



# Benchmarking ICT use among General Practitioners in Europe 2007

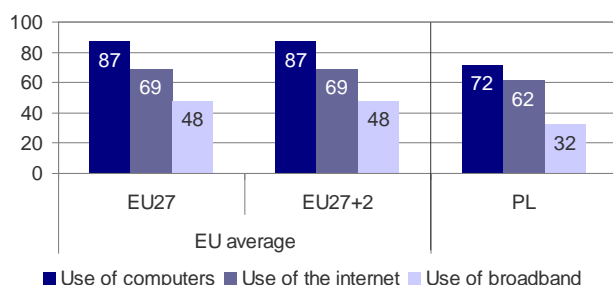
## Country Profile: Poland

### Key findings: eHealth among GPs in Poland<sup>1</sup>

Poland has to be considered rather a laggard in terms of eHealth as it scores below the EU27 average with regard to most indicators included in the survey. This concerns both the availability of ICT infrastructure (computer, Internet) and the use of ICT for different eHealth-related purposes.

In terms of infrastructure, 72% of the Polish GP practices use a computer. 62% of practices dispose of an Internet connection. In Poland, broadband connections have not yet arrived in force; they are used in only 32% of the GP practices. For all types of infrastructural prerequisites for a successful uptake of eHealth solutions, Poland scores below the EU27 averages.

#### ICT Infrastructure in Polish GP practices



**Base:** All GPs. **Indicators:** R4, C1, C2 (cf. annex for more information), % values. **Source:** empirica, Pilot on eHealth Indicators, 2007.

When it comes to the use of eHealth solutions, Poland also shows results that are below the EU27 averages. Poland displays its best eHealth performance in the area of patient data

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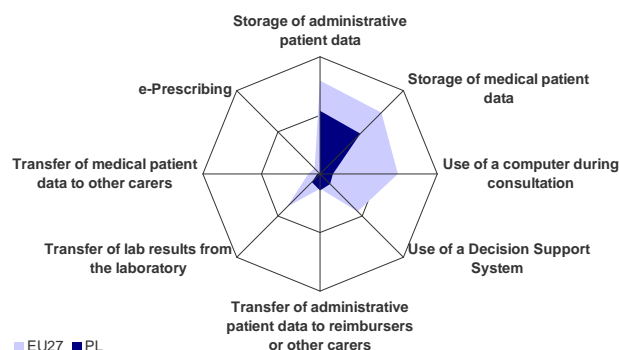
storage. Yet even here usage rates lie far below the EU27 average. Administrative Patient data is recorded in around 50% of Polish GP practises while at least some type of medical electronic patient data is registered in around 40% of the GP practices.

In Poland, computers are used in consultation with the patients only to a very limited extent (11% of the GP practices). This percentage lags far behind the EU27 average of 66%. The use of Decision Support Systems is also rather the exception than the rule. 19% of Polish GPs use Decision Support Systems either for diagnosis of prescribing purposes, which corresponds to one of the lowest usage rate with regard to this indicator in the EU27.

The electronic transfer of individual patient data has as yet not very much 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.

ePrescribing is still not a reality in most European Member States. This holds true for Poland as well where none of GPs having participated in the survey reported using ePrescribing.

#### 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 focussed solely on the information infrastructure in Polish hospitals and therefore had no impact on ICT use in GP practices. Until now the lack of an appropriate information technology has hindered the further development and use of eHealth applications. These infrastructural prerequisites are to be established in the upcoming years according to the priorities set in the national eHealth strategy of 2004. The communication between healthcare facilities and professionals will be facilitated by the introduction of a special electronic communication system “Zozmail”, as well as the introduction of common standards that will enhance the interoperability of IT solutions used in the different health care facilities.

### ICT Infrastructure in GP Practices

An appropriate ICT infrastructure in the GP practice lays the ground for different eHealth use cases (such as storage of patient data, its exchange etc.). It is therefore the baseline from which a European GP can start his or her professional activities in the eHealth domain.

ICT infrastructure as understood here entails

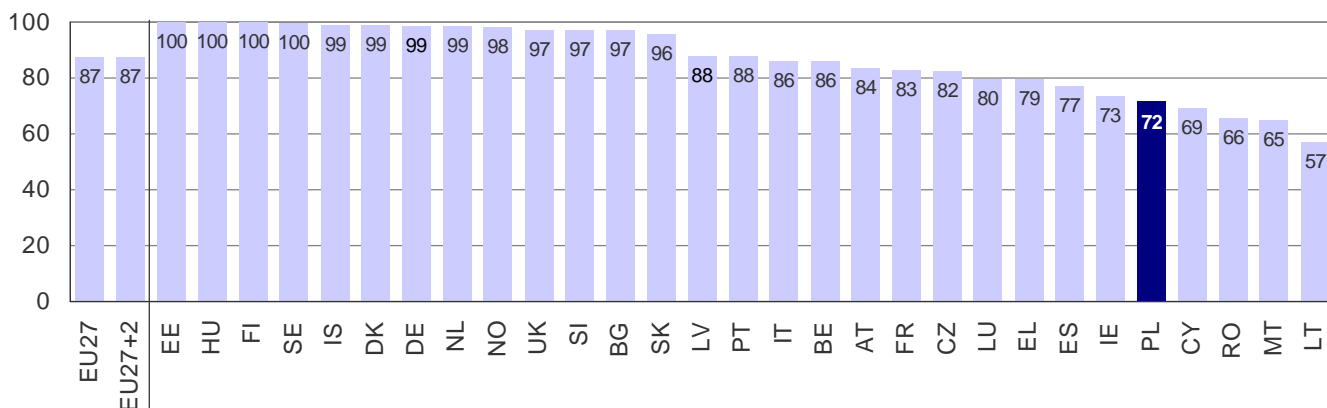
- the availability of one or more computers in the practice;
- a connection with the Internet; and
- the availability of a broadband connection.

