowledge and exchange information with other healthcare workers in the region. The project budget amounts to €2,440 million – while the EEA grant is €2,074 million.

The main challenge related to the development and implementation of telemedicine is the financial burden connected to any healthcare service. There are cost barriers resulting from investments that have to be made in soft- and hardware, as well as teleconference rooms or connectivity equipment. Additionally, there is an eInclusion issue, which affects parts of society. Further difficulties are anticipated in the area of acceptance from the patient's side.

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. One such possibility would be via an eCard. This topic is dealt with in the following section. The current section focuses solely on whether or not unique identifiers are in place in Poland and for which purpose.

3.4.1 Unique identification of patients

Unique identification through PESEL – a common electronic citizen record

Poland has a universal electronic system for population registration called “PESEL”⁴⁹. It stands for "Powszechny Elektroniczny System Ewidencji Ludnosci", which translates as "common electronic citizen record system". Ultimately, this is the principle number by which a private individual is identified in most government offices and also for healthcare. PESEL has been used since 1979 and is mandatory for all permanent residents of Poland and for temporary residents living in Poland over 2 months. It is maintained by the Ministry of Interior and Administration (Ministerstwo Spraw Wewnętrznych i Administracji, MSWiA) and financed by public funds.

A PESEL number consists of 11 digits, each containing information about the citizen. The first 6 digits signify the person's date of birth. The first two indicate the year, the next two the month, and finally the day. In the case of people born between 1900 and 1999, the months appear naturally, while those born between 2000 and 2099 have an additional 20 added to the month number. In other words, a person born on July 14, 2002 would have

⁴⁸ The European Economic Area Grants are Iceland, Liechtenstein and Norway's contribution to reducing social and economic disparities in Europe. Poland is by far the largest beneficiary state of the EEA and Norway Grants, receiving 43 percent of the total support. EEA Grants and Norway Grants .

⁴⁹ Art 32e(6) Act on Healthcare Institutions.

a PESEL that starts like this, 0 2 2 7 1 4. The gender of the PESEL holder is assigned by the tenth digit: if it's an odd number, the PESEL belongs to a male, if it's even (or zero) then it belongs to a female. The final number is a control number generated through an algorithm.

In the past, incidents occurred concerning the attribution of PESEL numbers: different persons had been assigned the same PESEL number. This is one of the reasons why the Minister of Interior and Administration started the PESEL2 project (see section 3.4.3 below) for a new public registers implementation.⁵⁰

Central Registry of Insured Citizens

These PESEL numbers are gathered in the Central Registry of Insured Citizens (Centralny Wykaz Ubezpieczonych) by the Polish Social Insurance Institution (ZUS) and the Agricultural Insurance Fund (KRUS) maintained by the National Health Fund. The Central Registry of Insured Citizen has the following tasks:

- Confirm the entitlement of benefits by health insurance;
- Collect data on insured citizens;
- Collect data on citizens entitled to healthcare services;
- Issue credentials and certificates in their field of activity;
- Estimate the costs of healthcare service, including those granted under the regulations on coordination.

Within the next five years, all data from the registry (including the PESEL number, tax identification number and number of the patient's ID) will be connected to a Medical Information System – one of the main priorities of the Polish eHealth Plan. The Central Registry of Insured Citizens will form part of the Medical Information System, while further registries will be linked to the system in order to collect information on patients and healthcare service employees.

Regarding the main challenges of unique patient identification, the data protection framework remains a major issue in the field, as legislative and administrative procedure for the secure transfer of data have not been developed up to this point. Additionally, this lack is connected to a large amount of investment, because the according infrastructure and secure solutions have to be developed and implemented. At the same time, a medical information system is indispensable for the future of Polish healthcare.

