EUROPEAN COMMISSION
Information Society and Media Directorate General

Pilot on eHealth Indicators

Benchmarking ICT use among General Practitioners in Europe 2007

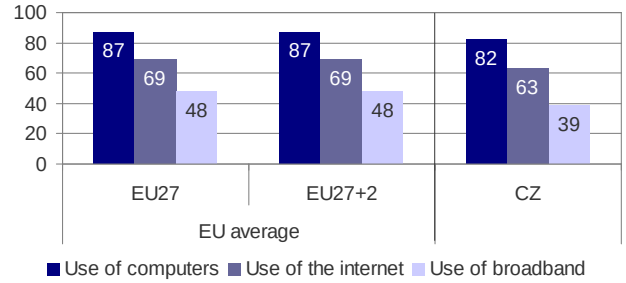
Country Profile: Czech Republic

Key findings: eHealth among GPs in the Czech Republic[1]

The Czech Republic has to be considered one of the weaker average performers in terms of eHealth as it scores slightly 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, 82% of the Czech GP practices use a computer. 63% of the practices are connected to the Internet. Around 40% of the Czech GP practices use a broadband connection. These figures, that are only slightly below the EU27 averages, place the Czech Republic at the tail end of a cluster of average performers.

ICT Infrastructure in Czech GP practices



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

The Czech Republic displays its best eHealth performance in the area of patient data storage, the use of a computer for consultation purposes and the use of a Decision Support System (DSS). DSS are particularly well established in the Czech Republic. They are used for diagnosis or prescribing purposes in 72% of the Czech GP practices, a share that clearly exeeds the EU27 average of 62%.

However, as shown in the diagram below, for most other eHealth applications under consideration in the survey the Czech Republic still scores slightly below the EU27 average.

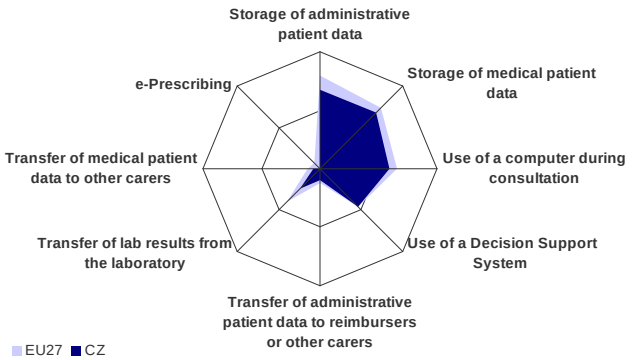
Both administrative and medical data are stored in around 70% of Czech GP practices. The share of Czech practitioners storing the different types of individual medical patient data correspond more or less to the averages to be found in the EU27. This indicates that in the Czech Republic the electronic storage of patient data is only moderately common. Two thirds of the Czech GP practices use a computer in consultation with their patients. This figure comes very close to the EU27 average of 66%.

The transfer of electronic individual patient data vira the Internet or dedicated networks is not yet well established in the Czech Republic. Electronic administrative patient data is routinely transfered to other carers by merely 6% of Czech GP practices, to reimbursers only by 13%. However while only 6% exchange medical data with other carers via networked connections, already one out of four practices receives laboratory results this way.

ePrescribing is still not a reality in most European Member States. This holds true for the Czech Republic as well. None of the GPs in the survey reported using ePrescribing.

The low level of electronic data transfer between Czech GPs and reimbursers or other care professionals can be attributed to the lack of an adequate network infrastructure up to now. The government plans to developed and establish such an eHealth network in the near future.

eHealth Use by GPs in the Czech Republic



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

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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 the Czech Republic around 80% of GP practices are equipped with a computer. This places the Czech Republic in a group of medium performers, where between 80% and 90% of the GP practices have a computer at their disposal.

All in all, 24 of the countries coverd by the survey show an availibility rate of more than 75%, a fact that clearly indicates that computers have arrived in EU GP practices. Computers are becoming more and more an essential and unquestioned part of practice fixtures.