### Use of computers

In Poland less than three-quarters (72%) of GP practices are equipped with a computer. This places Poland in the small group of laggards, where less than 75% of the Practices are equipped with a computer. On the other side, 24 of the countries covered by the survey show a penetration rate of more than 75%, a fact that clearly indicates that computers have arrived in EU GP practices. They are becoming more and more an essential and unquestioned part of practice fixtures.

In Poland most GP practices fulfil the infrastructural prerequisite for the successful implementation of eHealth applications. One-fourth of GP practices however are not equipped in order to take advantage of eHealth solutions.

**Use of Computers in GP Practices in Poland**



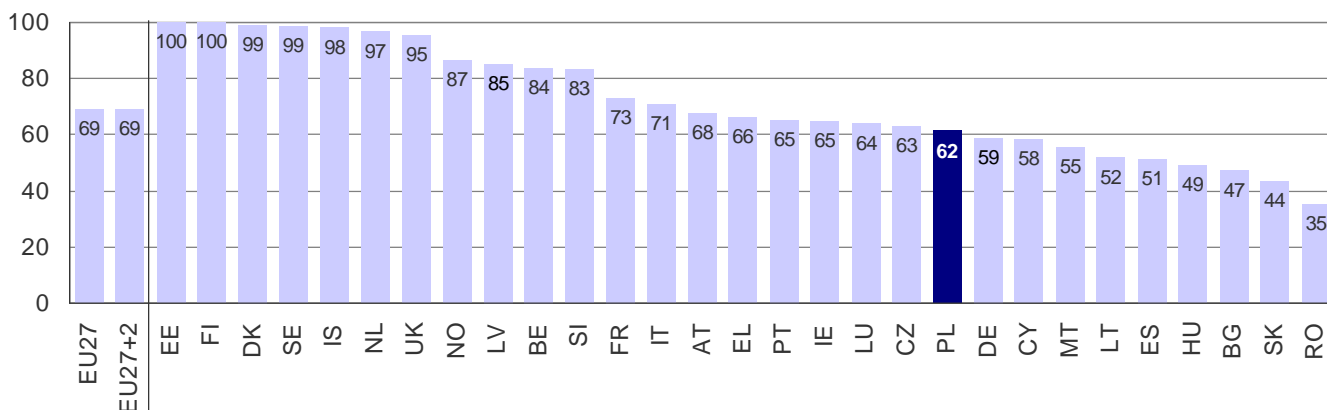
**Base:** All GPs. **Indicator:** R4 (cf. annex for more information), % values. **Source:** empirica, Pilot on eHealth Indicators, 2007.

### Use of the Internet and broadband

A connection to the Internet or any other dedicated network is a prerequisite for all those eHealth applications that entail data transmissions and information retrieval. In this regard Poland attains a mid-field position. 62% of Polish GP practices

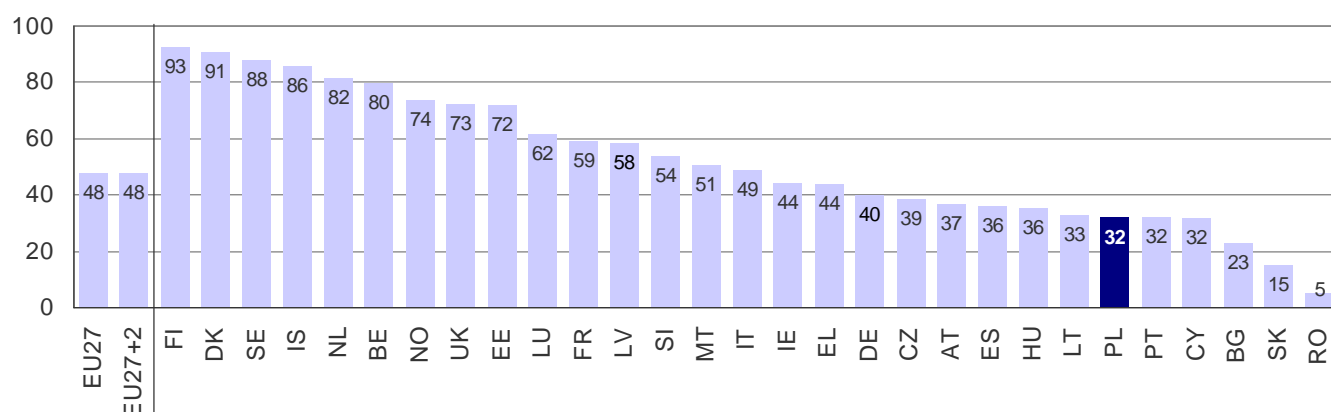
are connected to the Internet, a rate only slightly below the EU27 average of 69%. When it comes to Internet connections, large differences between Member States persist. Poland is part of a rather large group of countries with less than 75% of the practices having Internet access.