3.4.2 Unique identification of healthcare professionals

Some have a professional certificate number

Several medical professions in Poland are identified through the professional certificate number (Numer Prawa Wykonywania Zawodu, PWZ). These are predominantly professions, which are related to studies and special exams, including: doctor, dentist, pharmacist, nurse and midwife – each group with its own registry. The physicians granted with the right to exercise a profession are then entered into the register held by the appropriate regional medical chamber⁵¹. These registers are strictly regulated by the Supreme Medical Chambers⁵². These registers are available online through a searchable

⁵⁰ ePractice.eu

⁵¹ See for example: art 8(1) Act on Professions of Physician and Dentist.

⁵² Resolution No 104/97/II of the Supreme Medical Council on detailed mode of procedure regarding granting entitlements to perform the profession of physician and dentist holding registers of doctors, with further amendments.

database⁵³. Through this database patients and other health professionals can verify a health professional's basic information. The database has however a purely confirmative character.

Currently, a centralised national electronic registry for healthcare professionals does not exist, but future plans foresee such a registration system. This will be established within the "Project of legislation and information systems in public healthcare" (see section 3.5 below).

3.4.3 The role of eCards

In terms of eCards, two developments are ongoing in Poland: First, there is a pilot programme in the Silesia region and second, the introduction of eCards is planned within the Medical Information System.

The regional pilot programme for an electronic patient card (EPC) has been implemented in the Silesia region and is managed by a division of the National Health Fund. Through the EPC, public insurance of a patient can be confirmed and it allows benefiting from healthcare services. Nowadays the system is used by almost 400.000 patients.

A similar approach is planned for the national system. The eCards will additionally enable access to the whole medical history of a patient, and the medical services they have used. After introduction of the eCard system, NFZ hopes to be able to better control state budget expenditures on public healthcare services.

At that time the final decision concerning a Citizen eID⁵⁴ that will be used as an eHealth Card was finalised. The development of a 'Multifunctional Personal Document' (MPD), which could be used as an intelligent, PKI-ready smart card to replace the traditional plastic ID card, has been studied over the past years. The electronic ID would be based on existing identification numbers and reference databases (PESEL for individuals and REGON for business). The Ministry of Interior and Administration is responsible for the MPD project. Necessary legislative changes form part of an identification documents development strategy.⁵⁵

In November 2007, the Polish Ministry of Interior and Administration presented an update of the PESEL2 project, aimed at streamlining the provision of eServices for citizens. It is planned that the second phase of this project will see the implementation of the 'PL.ID' project of introduction of the Polish biometric ID card, scheduled for the period 2008-2013.⁵⁶ PL.id is co-financed by European Union from EC Structural Fund. For healthcare professionals, chip card is at a planning stage, but no further information has been released by now.

Main challenges related to the development of an eCard are the following:

⁵³ Naczelna Izba Lekarska 2008

⁵⁴ Project PL.id, 370 mln PLN worth, is invented to design and implement new National Citizen ID card, working also as a Patient ID card, electronic signature, administrative identification and Health Insurance ID.

⁵⁵ ePractice.eu

⁵⁶ see above

Pending decision on the development of an eCard or a Citizen eID

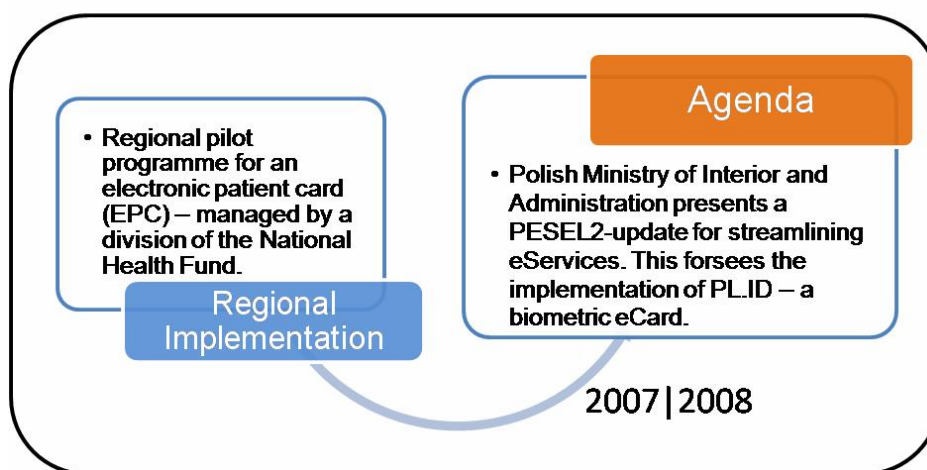
PL.id as second project phase of PESEL2

Main challenges related to eCard introduction:

- need for computerisation of the whole healthcare system;
- integration of different registries;
- organisational obstacles, such as different ministries and public institutions that deal with the issue with limited coordination of their activities;

In sum, it can be stated that in order to implement such a huge project, public administration in general has to be computerised. Furthermore, there are enormous infrastructural investments needed.

Figure 5: eCards in Poland



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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.

In Poland, a new legislation for eHealth is currently in the process of enacting. Legislative reforms are crucial for example with regards to telemedicine and electronic prescriptions since current legislation requires them to be respectively in person and in writing⁵⁷. The project of a legislative act on information system in public healthcare from 1th September 2007⁵⁸ (ustawa o systemie informacji w ochronie zdrowia) addresses thus e.g. electronic medical records, electronic signature and computer systems, which assist in certain areas of healthcare. It includes the following thematic areas:

⁵⁷ See Art 42 Act of 5 December 1996 on Professions of Physician and Ordinance of the Minister of Health of 17 May 2007 on medical prescriptions

⁵⁸ Government 2007

Chapters of the project of legislation:

General rules
ICT systems supporting information systems
Medical Information System
Medical registries
Special ICT systems
Rules of dispersing the data to the information system and their publication
Supervision and control of information systems and databases
Amendments to existing regulations
Transitional and final provisions

In detail, it defines that electronic medical records can be used to: share and collect data, update medical records and making records available to healthcare providers and payers – related to their specific legal rights (see section on patient rights 3.5.1 below). The platform where the data is supervised by the National Centre of Information Systems in Healthcare is also responsible for the operation, security and integrity of the data.

Personal data, which is stored in the electronic medical record, include the following:

- Name, surname
- Sex, nationality, marital status, education
- (E-Mail) address
- Social security number, tax identification number
- Number of ID card
- Degree of disabilities
- Entitlement to healthcare services
- Identification number assigned by healthcare provider

Medical data, which is stored in the record, include:

- Planned and provided healthcare services
- Reason for the provision of healthcare benefits
- Diagnosis
- (date of death)

According to the project of legislation about information systems in healthcare, the Ministry for Health will announce details on organisational and technical conditions for processing and protection of personal data. These announcements will be made on the basis of the legislation on personal data protection from 29th August 1997 and on databanks protection from 27th July 2001. This legislation is in the process of final acceptance and will probably be introduced in 2010 or in beginning of 2011.

3.5.1 Patient rights

According to the project of legislation on health information systems, Poland will have an opting-out model for patients, implying that an electronic patient record is automatically

created if the citizen does not object to it. Further, patients are entitled to the following rights:

Patient rights in Poland:

Patients can demand the deletion of data from their healthcare record

Patients can bar certain healthcare providers from access to the healthcare record

Patients can hide certain type of information in their healthcare record

Generally, the patient's representative and relatives have the right to access the data. These rights have not been further specified at this point.

Concerning the re-use of patient data, the legislation project defines that the administrator of the medical database, the National Centre of Information Systems in Healthcare, is allowed to use data for statistical reasons, if the data is made anonymous (unless there a reasonable suspicion for a crime or infringement).

Currently patient rights are regulated by two pertinent statutory acts: the Act on Professions of Physician and Dentist and the Act on Healthcare Institutions⁵⁹. Interesting in the current regulations is that the patient does not have the obligation to cooperate. A duty to cooperate is found to be in conflict with the right to consent⁶⁰. In principle Polish legislation only requires an oral consent. Only with regards to surgery or medical or diagnostic methods of high risk a written consent needs to be obtained.