In the Czech Republic around four-fifths of the GP practices fulfil the main infrastructural prerequisite for the successful implementation of eHealth applications.

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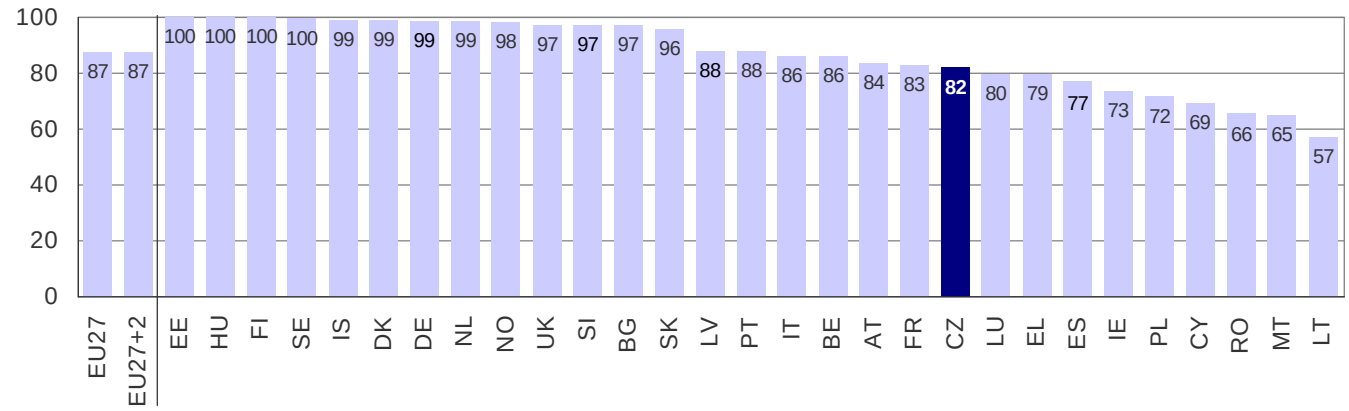
Use of Computers in GP Practices in the Czech Republic



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

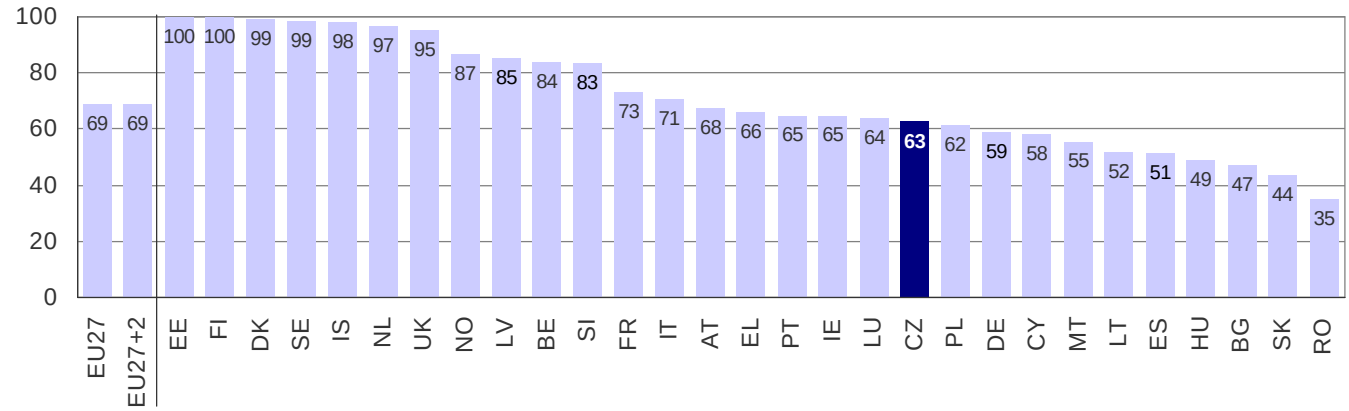
Use of the Internet and broadband

A connection to the Internet or any other dedicated network is a second prerequisite for all those eHealth applications that entail data transmissions and information retrieval. With respect to Internet connections, the Czech Republic holds a mid-field position in a rather large group of countries where less than 75% of practices have Internet access. In the Czech Republic 63% of the GP practices dispose of an Internet connection. When comparing the Internet access in the different EU Member States, it is noticeable that large differences between Member States persist.