**Use of the Internet in GP Practices in Poland**



**Base:** All GPs. **Indicator:** C1 (cf. annex for more information), % values. **Source:** empirica, Pilot on eHealth Indicators, 2007.

## Polish GP Practices Using a Broadband Connection



**Base:** All GPs. **Indicator:** C2 (cf. annex for more information), % values. **Source:** empirica, Pilot on eHealth Indicators, 2007.

In Poland, only 32% of the practices use a broadband connection. With respect to this indicator Poland positions itself below the EU average of 48%. The discrepancies regarding bandwidth between the EU27 Member States remain high, as usage rates of broadband connections span from only 5% up to 93% of GP practices. Poland ranks on a par with Lithuania, Portugal and Cyprus, all of which form part of the tail-end countries, where less than 35% of GP practices possess a broadband connection.

## Use of eHealth Applications

With about 87% of European GP practices having a computer and about 69% being connected to the Internet, the question as to if and how this ICT infrastructure is used. The following sections deal with the use of ICT for different purposes in a GP practice's day-to-day business.

### Electronic patient data storage

The storage of electronic patient data is not yet very common in Poland. In comparison to the other EU Member States,

Poland has to be regarded as one of the laggards. Only around 40% of GP practices store at least some sort of individual medical patient data. Concerning the different data types, usage rates in Europe vary substantially, with Poland following more or less a common European usage pattern. For most types of patient data, Poland scores below the EU27 average.

Those Polish practices that use electronic data storage store most often basic diagnoses (73%), medications (55%) and examinations and results (55%) and lab results (53%). Treatment outcomes, symptoms, medical history, radiological images and basic medical parameters, are registered by 35-50% of the GP practices. Radiological data is the only data type stored more often than on average in the EU27: it is registered in 40% of the GP practices as compared to the EU27 average of 34%.

### Electronic Patient Data Storage in Poland:

#### Storage of Different Types of Individual Patient Data by GPs storing electronic medical patient data

	EU27	EU27+2	BE	BG	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU	HU	MT	NL	AT	PL	PT	RO	SI	SK	FI	SE	UK	IS	NO
Diagnoses	90	91	93	97	89	93	99	94	74	89	89	79	85	93	58	65	88	99	80	96	88	73	77	69	89	94	81	97	94	100	100
Medications	90	90	93	93	88	99	93	86	71	94	91	95	95	90	50	8	95	99	80	97	84	55	85	36	43	85	96	95	98	100	99
Basic medical parameters	83	83	91	80	82	96	80	58	65	88	93	85	85	86	42	14	90	96	73	94	80	35	63	49	31	71	90	82	98	90	84
Lab results	79	80	96	83	58	99	78	58	64	81	77	82	75	76	42	17	52	91	66	95	79	53	59	63	20	26	98	97	96	93	98
Symptoms/reasons for encounters	77	77	89	94	70	97	67	59	68	82	92	80	64	86	42	28	88	96	70	96	82	46	73	32	33	60	96	95	92	98	95
Medical history	75	75	89	93	74	97	52	55	73	86	89	84	70	83	50	13	90	93	75	95	69	46	63	34	18	48	98	90	95	100	97
Examinations and results	75	75	87	86	62	95	56	51	64	81	81	68	82	67	42	20	60	93	66	95	76	55	67	58	15	35	98	76	88	92	98
Vital signs measurements	74	74	88	93	67	92	59	51	62	80	88	73	69	88	42	12	76	93	64	92	63	34	70	52	15	51	93	73	92	79	85
Treatment outcomes	65	66	81	78	68	96	52	46	62	76	66	53	58	71	50	26	62	92	58	94	77	49	52	25	14	47	88	78	77	76	91
Radiological images	34	35	53	50	20	98	15	47	42	55	65	23	5	29	42	2	43	70	34	43	49	40	29	12	8	10	95	34	30	87	54

**Base:** GPs storing electronic medical patient data. **Indicator:** A2 (cf. annex for more information), % values. **Source:** empirica, Pilot on eHealth Indicators, 2007.

## Electronic exchange of patient data via the Internet or other dedicated networks

The electronic exchange of patient data via the Internet or other dedicated networks has not yet arrived; neither in Poland, nor in Europe as a whole. Only 10% of Polish GPs use network connections for the reception of analytical results from laboratories and only 2% of GP practices exchange data with other care providers. These figures - that compare to 40% and 10% on average in the EU27 - place Poland at the tail end of the European countries.

Telemonitoring has not yet arrived on the scene neither in Poland nor in the EU as a whole. In Poland not even one of the practices uses it. This figure is to be contrasted with the highest usage rate which is realised in Sweden. Even there, only 9% of the GPs report making use of telemonitoring. The only other countries with a mentionable usage rate of telemonitoring are the Netherlands and Iceland, scoring 3% each.

A similar pattern can be discovered with regard to the exchange of medical patient data across borders. None of the Polish GP practices transfer any medical data across national borders. In this case the Netherlands show the highest usage level with however only 5% of practices taking part in cross-border transmissions of medical data. France, Cyprus, Malta, Denmark and Greece come in second with scores between 2% and 3%.

The low level of trans-border data sharing may be explained by the fact that the health care jurisdiction is explicitly under the jurisdiction of the individual Member States. Due to the differing health care systems in EU Member States, it is unsurprising that, with only very few exceptions, planned treatment is provided principally in the country of residence.

