



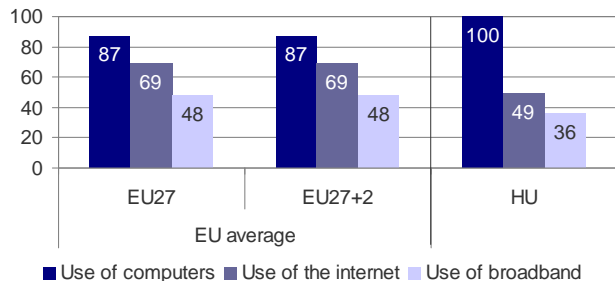
# Benchmarking ICT use among General Practitioners in Europe 2007

## Country Profile: Hungary

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

Hungary is a solid average eHealth performer in the EU27. This concerns both the availability of ICT infrastructure (computer, Internet) and the use of ICT for different eHealth-related purposes.

In terms of infrastructure, 100% of the Hungarian GP practices use a computer, which puts the country on a par with Estonia, Finland and Sweden where also a computer availability rate of 100% is reached. However, only 49% of Hungarian GP practices make use of an Internet connection, a result which is below the EU27 average of 69%. Broadband connections have not yet fully arrived in Hungary. Only 36% of the Hungarian GP practices make use this type of internet access.



### ICT Infrastructure in Hungarian GP practices

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

Electronic patient data storage is quite common in Hungary. The storage of medical and administrative patient data are the eHealth applications the most frequently used in Hungary. Results in this regard clearly exceed European averages.

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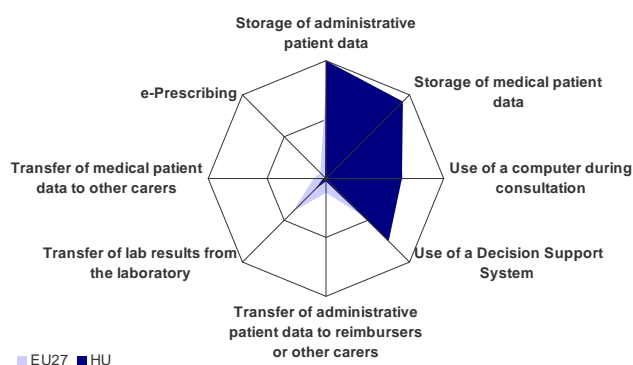
At least one type of medical patient data is stored in 99% of GP practices.

A computer is available in the consultation room in 83% of the Hungarian GP practices. It is actually used for consultation purposes with the patients in 65% of the practices. This “availability versus use” gap can be found in many European countries, sometimes being as high as 50% absolute. In Hungary, 83% GP practices use a Decision Support System either for diagnosis or prescription purposes (50% on average in the EU27).

In Hungary the electronic exchange of patient data via the Internet or other dedicated networks on the other hand is not yet well established. Only 12% of the GP practices receive results from laboratories. In Europe this is most frequently used type data transfer (40%). Even less, that is 2% of the GP practices exchange medical data with other health care providers electronically. EPrescribing is also used by only 1% of the Hungarian GP practices. However, this application can be regarded as a reality in three member States: Denmark, the Netherlands and Sweden. Apart from these countries, adoption levels in the rest of the Member States are never higher than 5%.

Only 1% of the Hungarian GPs exchange administrative data with other care providers, as compared to an average rate of 10% in EU27. With a use rate of 5% for the exchange of administrative data with reimbursers, Hungary also scores below the EU average of 15%. Frontrunner countries are Denmark, the Netherlands and the United Kingdom, but even here not more than one out of two practices uses this feature.

### eHealth Use by GPs in Hungary



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

## 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 electronic medical and administrative patient data, its electronic exchange etc.). It is therefore the baseline from which a European GP can start his or her professional activities in the eHealth domain.