In the Czech Republic, broadband is not yet universal. It is however already used in around 40% of the GP practices, which leaves only around 20% of the practices resorting to less powerful narrowband connections. This figure places the Czech Republic only slightly below the EU average of 48% of broadband connections. Similar shares of broadband connections are also attained in Germany (40%) and Austria (37%).

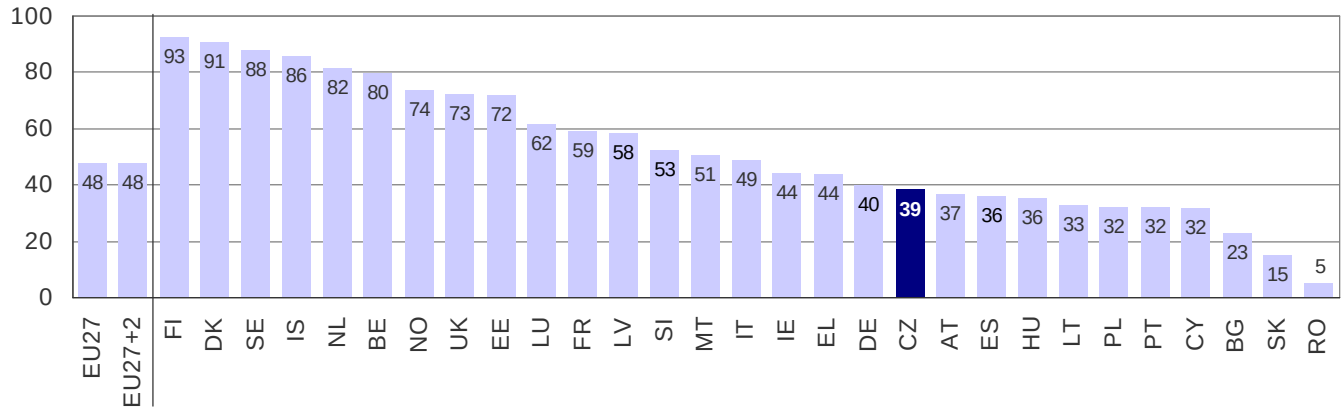
All in all, the differences regarding bandwidth across the EU27 Member States remain high. Penetration rates of broadband connections span from only 5% in Romania up to 93% in Finland.

Use of the Internet in GP Practices in the Czech Republic



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

Czech GP Practices Using a Broadband Connection



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

Use of eHealth Application

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 Czech Rebublic is one of the EU Member States that show an average use rate for the storage of electronic patient data. Around 70% of the GP practices in the Czech Republic store at least one type of electronic medical patient information. This corresponds to use rates in Spain and France, while staying slightly below the EU27 average of 77%.

Concerning the different types of medical patient data, usage rates in Europe vary substantially, while mostly a common usage pattern emerges. In the Czech Republic as in the EU on average diagnoses are stored most often and radiological images least often.

Around 90% of those Czech GP practices that store electronic medical patient data file information on diagnoses and medications. Basic medical parameters are stored only slightly less often. Information on medical history, symptoms, vital signs measurements and treatment outcomes are stored in 62-74% of the practices. The only data type stored considerably less often concerns radiological images, which are stored in only one-fifth of the Czech GP practices.

Electronic Patient Data Storage in the Czech Republic: Storage of Different Types of Individual 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 vie the Internet or other dedicated networks

The exchange of electronic medical patient data via Internet or dedicated networks is not yet very common; neither in the Czech Republic, nor in Europe as whole. While 25% of the Czech GPs already resort to network connections for the reception of analytical results from laboratories, only 6% of the GP practices that participated in the survey exchange medical patient data with other care providers. These figures - that

compare to 40% and 10% on average in the EU27 - place the Czech Republic in the lower mid-field of the European countries. Very similar average rates for the transfer of medical patient data are attained in Luxembourg.