**Electronic Exchange of Different Types of Medical Patient Data in Poland**

	EU27	EU27+2	BE	BG	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU	HU	MT	NL	AT	PL	PT	RO	SI	SK	FI	SE	UK	IS	NO
Medical data with carers	10	11	13	3	6	74	4	1	4	13	5	2	7	3	0	3	0	2	7	26	12	2	8	2	0	1	55	13	26	17	35
Results from labs	40	40	73	5	25	96	63	39	3	30	33	40	8	10	1	8	27	12	11	84	37	10	1	4	10	5	90	82	85	52	88
Telemonitoring	1	1	1	1	0	0	1	0	1	1	1	1	0	0	1	0	0	0	0	3	1	0	1	0	0	0	1	9	2	3	0
Medical data across borders	1	1	1	1	1	2	0	0	2	1	2	0	0	3	0	0	0	0	3	5	1	0	0	0	0	0	0	1	0	0	0

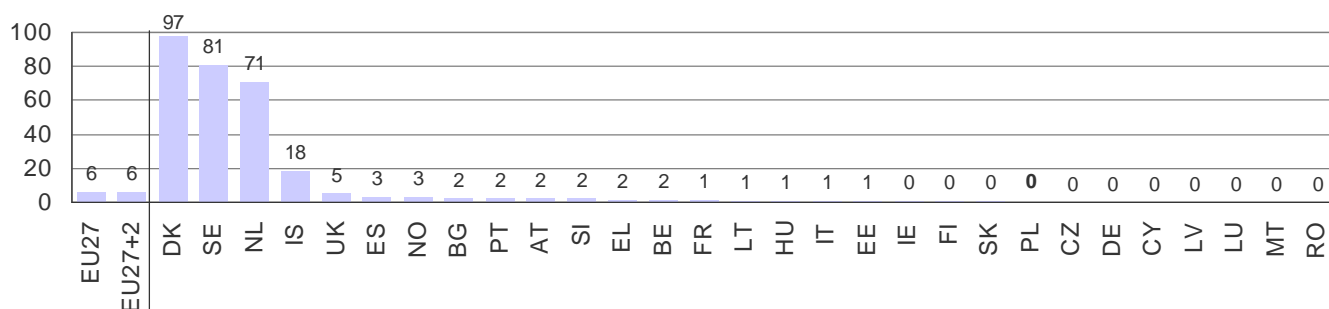
**Base:** All GPs. **Indicator:** D1 (cf. annex for more information), % values. **Source:** empirica, Pilot on eHealth Indicators, 2007.

## ePrescribing

The only three EU Member States where ePrescribing is a reality are Denmark, Sweden and the Netherlands. Apart from this frontrunner group, only Iceland as a non-EU Member State shows an adoption level that rises above 5%.

In Poland however, as in the major part of European countries, virtually no GP practice makes use of ePrescribing.

**Use of ePrescribing by GPs in Poland**



**Base:** All GPs. **Indicator:** D1 (cf. annex for more information), % values. **Source:** empirica, Pilot on eHealth Indicators, 2007.

## Coded data entry

In Poland around 50% of GP practices use coded data only for their storage of electronic patient data. Around 44% of GP practices report resorting to un-coded data only. Both figures exceed EU27 averages. A mix of both coded and uncoded data on the contrary is used only by one fifth of Polish GP practices, as compared to 45% on average in the EU27. For the latter, a clear estimation of the coded/uncoded share is not possible.

Coded data entry in this context refers to the use of coding systems such as the ICD (the WHO's International Classification of Diseases) that allows to store a disease or diagnoses as a code rather than as a textual description. Only in a handful of countries the share of practices using solely coded data is above one third. Rather, most practices use a combination of coded and uncoded data.

### Use of data coding for the storage of electronic patient data by Poland GPs

	EU27	EU27+2	BE	BG	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU	HU	MT	NL	AT	PL	PT	RO	SI	SK	FI	SE	UK	IS	NO
Coded data only	21	21	29	22	6	19	19	35	20	35	6	10	22	10	25	68	2	6	14	37	11	49	18	24	25	36	2	10	24	41	14
Un-coded data only	30	30	36	27	56	31	33	5	58	26	66	50	26	64	25	8	60	5	39	13	55	44	23	26	34	24	26	29	5	5	18
Both coded and un-coded data	45	46	33	50	33	49	48	59	16	36	19	34	50	14	50	13	24	88	25	49	31	19	49	43	33	36	72	54	70	52	64

**Base:** GPs storing patient data. **Indicator:** A4 (cf. annex for more information), % values. **Source:** empirica, Pilot on eHealth Indicators, 2007.

### Exchange of administrative patient data

Data transfer via networks concerns not only medical data, but can also be used for administrative purposes, i.e. for data exchanges between the GP practice and reimbursers or other care providers.

Poland scores slightly below the EU average of 10% for the exchange of administrative data with other carers, which is used by only 6% of Polish GP practices. As far as the networked exchange of administrative data with reimbursers is concerned, Poland on the contrary scores quite well: networks are used for this purpose by 23% of GP practices, as compared to 15% on average in the European Union Member

States. This figure places Poland just behind the vanguard of the European countries, following the frontrunners Denmark, Netherlands and the United Kingdom with usage rates of over 40% and just behind France where 26% of GP practices exchange administrative data with reimbursers. When it comes to the exchange of administrative patient data in the EU27 Member States, huge variations come into view: as regarding the exchange of administrative data with other care providers, shares differ between 0% (Latvia and Luxembourg) and 74% (Denmark). Rates for the exchange of administrative data with reimbursers also differ widely: from 0% (Latvia and Luxembourg) to 48% (Denmark).