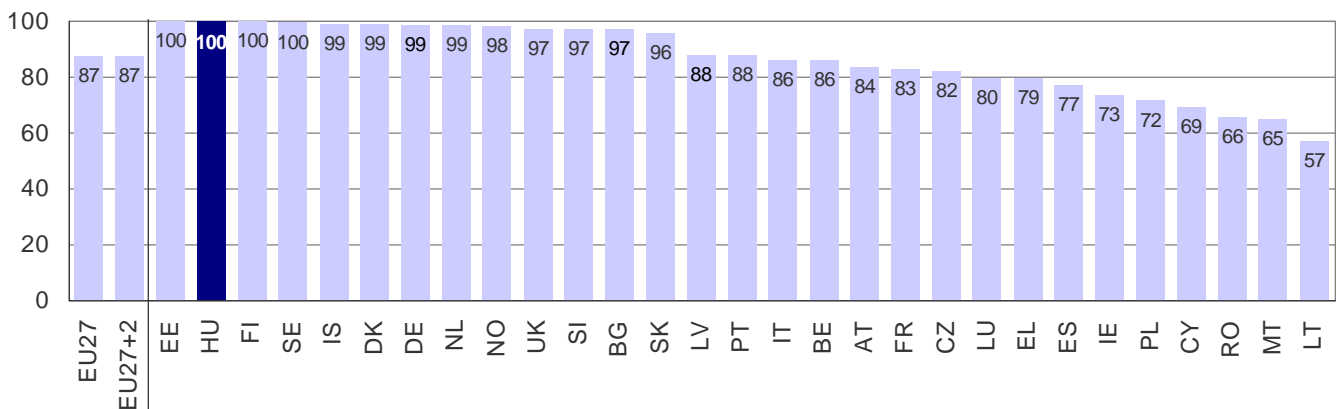
ICT infrastructure as understood here entails

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

## Use of computers

Hungary is among the top performers with regard to this infrastructure indicator as 100% of the GP practices are equipped with one or more PCs. This result puts Hungary on a par with three other EU countries where a computer can be found in all GP practices. All in all 24 countries show a computer availability 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.

### Use of Computers in GP Practices in Hungary



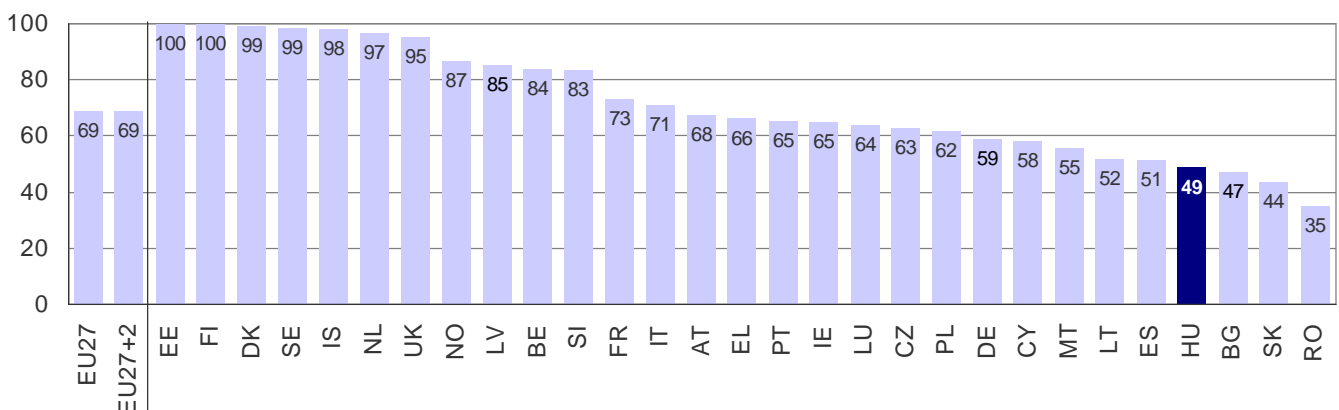
Base: All GPs. Indicator: R4 (cf. annex for more information), % values. Source: empirica, Pilot on eHealth Indicators, 2007.

## Use of the Internet and broadband

Even though a computer is ubiquitous in Hungarian GP practices, only 49% of the practices are connected to the Internet, a result which is far below the EU27 average (69%).

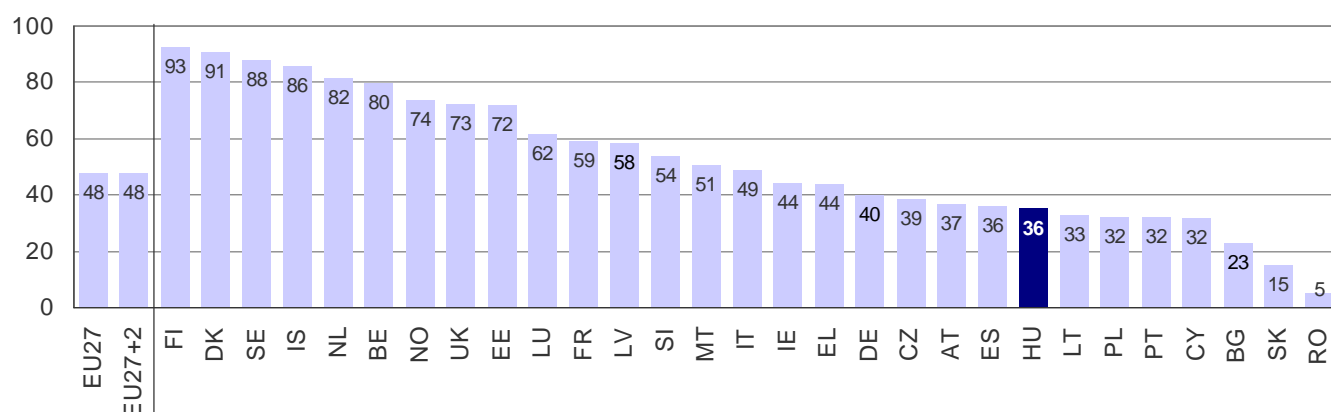
A connection to the Internet or any other dedicated electronic network is a prerequisite for all those eHealth applications that are based on data transmission or information retrieval.