Telemonitoring has not yet arrived on the scene, neither in the Czech Republic nor in the EU as a whole. In the Czech Republic not even one of the practices uses it. This compares to the highest usage rate which is realised in Sweden. Even here, not more than 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. In this case the Netherlands shows the highest usage level with however only 5% of practices taking part in cross-border transmissions of medical data. Cyprus and Malta come in second with a score of 3% each. In the Czech Republic only 1% of the GP practices coverd by the survey transmitted medical patient data across national borders.

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 indivdual Member States. Due to the differing health care systems in EU Member States, it is unsurprising that, with only very few exepctions, planned treatment is provided principally in the country of residence.

Electronic Exchange of Different Types of Medical Patient Data in the Czech Republic

	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

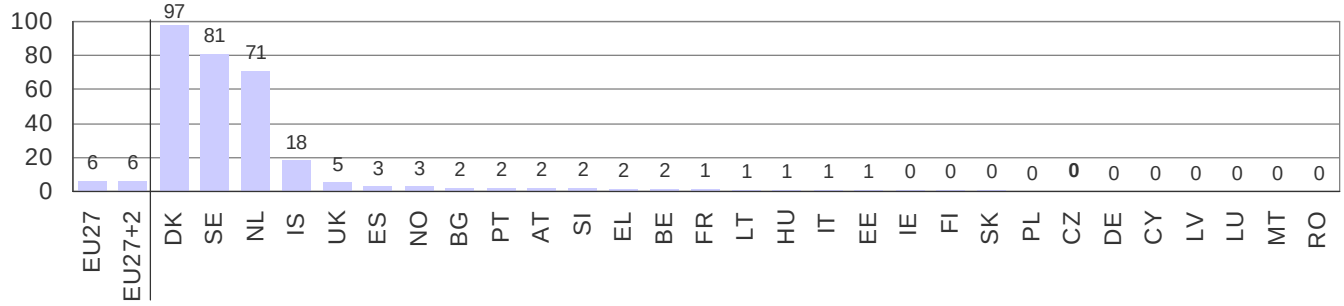
Base: All GPs. **Indicator:** D1 (cf. annex for more information), % values. **Source:** empirica, Pilot on eHealth Indicators, 2007.

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 the Czech Republic however, as in most of the European countries, vitually no GP practice makes use of ePrescribing.

Use of ePrescribing by GPs in the Czech Republic



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

Coded data entry

In the Czech Republic the distribution pattern of coded and uncoded data concerning the storage of electronic patient data is rather unusual. While in the EU on average a slight majority of GP practices use a mixed form of coded and uncoded data (45%), in the Czech Republic most GP practices (56%) that store electronic patient data, chose to do so un un-coded form only. Solely coded data is used in only 6% of the Czech GP practices, as compared to 21% on average in the EU. A mix of both coded and uncoded data is used by around one third of the Czech GP practices. 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 medical patient data by Czech 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.

The Czech Republic scores slightly below the EU average of 10% for the exchange of administrative data with other carers. This eHealth application is used by only 6% of the Czech GP practices. The use of networks in order to exchange administrative data with reimburses is not widespread either: only 13% of Czech GPs communicate data via networks, a use rate which corresponds to the 15% average in the European Union Member States. This figure places the Czech Republic in a cluster of lower mid-field countries, where between 10% and 20% of GP practices routinely transfer administrative patient data. This group includes Iceland, Belgium, Slovenia Ireland and the Czech Republic. 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 the Czech Republic

	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.

In the Czech GP practices show rather unusual use rates and patterns for the different security techniques that were included in the survey.