### Exchange of Administrative Patient Data in Poland

	EU27	EU27+2	BE	BG	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU	HU	MT	NL	AT	PL	PT	RO	SI	SK	FI	SE	UK	IS	NO
Admin data with other carers	10	10	13	6	6	74	3	1	4	6	4	4	3	3	0	10	0	1	7	28	7	6	6	6	3	2	21	16	32	12	25
Admin data with reimbursers	15	15	3	10	13	48	4	5	3	2	26	15	1	3	0	21	0	5	3	45	19	23	5	2	14	4	8	8	43	1	19

**Base:** All GPs. **Indicator:** D1 (cf. annex for more information), % values. **Source:** empirica, Pilot on eHealth Indicators, 2007.

### Data exchange and security

Data security is an important issue when sensitive, identifiable patient data is stored and transmitted electronically. There are a number of different techniques to make the handling of patient data secure, including password protection of the computer system and of transmitted files, encryption of transmitted files and e-mails as well as the use of e-signatures.

With relation to the use of security features Polish GP practices follow the general pattern found in the EU27, mostly roughly scoring according to EU27 averages.

Password protected access is the most readily available form of data protection and therefore unsurprisingly the method the most widely used. 94% of EP practices in the EU27 have established a password protected. In Poland 86% of the GP practices resort to password protected access which is one of the lowest use rates in Europe. The situation for the use of passwords for the protection of transmitted files is only slightly better: password protection is used by 63% of GP practices in Poland. On average in the EU27 57% of GP practices protect transmitted files by using passwords.

The encryption of transmitted files is a security feature that is used by around 40% of GP practices in Poland as well as in the EU27.

The use of e-Signatures varies widely across Europe. However, on average only 19% of GP practices use e-signatures. Poland scores slightly below average for this security feature as only 11% of Polish GP practices make use of this security feature.

All in all Polish GP practices display an average use of security techniques.

## GPs Use of Security Features in Poland

	EU27	EU27+2	BE	BG	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU	HU	MT	NL	AT	PL	PT	RO	SI	SK	FI	SE	UK	IS	NO
Password (PW) protected access	94	94	97	92	97	97	95	100	59	93	88	97	100	72	100	92	96	100	94	95	94	86	97	80	92	94	100	98	98	100	100
PW protection of transmitted files	57	57	60	77	65	71	63	76	40	56	39	59	70	41	100	45	54	57	47	62	60	63	62	62	64	69	56	27	58	83	59
Encryption of transmitted files	42	42	64	49	31	68	53	85	22	35	36	30	45	19	50	32	42	31	21	36	46	40	26	44	32	28	14	20	42	37	58
Use of e-signatures	19	19	22	68	49	93	7	58	15	24	16	11	40	13	0	12	12	7	9	28	12	11	5	12	20	19	16	41	10	43	48

**Base:** All GPs. **Indicator:** D4 (cf. annex for more information), % values. **Source:** empirica, Pilot on eHealth Indicators, 2007.

## Computer use in consultation

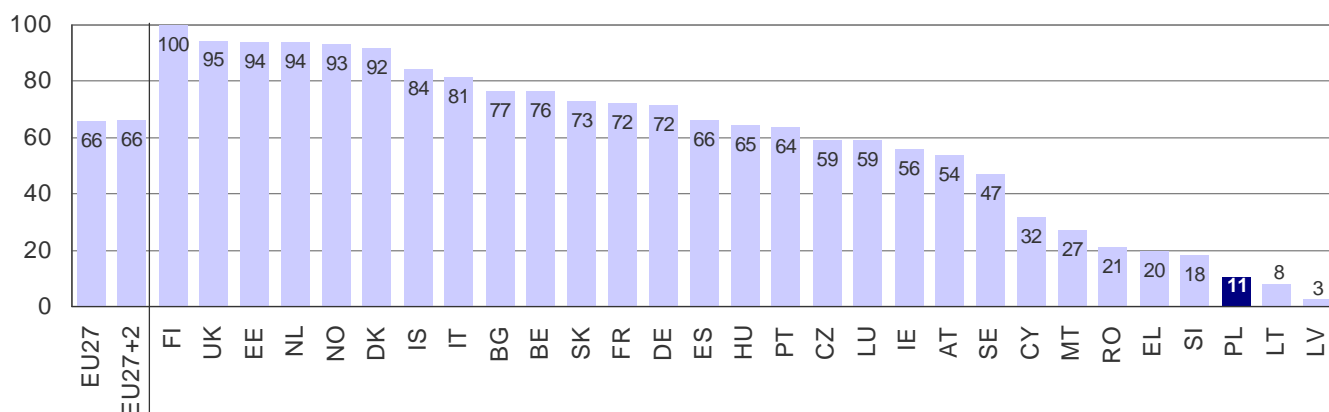
Apart from the storage and exchange of patient data, a computer can also be used in direct interaction with the patient, i.e. during the consultation in the practice. It can be used to display a patient's file to the practitioner, to provide supporting information when making treatment or medication decisions, but also for the explanation of medical issues to the patient, e.g. by means of a graph, photo or animation.