With regard to electronic patient records current legislation does not provide any rights for the patient other than the right to access, to which general data protection legislation applies. The keeping of electronic patient records is yet regulated under two regulatory frameworks: the Act on Professions of Physician and Dentist⁶¹ and the Ordinance of the Minister of Health on types of individual patient records⁶². The regulations are however different when an electronic record is kept within the so called "HCI" or Independent Healthcare Institution and outside HCI's. Electronic records kept within HCI's subject to very detailed regulation, while EHR's outside HCI's are only allowed as a back up copy of a paper file. The current legal framework defines under which conditions EHR's may be held, what information systems should be used, what information should be included, when and to who EHR's may be made available and how they should be stored.

3.6 Financing and reimbursement issues

In Poland, the main sources of financing are the central government, regional governments and the National Health Fund.

The central government invests into healthcare services, pre-hospital medical emergency and into infrastructural activities. Financing activities of regional governments include the funding of preventive health programmes for certain diseases, health promotion

⁵⁹ Respectively of 5 December 1996 and 30 August 1991.

⁶⁰ As protected in art 19(1)(3) of the Act on Healthcare Institutions and art 32(1) of the Act on Professions of Physician and Dentist.

⁶¹ Of 5 December 1996.

⁶² Of 30 July 2001.

programmes in medicine, as well as the establishment and coordination of Independent Public Healthcare Facilities (SPZOZ), rehabilitation activities and the distribution of items/funds granted to disabled people. Finally, the National Health Fund finances health services provided to insured citizens and refunds medicine – these funds come from mandatory health insurance premiums.

Further, there are budget plans for individual health elements, such as IT systems, which are linked to Operational Programmes that define the spending of Structural Funds. These Structural Funds by the European Commission in combination with governmental support are increasingly used in Poland in order to establish public-private-partnerships to face financial challenges. Other European funding mechanisms used are: 1) European Economic Area (EEA) Financial Mechanism (FM) (as pointed out in section 3.3.4 above) and 2) the 7th Framework Programme.

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.

The only evaluation activity that has been made public so far is that a competent authority has been asked by the government to give feedback on the achievements and goals of eHealth. This was done prior to the launch of the current eHealth strategy. Furthermore, there are some working groups that are aiming to deal with the issue of evaluation in Poland in general.

4 Outlook

In Poland several eHealth-related developments are ongoing, which are all aiming at development and implementation of an integrated and coherent medical information system. This is reflected in the current policy paper, the “ The Plan of the Informatization for e-Health for the years 2010-2015” („Plan Informatyzacji e-Zdrowie na lata 2010-2015”) and regional pilots towards eIDs.

The establishment of an electronic system, which stores patient data, as well as connects healthcare providers and insurance companies, is crucial for further development of eHealth services, such as ePrescription or telemedicine. In recent years it became evident that in order to make this important step towards eHealth profound investments into infrastructure, technology as well as hard- and software are needed. Therefore, Poland is aiming for – with the support of EEA Funding Mechanism and Structural Funds – to establish public-private-partnerships and secure financial options in the future.

Overall, policy, legislative framework and governmental programmes go hand in hand, but as long as the infrastructural basics as well as the financial support are not certain, future steps are delayed.

5 List of abbreviations

AOTM	Medical Technologies Assessment Agency
DRG	Diagnosis Related Group
EC	European Commission
EEA	European Economic Area
EHR	Electronic Health Record
EMR	Electronic Medication Record
EPR	Electronic Patient Record
EPC	Electronic Patient Card
epSOS	European patients Smart Open Services
ERA	European Research Area
EU	European Union
GDP	Gross Domestic Product
GP	General Practitioner
HCI	Independent Healthcare Institution
HCP	Healthcare Provider
HL7	Health Level Seven International (authority on standards for interoperability)
HPC	Health Professional Card
HMO	Health Maintenance Organisation
ICT	Information and Communication Technology
ID	Identification (e.g. number, card or code)
IHTSDO	International Health Terminology Standards Development Organisation
IT	Information Technology
LSP	Large Scale Pilot
NFZ	National Health Fund
OECD	Organisation for Economic Co-operation and Development
PESEL	Powszechny Elektroniczny System Ewidencji Ludnosci
PHS	Personal Health System
PWZ	Numer Prawa Wykonywania Zawodu [medical professions' certificate number]
R&D	Research and Development