Especially astonishing is the high use rates for e-Signatures, which are resorted to in 49% of the GP practices in the Czech Republic. This figure is two times as high as the EU27 average of only 19%. The high use rate is rather unusual as - other than the case of password protection - both encryption and the use of electronic signatures require a dedicated infrastructure, which must be present at both ends. The higher effort required by these security techniques explains why they are on average used by a significantly lower percentage of European GP practices.

Password protected access on the other hand is the most readily available form of data protection and therefore unsurprisingly the method the most widely used. 94% of GP practices in the EU27 have established a password protected access. In the Czech Republic as well 97% of the GP practices use a password in order to protect the access to their practice PC. The situation for the use of passwords for the protection of transmitted files is similar. This security method is used by 65% of the Czech GP practices as compared to 57% of the GP practices in Europe

The encryption of transmitted files however is less prevalent in the Czech Republic than in the EU as a whole: while only around one third of Czech GP practices encrypt messages that contain sensible patient information, this security method is used on average by 42% of the GP practices across Europe.

GPs Use of Security Features in the Czech Republic

	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.

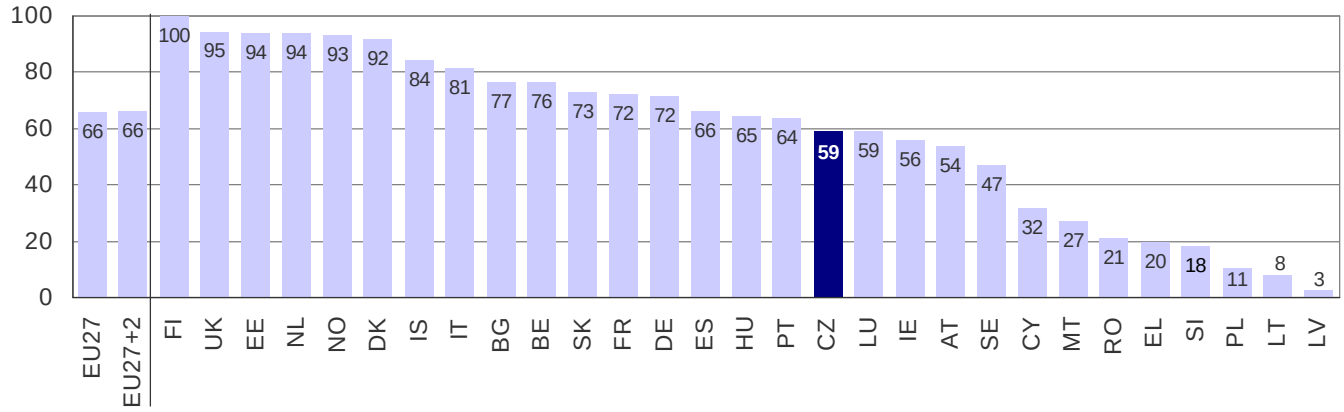
Computer use in consultation

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.

In the Czech Republic around 60% of the GPs actually use a computer in their interactions with their patients. This result stays slightly below the EU27 average of 66%. The Czech Republic positions itself in a group of weaker average performers. While Luxembourg displays the same use rate for a computer for consultation purposes, the availability versus use gap in the Czech Republic is higher: 80% of the practices in the Czech Republic dispose of a PC in the consultation room – this implies that 20% of the Czech GPs have a computer at their disposition but do not use it. In Luxmburg this rate of non-users amounts to only 10% of the GPs.

When it comes to the use of a computer in consutation 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 the Czech Republic