Poland belongs to the seven countries, where computers are used for consultation with the patients in less than 30% of the GP practices. With only 11% of Polish GP practices using

a computer for consultation, the country ranks well below the EU27 average of 66% and comes in third before last. While 40% of Polish GP practices are equipped with a computer in the consultation room, only a fourth of those having a PC at their disposition actually use it for direct interactions with the patient.

When it comes to the use of a computer in consultation with the patients, a huge gap can be observed between frontrunners countries with more than 90% of computer use (Finland, United Kingdom, Estonia, the Netherlands and Denmark) and the countries following or lagging behind.

## Computer Use in Consultation with the Patient in Poland



**Base:** All GPs. **Indicator:** B2 (cf. annex for more information), % values. **Source:** empirica, Pilot on eHealth Indicators, 2007.

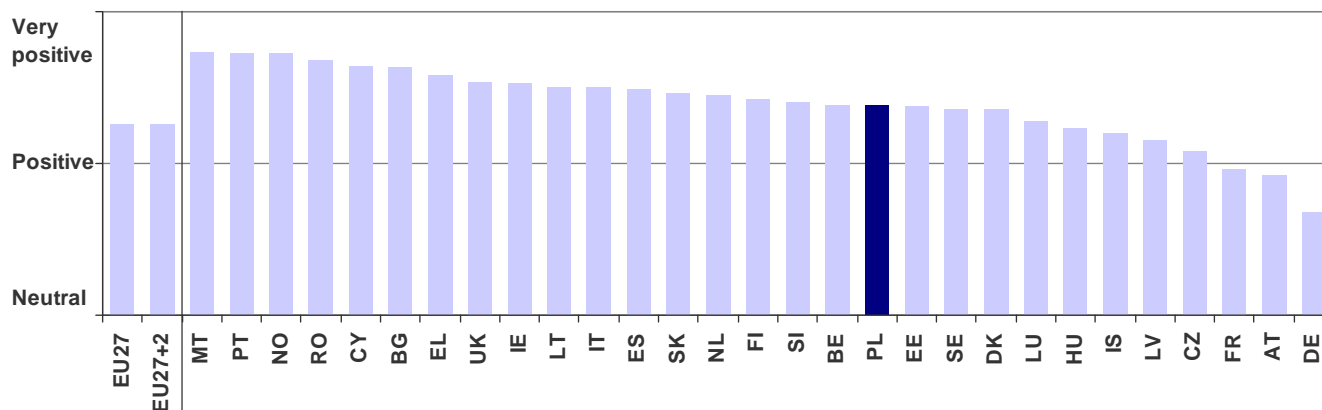
## Attitudes and Impacts

What role do ICTs play in the day-to-day work of a European General Practitioner? What is a GPs general attitude towards ICT and what facilitators and barriers towards a wider uptake of eHealth do they perceive? What are the impacts of eHealth?

GPs in Poland are quite positive when it comes to the question whether ICT really and tangibly improves the quality of health care services. When looking at the other countries it is interesting to see that in none of the 29 countries under observation a negative attitude is prevalent.

This positive attitude seems to have nothing to do with whether a country is more of an eHealth laggard or a frontrunner. Those countries displaying an only moderately positive attitude (such as Germany, France and Austria) are all average eHealth performers. At the same time, GPs using eHealth and practising in countries that can be considered eHealth laggards (e.g. Greece, Cyprus or Romania) show an attitude that is more positive than the EU average. Since differences between the countries in relation to the perception of facilitators and barriers as well as eHealth impacts are only small, the following analysis focuses on the EU average results, reporting national deviations where they occur.

## GPs General Attitude Towards ICT Use in Health Care in Poland



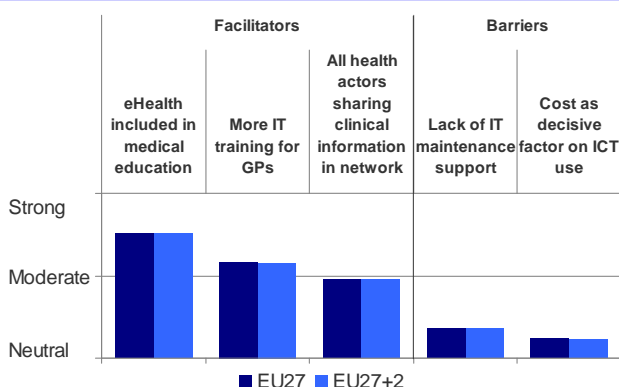
**Base:** GPs using computers. **Indicator:** F1 (cf. annex for more information), attitude scores. **Source:** empirica, Pilot on eHealth Indicators, 2007.

### Perception of facilitators and barriers

Among the factors that could facilitate the diffusion of eHealth, most European GPs would prefer if the issue were included in the curricula of medical education. The second most important facilitating factor is related to IT training provided to the GPs themselves. Thirdly, a better networking of all health actors in order to share clinical information is also regarded as beneficial by a majority of GPs.

As regards the electronic exchange of clinical information, GPs in Germany, Poland, Iceland and Norway are less positive about this than the European average, but still mostly agree to a certain extent. On the other hand, Greek, Lithuanian and Romanian GPs are considerably more positive on this issue than their European peers. In relation to IT training for GPs, practitioners in Denmark, Germany, Hungary and the Netherlands see this as a less important issue. A majority of Polish practitioners however agrees that more IT training would be useful in order to enhance the use of eHealth applications.