SNOMED	Systematized Nomenclature of Medicine-Clinical Terms
WHO	World Health Organization

6 Annex

6.1.1 Annex 1: Compound indicators of eHealth use by GPs

Compound indicator name	Component indicators	Computation
Overall eHealth use	<ul style="list-style-type: none"> - Electronic storage of individual medical patient data - Electronic storage of individual administrative patient data - Use of a computer during consultation with the patient - Use of a Decision Support System (DSS) - Transfer of lab results from the laboratory - Transfer of administrative patient data to reimbursers or other care providers - Transfer of medical patient data to other care providers or professionals - ePrescribing (transfer of prescription to pharmacy) 	Average of component indicators
Electronic storage of individual medical patient data	<ul style="list-style-type: none"> - A2a - Symptoms or the reasons for encounter - A2c - Medical history - A2c - Basic medical parameters such as allergies - A2d - Vital signs measurement - A2e - Diagnoses - A2f - Medications - A2g - Laboratory results - A2h - Ordered examinations and results - A2i - Radiological images - A2j - Treatment outcomes 	Average of component indicators
Electronic storage of individual administrative patient data	<ul style="list-style-type: none"> - A1 - electronic storage of individual administrative patient 	A1 value
Use of a computer during consultation with the patient	<ul style="list-style-type: none"> - B2 - Computer use during consultation 	B2 value
Use of a Decision Support System (DSS)	<ul style="list-style-type: none"> - B3a - Availability of DSS for diagnosis - B3b - Availability of DSS for prescribing 	Average of component indicators
Transfer of lab results from the laboratory	<ul style="list-style-type: none"> - D1e - Using electronic networks to transfer prescriptions electronically to dispensing pharmacists? 	D1e value
Transfer of administrative patient data to reimbursers or other care providers	<ul style="list-style-type: none"> - D1a - Using electronic networks to exchange of administrative data with other healthcare providers - D1b - Using electronic networks to exchange of administrative data with reimbursing organisations 	Average of component indicators
Transfer of medical patient data to other care providers or professionals	<ul style="list-style-type: none"> - D1c - Using electronic networks to exchange medical data with other health care providers and professionals 	D1c value
ePrescribing (transfer of prescription to pharmacy)	<ul style="list-style-type: none"> - D1d - Using electronic networks to transfer prescriptions electronically to dispensing pharmacist 	D1d value