### Use of the Internet in GP Practices in Hungary



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

## Hungarian GP Practices Using a Broadband Connection



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

Broadband connections have not yet arrived in Hungarian GP practices. Only 36% of the Hungarian GP practices use this type of internet access.

Other than in the case of computer and Internet use, differences regarding bandwidth across the EU27 Member

### Use of eHealth Applications

With about 87% of European GP practices having a computer and about 69% being connected to the Internet, the question is 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

Electronic patient data storage is comparatively common in Hungary. Virtually all GP practices (99%) store at least one type of electronic medical patient data. Hungary also scores above the EU27 average use rates not only for some, but for all types of data under observation. Given that Hungarian GP practices display extremely high usage rates for all types of medical patient data under observation in the survey, it might

States remain high, with penetration rates varying between 93% and 5%. Hungary belongs to a group of 11 countries where less than 40% of the GP practices access the Internet via broadband connections.

be deduced that most GP practices store more than only one type of information. A rather encompassing patient information data base seems to be the norm.

Electronic data stored in Hungarian practices relates most often to diagnosis and medications (99%). Nearly all other data types are also stored in more than 90% of the Hungarian GP practices. This concerns information on basic medical parameters, lab results, symptoms/reasons for encounters, medical history, examinations and results, vital signs measurements and treatment outcomes. Even the storage of radiological images, which is a lot less in common on average in the EU27 (34%), is practiced in 70% of the Hungarian GP practices.

### Electronic Patient Data Storage in Hungary:

#### 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 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 neither arrived in Hungary nor in the EU as a whole. In Hungary 12% of the GP practices use an electronic health network connection to receive results from laboratories. This is otherwise by far the most frequent type of electronic data exchange in the EU27 (40%).

2% of the Hungarian GP practices exchange data electronically with other medical carers. This compares to an rate of 10%.

Telemonitoring has not yet arrived on the scene neither in Hungary - where none of the GP practices having participated in the survey uses it - nor in the EU as a whole. The highest share in this regard can be found in Sweden, where however still only 9% of GPs offer telemonitoring services. The only other countries where telemonitoring is used to some limited extent are the Netherlands and Iceland, with use rates of 3% each.

A similar pattern can be discovered with regard to the exchange of medical patient data across borders. In Hungary none of the GP practices transfers medical data across national borders. In this case the Netherlands show the highest use 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 Hungary

	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	
Analytic 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	0	3	5	1	0	0	0	0	0	0	1	0	0	0

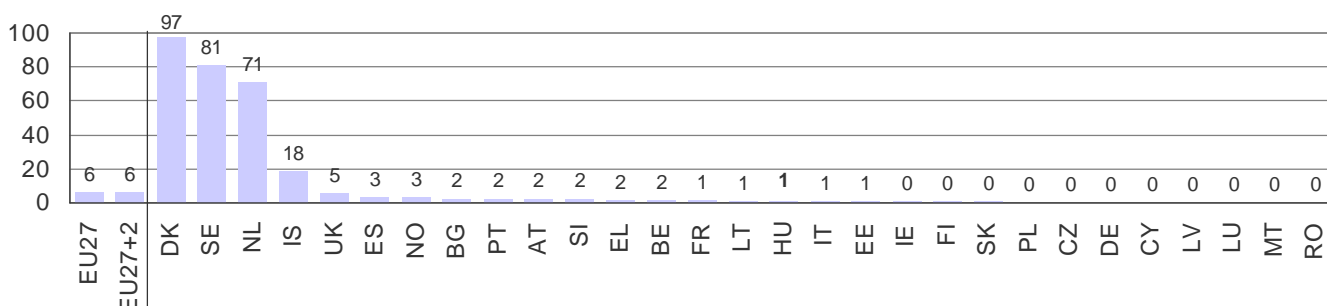
Base: All GPs. Indicator: D1 (cf. annex for more information), % values. Source: empirica, Pilot on eHealth Indicators, 2007.