### GPs Perception of Facilitators and Barriers in the EU27



**Base:** GPs using computers. **Indicator:** F1b (cf. annex for more information), agreement scores. **Source:** empirica, Pilot on eHealth Indicators, 2007.

When it comes to potential eHealth barriers, most practitioners seem — on average — to consider neither a lack of IT maintenance support nor cost as a factor that seriously hampers their use of ICT. In some of the Eastern European Member States, GPs are however considerably more critical about both issues. A lack of IT maintenance support is seen as a barrier to eHealth — at least to a certain extent — by a major-

ity. In these countries cost is perceived as a barrier to eHealth by a noticeably larger number of GPs than in the EU on average. In Poland the contrary can be observed: cost is seen as a decisive factor while there seems to be no need for enhanced IT support and maintenance.

Noticeable deviations from these patterns can also be found in Greece, Spain and Ireland, here a majority of GPs somewhat agrees to the statement that a lack of IT support has a negative impact on eHealth use.

### Perception of impacts

In Poland the perception of eHealth impacts resembles the general pattern found in the EU27 to a very high degree.

The general impact perceptions show quite a clear pattern: the GPs are most positive about the administrative impacts of ICT use in health care, namely impacts in relation to their personal or practice staff working processes.

When it comes to patient-related or medical impacts a more ambivalent picture emerges. For every GP being positive about those impacts, there is at least one other GP not perceiving any benefit. This is for instance the case in relation to impact on the quality of diagnosis and treatment decisions: here about half of the GPs see positive impacts as compared to the other half seeing no impacts. In case of doctor-patient relationship and the workload of the support staff — including nurses etc. — between 16% and 25% say that the impacts are actually negative, i.e. that the relationship to the patient has deteriorated or that the workload of the support staff has gone up. The latter could indicate that the brunt of additional effort created by ICT use is not borne by the GP but by the other workers in the practice. This is also not contradicted by the perceived improvement of working processes. For the practitioner this may be due to the fact that they are not burdened with additional work generated by ICT and for the rest of the practice staff improved working processes might mean that an overall increased workload is simply handled more efficiently.

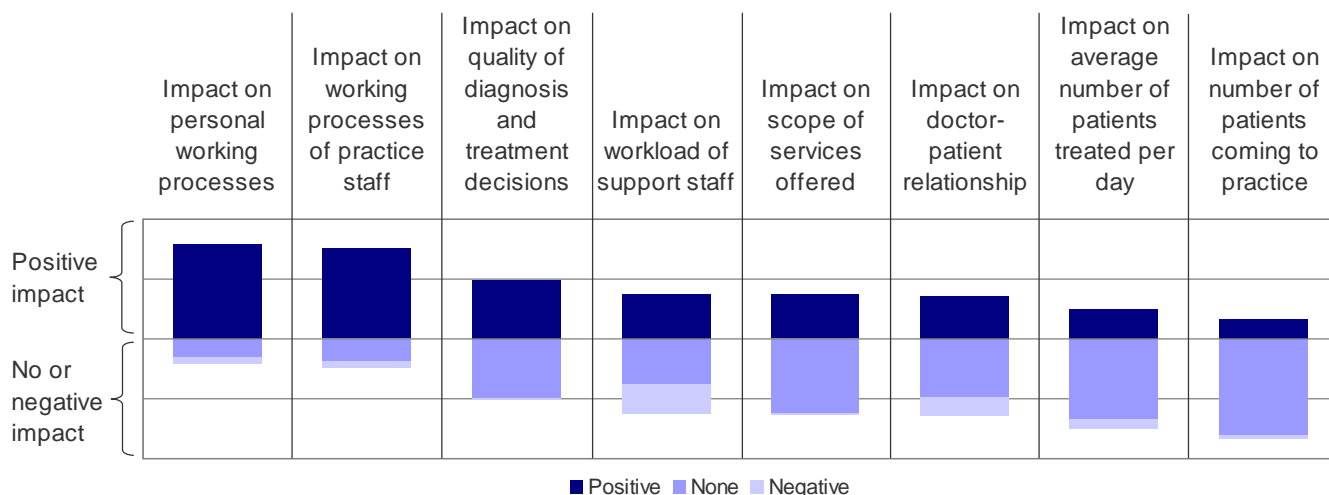
About one-third of the practitioners state that the scope of services offered by the practice actually increased due to the use of IT systems and software. In Poland as well, around one-quarter of the practitioners attribute an increase in the scope of services to the deployment of ICT. It can be assumed that for those GPs IT is not just a tool to make existing — e.g.

administrative — processes more efficient but to broaden the range of their activities.

The last two areas under observation here are the impact on the number of patients treated as well as on the number of patients coming to the practice. A majority of Polish GPs did not experience any changes in the number of patients coming to the practice, nor did they consider IT applications to have increased the scope of patients being treated per day. This goes in line with the general impression by European GPs, most of whom did not report any changes in the number of patients coming to the practice or being treated per day.

GPs from eHealth frontrunner countries tend to be somewhat more positive about impacts on personal and staff working processes and also about impacts on the quality of diagnosis and treatment decisions. They perceive a higher increase in the scope of services offered by their practice compared to their colleagues in the other countries. At the same time, negative impacts on the workload of the practice staff are deemed to be stronger.