Dobrev, Haesner et al. 2008

7 References

- Agencja Oceny Technologii Medycznych and [Medical Technologies Assessment Agency]. "O nas." Retrieved 12/05/2010, from <http://www.aotm.gov.pl/index.php?id=9>.
- AMI@Work and Family of Communities. "AMI@Work on-line Communities." Retrieved 12/05/2010, from http://www.ami-communities.eu/wiki/AMI%40Work_on-line_Communities.
- Centre for Innovations and Technology Transfer and University Development (CITTRU). "About us." Retrieved 12/05/2010, from <http://www.cittru.uj.edu.pl/index.php?q=en/node/84>.
- Centre of Innovation and Technology Transfer. "About us." Retrieved 12/05/2010, from <http://www.cittru.uj.edu.pl/ang/o-nas.html>.
- Centrum Systemów Informacyjnych Ochrony Zdrowia and C. o. I. S. i. Healthcare]. "O Centrum." Retrieved 12/05/2010, from <http://www.csioz.gov.pl/ocentrum.php>.
- Commission of the European Communities (2007) White Paper, Together for Health: A Strategic Approach for the EU 2008-2013. COM(2007) 630 final. http://ec.europa.eu/health/ph_overview/Documents/strategy_wp_en.pdf (12/05/2010).
- Dobrev, A., M. Haesner, et al. (2008) Benchmarking ICT use among General Practitioners in Europe. Bonn/Brussels, European Commission, Information Society and Media Directorate General. http://ec.europa.eu/information_society/eeurope/i2010/docs/benchmarking/gp_survey_final_report.pdf (25/01/2010).
- Duplaga, M. (2007). "Towards the development of e-health in Poland." *Health Information and Libraries Journal* **24**: 137-141.
- Duplaga, M., M. Leszczuk, et al. (2007) eHealth strategy and implementation activities in Lithuania. Report in the framework of the eHealth ERA project, European Commission, Directorate General Information Society and Media. http://www.ehealth-era.org/database/documents/ERA_Reports/eH-ERA_Lithuania_report_April_2007.pdf (01/03/2010).
- EEA Grants and Norway Grants. "Poland." Retrieved 12/05/2010, from <http://www.eeagrants.org/id/46>.
- eHealth Priorities and Strategies in European Countries (2007). eHealth ERA Report.
- ePractice.eu. "eGovernment Factsheet - Poland - National Infrastructure." Retrieved 12/05/2010, from <http://epractice.eu/en/document/288337>.
- Europe's Information Society. "Thematic Portal: Telemedicine works " Retrieved 19/01/2010, from http://ec.europa.eu/information_society/activities/health/policy/telemedicine/index_en.htm.
- European Commission (2004) e-Health - making healthcare better for European citizens: An action plan for a European e-Health Area. Brussels. <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2004:0356:FIN:EN:PDF> (19/01/2010).
- European Commission (2007). European Commission Communication: "Lead Market Initiative for Europe".
- European Commission (2008). Commission Recommendation on cross-border interoperability of electronic health record systems Official Journal of the European Union. **L 190**: 37-43
- European Commission (2008). On telemedicine for the benefit of patients, healthcare systems and society. Brussels.
- European Commission; Information Society and Media Directorate-General. (2009). "Good eHealth." Retrieved 19/10/10, from www.good-ehealth.org.
- European Communities (2007). "Accelerating the Development of the eHealth market in Europe", eHealth task force report.
- European Patients, Smart and Open Services. "Glossary: ePrescription." Retrieved 09/04/2010, from [http://www.epsos.eu/glossary.html?tx_a21glossary\[uid\]=472&tx_a21glossary\[back\]=362&cHash=eaedc24fd8](http://www.epsos.eu/glossary.html?tx_a21glossary[uid]=472&tx_a21glossary[back]=362&cHash=eaedc24fd8).
- European Patients, Smart and Open Services. "Glossary: Patient Summary." Retrieved 09/04/2010, from [http://www.epsos.eu/glossary.html?tx_a21glossaryadvancedoutput_pi1\[char\]=p&cHash=df930cccbd](http://www.epsos.eu/glossary.html?tx_a21glossaryadvancedoutput_pi1[char]=p&cHash=df930cccbd).