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

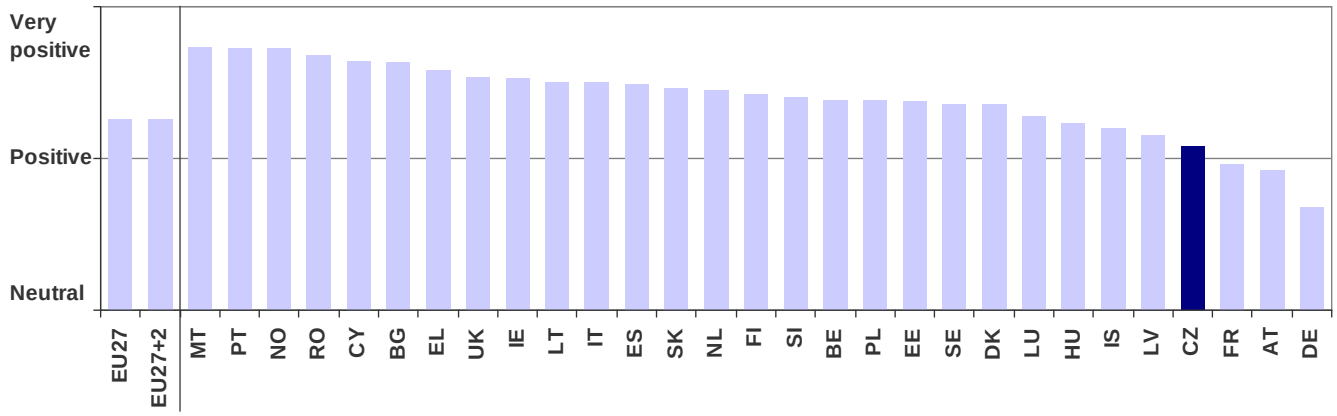
Attitudes and Impacts

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?

When it comes to the question whether ICT really and tangibly improves the quality of health care services, GPs in Luxembourg are slightly less positive than their European counterparts. Even more sceptical attitudes can be found amoung French, Autrian and German GPs. When looking at the other countries it is however 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 difference 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 the Czech Republic



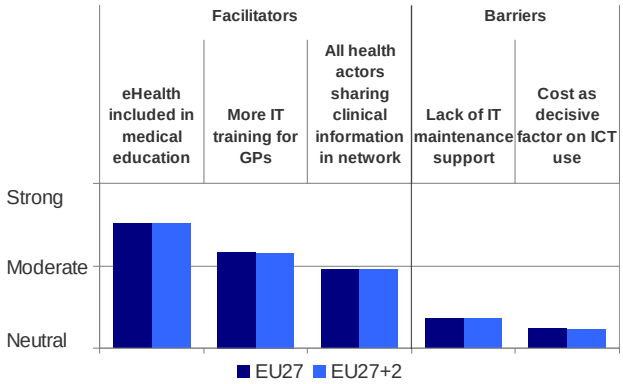
Base: GPs using computers. **Indicator:** F1 (cf. annex for more information), attitude scores. **Source:** empirica, Pilot on eHealth Indicators, 2007.

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.

In the Czech Republic however most GPs would favour IT training to be included in the regular mecial education. 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.

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 — on average — seem to consider neither a lack of IT 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 support is seen as a barrier to eHealth — at least to a certain extent — by a majority. In these countries cost is also perceived as a barrier to eHealth by a noticeably larger number of GPs than in the EU on average. This is not the case in the Czech Republic where costs are regarded as a lesser hindrance than in many other European countries.

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

The perception of eHealth impacts by Czech GPs resembles all in all the general pattern found in the EU27.

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.