### ePrescribing

The electronic exchange of prescriptions, commonly referred to as ePrescribing, is currently used in only 1% of GP practices in Hungary. A similar situation can be found in nearly all EU27 Member States as well as in Norway. ePrescribing can be considered a reality only in three EU Member States:

Denmark, Sweden and the Netherlands and Iceland outside the EU27 are the only countries that display use rates of more than 5%. This shows clearly that ePrescribing has so far not arrived on the scene throughout the EU.

### Use of ePrescribing by GPs in Hungary



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

### Coded data entry

6% of the Hungarian practices use coded data for the storage of electronic medical patient information. 5% of the practices store patient data in un-coded form only. The majority of Hungarian GPs (88%) however use both coded and un-coded data. 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. Use of coded data facilitates the further processing of the patient data, e.g. for billing purposes. In Europe 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 Hungarian 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	30	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	25	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.

Only 1% of the Hungarian GPs use networks to exchange patient data with other carers, as compared to the average rate of 10% reached by the EU27.

As far as the networked exchange of administrative data with reimburses is concerned, Hungary is in a similar position.

Networks are used for this purpose in only 5% of GP practices, as compared to 15% on average in the EU27. The frontrunners in this regard are Denmark, the Netherlands and the United Kingdom, but even here not more than one out of two GP practices uses this feature.

When it comes to the exchange of administrative patient data in the EU27 Member States, huge variations come into view. As regards the exchange of administrative data with other care providers, shares differ between 0% (Latvia and Lithuania) and 74% (Denmark). Rates for the exchange of administrative data with reimbursers also differ widely: from 0% (Latvia and Lithuania) to 48% (Denmark).

**Exchange of Administrative Patient Data in Hungary**

	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 Hungary, 100% of GP practices have established a password protected PC access. High use rates for this security technique (94% on average in the EU27) are due to the fact that password protected access can be achieved comparatively easy as it is basically available for all commercial computer operating systems. Password protection of transmitted files is used in 57% of Hungarian GP practices.

Even though password protection of files is also technically available in many applications, on average only 57% of the GP practices in the EU27 use this technique.

31% of the Hungarian GP practices encrypt transmitted files and e-mails and only 7% of GP practices use e-signatures. The relatively low use rates for these security methods in Hungary as well as in most other EU27 Member States can be explained by the fact that - other than in the case of password protection - both encryption and the use of electronic signatures require a dedicated infrastructure comprising software, an encryption key and a signature. This infrastructure must be present at both ends: on the side of the transmitting as well as of the receiving party.

## GPs Use of Security Features in Hungary

		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

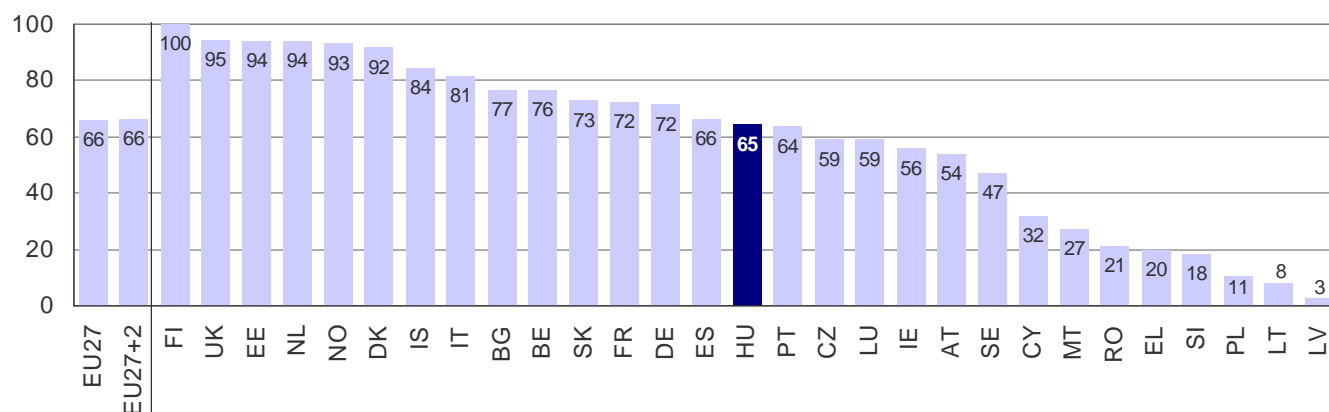
Apart from the storage and exchange of patient data, a computer can also be used in direct interaction with the patient, i.e. during the consultation in the practice. It can be used to display a patient's file to the practitioner, to provide supporting information when making treatment or medication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

While 83% of the Hungarian GP practices dispose of a computer in the consultation room, this PC is actually used for

consultation purposes with the patient in 65% of the GPs practices.