- European Patients Smart and Open Services (epSOS). "Welcome to epSOS – a European eHealth Project." Retrieved 20/10/10, from <http://www.epsos.eu/>.
- eUser. (2005). "Evidence-based support for the design and delivery of user-centred online public services." Retrieved April 2009, from www.euser-eu.org.
- Government, P. (2007) Ustawa o systemie informacji w ochronie zdrowia [Act on information systems in healthcare]. http://www.mz.gov.pl/wwwfiles/ma_struktura/docs/zal_pusta_infor_21092007.pdf (12/05/2010).
- Health Consumer Powerhouse (2008) Eurohealth Consumer Index. European Commission, Information Society and Media. <http://www.healthpowerhouse.com/files/2008-EHCI/EHCI-2008-index-03.pdf> (20/01/2010).
- ICT and eHealth use among General Practitioners in Europe. (2007). "eHealth Indicators." from <http://www.ehealth-indicators.eu>.
- Krakowskie Centrum Telemedycyny and K. C. o. Telemedicine]. "Projekt celowy." Retrieved 12/05/2010, from <http://www.telemedycyna.krakow.pl/kctm.php?p=1&m=12>.
- Kuszeński, K. and C. Gericke (2005) Poland. Health Care Systems in Transition. Copenhagen, WHO Regional Office for Europe on behalf of the European Observatory on Health Systems and Policies. <http://www.euro.who.int/Document/E88670.pdf> (12/05/2010).
- Lodz Region. "Strategy of eHealth." Retrieved 12/05/2010, from <http://www.ehealth.lodzkie.pl/index.php?id=1>.
- Łódzkie., W. and L. Region] (2005) STRATEGIA EZDROWIA WOJEWÓDZTWA ŁÓDZKIEGO na lata 2007-2013. http://www.ezdrowie.lodzkie.pl/pliki/Strategia_eZdrowia.pdf (12/05/2010).
- Mariusz Duplaga, Mikołaj Leszczuk, et al. (2007) eHealth strategy and implementation activities in Poland. Report in the framework of the eHealth ERA project. http://www.ehealth-era.org/database/documents/ERA_Reports/eH-ERA_Poland_report_January%20%202007.pdf (12/05/2010).
- Ministerstwo Spraw Wewnętrznych i Administracji and [Ministry of Interior and Administration] (2008) Strategia rozwoju społeczeństwa informacyjnego w Polsce do roku 2013. <http://www.mswia.gov.pl/download.php?s=56&id=6137> (12/05/2010).
- Ministerstwo Zdrowia [Ministry of Health] (2004) Strategia e-Zdrowie Polska, na lata 2004-2006 [eHealth Strategy Poland, for the period 2004-2006]. <http://beta.csioz.gov.pl/pliki/Strategia-e-Z2004-2006.pdf> (08/06/2010).
- Ministry of Health (2003) The Polish Health Care System: in historical perspective and today. <http://www.mz.gov.pl/wwwmzold/index?mr=m0&ms=&ml=en&mi=535&mx=0&mt=&my=464&ma=5166> (12/05/2010).
- Ministry of Health. (2003). "Welcome to the Ministry of Health." Retrieved 27/07/2010, from www.mz.gov.pl.
- Naczelna Izba Lekarska. (2008). "The Polish Chamber of Physicians and Dentists." Retrieved 27/07/2010, from <http://www.nil.org.pl/xml/nil/rejlek/hurtd>.
- National Center for Marketing and Price Study (27/04/2010). E-prescriptions to be introduced soon.
- National Health Fund. "Access to health care during a temporary stay in Poland." Retrieved 12/05/2010, from <http://www.nfz.gov.pl/ue/?katnr=5&dzialnr=2&artnr=716&czartnr=2>.
- Śląskie Centrum Zaawansowanych Technologii and [Silesian Centre of Advanced Technologies]. "WYDARZENIA." Retrieved 12/05/2010, from <http://www.sczt.org.pl/wydarzenia.php>.
- Wielkopolskie Centrum Telemedycyny [Centre for Telemedicine in Greater Poland]. "O projekcie [About the project]." Retrieved 08/06/2010, from <https://www.telemedycyna.wlkp.pl/web/guest/o-projekcie>.
- Włodarczyk, W. C. (2008) The National Institute of Public Health. Health Policy Monitor. <http://www.hpm.org/survey/pl/a12/2> (12/05/2010).
- World Health Organization. (2000). "The World Health Organization's ranking of the world's health systems." Retrieved 20/01/2010, from <http://www.photius.com/rankings/healthranks.html>.
- World Health Organization, Regional Office for Europe. (2009). "European health for all database (HFA-DB)." Retrieved 20/01/2010, from <http://data.euro.who.int>.