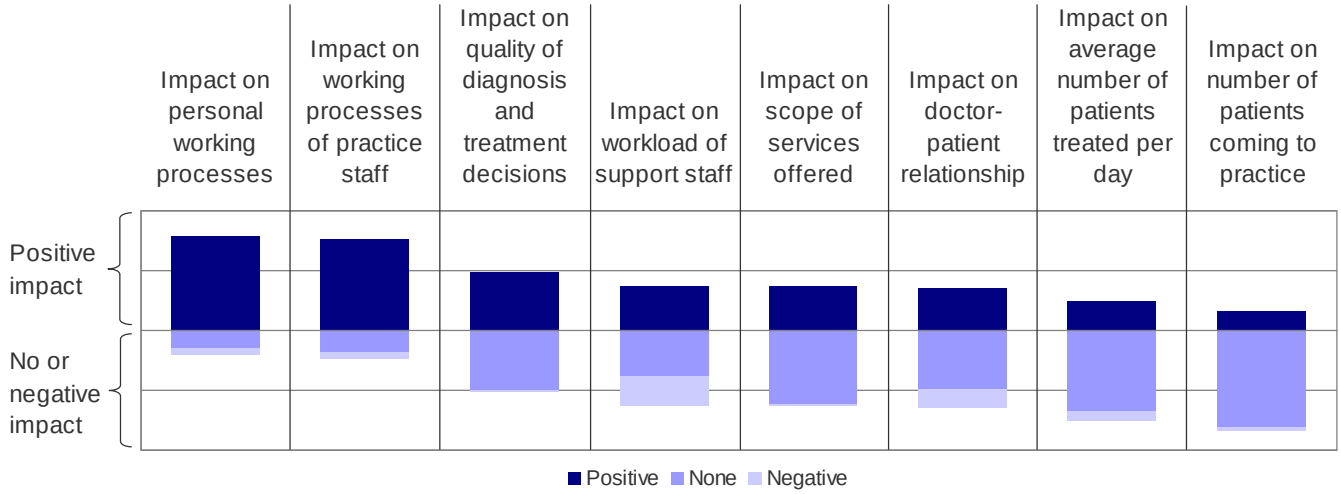
When it comes to patient-related or medical impacts a more ambivalent picture emerges. For every GP being positive about those impacts, there is at least one other GP not perceiving any benefit. This is for instance the case in relation to impact on the quality of diagnosis and treatment decisions: here 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. GPs in the Czech Republic are more positive than of their peers when it comes to the impact of TI solutions on the workload of their practice staff: only 10 % of the GPs believe that their staff's workload has gone up while a majority of the GPs sees either no change or noticed even an decrease in the workload of their staff due to the introduction of IT applications.

In Europe, on average around 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. The same share is evident for Czech GPs. 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. In the Czech Repbulic around 23% of the GPs attribute an increased number of patients they can treat in one day to the introduction of IT applications. An increase in the actual number of patients however was experienced only by 10% of the Czech GPs. A majority of Czech GPs therefore did not experience any influence of the use of eHealth applications on the number of their patients. 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, 82% of the Czech GP practices use a computer. 63% of the practices are connected to the Internet. Around 40% of the Czech GP practices use a broadband connection. These figures, that are only slightly below the EU27 averages, place the Czech Republic in a group of weaker average performers.

The Czech Republic displays its best eHealth performance in the area of patient data storage, the use of a computer for consultation purposes and the use of a Decision Support System (DSS). All three eHealth applications are used by around 70% of the Czech GP practice. These figures are below the Eu27 averages for the storage of patient data and above the EU27 average for the use of DSS.

eHealth is on the Czech policy agenda since 2002. The most recent step to promote deployment of ICT in general was taken in 2007 by the Ministry of Informatics by presenting the strategic document “National Plan eEurope+ Czech Republic” which includes a subsection on eHealth. Regarding GPs the plan's main goal is to make health care professionals become more capable and more active in the use of ICT.

This seems to already have had an impact on the use of electronic patient data storage in the practice as well as on the use of computers in consultation, two eHealth applications which are already used by about two thirds of the GP practices in the Czech Republic.

Czech policy strategies with eHealth relevance

Section online-health in National Action Plan eEurope + CZ 2002

The government is currently planning to build an electronic public health network. The lack of a powerful and efficient network infrastructure so far explains why use rates for electronic patient data transfer (and for medical data transfer in particular) in the Czech Republic are currently rather low.

Another strand of Czech eHealth policy is the implementation of an EHR system, which was developed and provided by IZIP Inc. The system will include ePrescribing and e-Messaging and is envisaged to improve the affordability and quality of the work of GPs.

Besides the national eEurope+ plan, the legislation of the Czech Republic concerns particularly the development of data protection and authorized digital signatures. The government plans to provide medical professional registries and ePrescribing services embedded in the harmonization process on the EU-level considering the community directives on data protection, electronic commerce or electronic signatures.

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 County 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
	Total	**6.789**

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 or get in touch with us.

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