### GPs Perception of eHealth Impacts in the EU27



**Base** Users of electronic records, or access to health networks, or electronic patient data exchange. **Indicator:** F1 (cf. annex for more information), attitude scores. **Source:** empirica, Pilot on eHealth Indicators, 2007.

## Making Sense of eHealth Use Patterns in the Member States

In terms of infrastructure, Poland displays a rather basic level of equipment as 72% of GP practices own a computer, 62% are connected to the Internet and 32% have access to a broadband Internet connection.

Poland shows its best eHealth performance in the area of patient data storage. Yet even here usage rates lie below the EU27 average. Computers are used for consultation purposes only to an extremely low extent. Decision Support Systems are still rather the exception than the rule. Patient data transfer has as yet not very much arrived on the agenda of Polish GPs.

### Polish policy strategies with eHealth relevance

"Poland - eHealth Strategy for 2004-2006";

"strategy of information infrastructure development in HC and introduction of EHIC" 2005

structural prerequisites are to be established in the upcoming years according to the priorities set in the national eHealth Strategy of 2004.

The communication between healthcare facilities and professionals will be facilitated by the introduction of a special electronic communication system "Zozmail", as well as the introduction of common standards that will enhance the interoperability of IT solutions used in the different health care facilities.

In 2005 a further "Strategy of information infrastructure development in health care and introduction of the European Health Insurance Card" has been decided on. This strategy aims at the development of an adequate health information technology infrastructure and the introduction of central databases and registers of medical data. The access to healthcare information through electronic patient registration and web portals is to be improved.

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 focussed solely on the information infrastructure in Polish hospitals and therefore had no impact on ICT use in GP practices. Until now the lack of an appropriate information technology has hindered the further development and use of eHealth applications. These infra-



## ANNEXES

### The Pilot on eHealth Indicators Study

The “Pilot on eHealth Indicators” study was carried out by empirica in association with IPSOS on behalf of the European Commission, Information Society and Media Directorate-General. The purpose of the present study was to measure the availability and use of ICT by primary care physicians in the EU27 and EEA countries, achieved by means of a survey of primary care physicians on their use of ICT for communicating with patients and between primary and secondary care and other eHealth agencies. Through this survey up-to-date information and data on eHealth developments was obtained. In addition 29 Country Briefs for each of the Member States, Norway and Iceland were developed.

### The Final Report

The Final Report of the study puts together all the results from the General Practitioner survey, including many indicators not used for this Country Profile. It also contains an extensive analysis of data, drawing a coherent picture of ICT use among General Practitioners in Europe.

#### Indicators used

The Final Report contains an indicator annex listing all statistical indicators covered by the survey, including those used for this Country Profile. The indicator codes used in the footnotes of the graphs and tables (e.g. B2, C1 etc.) can be used to identify the corresponding indicator in the list.

### Methodology Report

#### The survey

Data used for this Country Profile were collected by means of a survey of primary care physicians and their use of ICT with patients and between primary and secondary care and other health agencies.

The survey was carried out in all 27 Member States of the European Union and in Norway and Iceland. The fieldwork took place in the third quarter of 2007. It was coordinated by the German Ipsos branch Ipsos GmbH, Mölln and was conducted in cooperation with local partner institutes.

The survey was carried out in form of Computer-Aided Telephone Interviewing (C.A.T.I.). Exception is Malta where face-to-face interviews using P.A.P.I. methodology (Paper-and-Pencil Interviews) were conducted. In Sweden CATI interviews were used, until the sample was exhausted due to the specificities of the Swedish health system. The remaining interviews were accomplished through Computer-Aided Web-Interviews.

#### Universe/ Target Person and Sampling

The universe consisted of all General Practitioners in the respective countries. From the universe a random sample of practices / institutions with a quota on region and - where possible - private practice / institution was drawn. The target respondent within the practice / institution was selected via a random procedure if more than one GP were present. In total, 6,789 interviews were achieved. The sampling was done in a decentralised way and by each of the partner institutes.

## Number of Interviews Conducted

	Country	Interviews
BE	Belgium	318
BG	Bulgaria	206
CZ	Czech Republic	304
DK	France	261
DE	Germany	253
EE	Estonia	150
EL	Greece	315
ES	Spain	325
FR	France	302
IE	Ireland	206
IT	Italy	290
CY	Cyprus	72
LV	Latvia	177
LT	Lithuania	263
LU	Luxembourg	63
HU	Hungary	251
MT	Malta	92
NL	Netherlands	258
AT	Austria	299
PL	Poland	351
PT	Portugal	284
RO	Romania	304
SI	Slovenia	103
SK	Slovakia	261
FI	Finland	250
SE	Sweden	267
UK	United Kingdom	257
IS	Iceland	103
NO	Norway	204
	<b>Total</b>	<b>6.789</b>

#### Weighting schemes

After the fieldwork, weighting coefficients were computed giving each country a weight according to its population size in the respective group of countries: EU27+2 (for all 29 countries surveyed), EU27 (all EU Member States).

### More information

If you wish to be provided with more details, or to receive news and updates, please contact us at: [indeh \[at\] empirica \[dot\] com](mailto:indeh@empirica.com) or get in touch with us.



empirica Gesellschaft für Kommunikations- und Technologieforschung mbH

**(Project Co-ordinator)**

Oxfordstr. 2, 53111 Bonn, Germany, Tel.: +49 228 985 30 0, [www.empirica.com](http://www.empirica.com)