The results for the EU27 show a significant gap between frontrunners with more than 90% of GP practices using a computer (Finland, UK, Estonia, Netherlands and Denmark) and the countries following or lagging behind (less than 30%). With 65% Hungary is in among a group of solid average performers with usage rates varying between 60% and 80%.

## Computer Use in Consultation with the Patient in Hungary



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

## Attitudes and Impacts

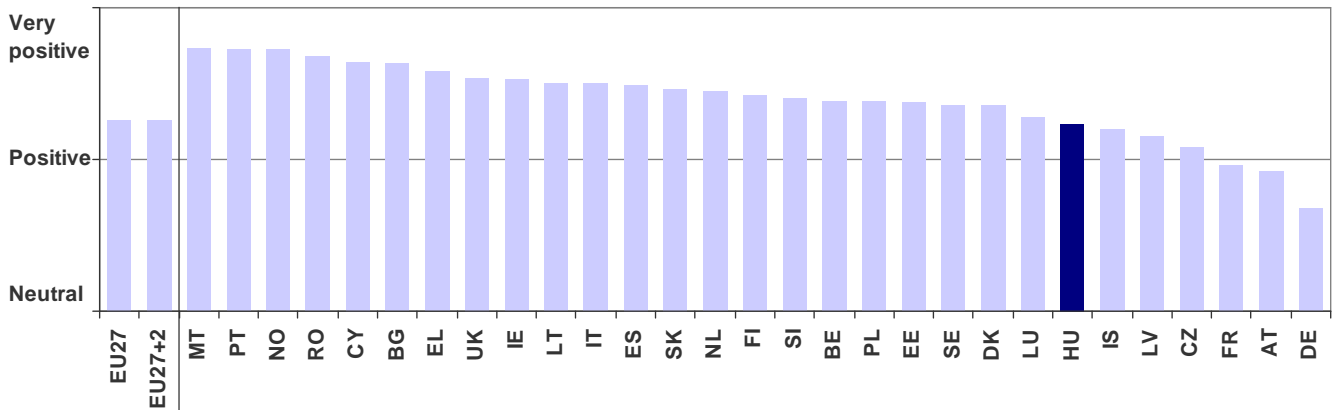
What role does ICT play in the day-to-day work of a European General Practitioner? What is a GPs general attitude towards ICT and what facilitators and barriers towards a wider uptake of eHealth do they perceive? What are the impacts of eHealth?

GPs in Hungary are quite positive when it comes to the question whether ICT really and tangibly improves the quality of health care services, as are basically all GPs in Europe. On a scale ranging from a very negative to a very positive attitude, Hungarian GPs can be found somewhere between positive and very positive. 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 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 Hungary



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

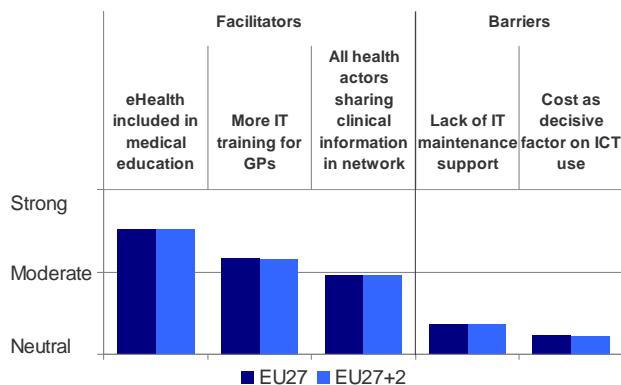
### Perception of facilitators and barriers

The perception of facilitators and barriers of Hungarian GPs goes in line with the perception shown by the majority of GPs in the EU27.

Among 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.

## 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 majority in Hungary. Cost are perceived as a barrier to eHealth by a noticeably larger number of GPs in Hungary than in the EU on average.

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 Hungary 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 pattern holds true for the EU27 as a whole as well as for the Hungarian GPs in particular. 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 Hungary this positive impact could be discerned by 31% of GP practices. It can be assumed that for those GPs ICT is not just a tool to

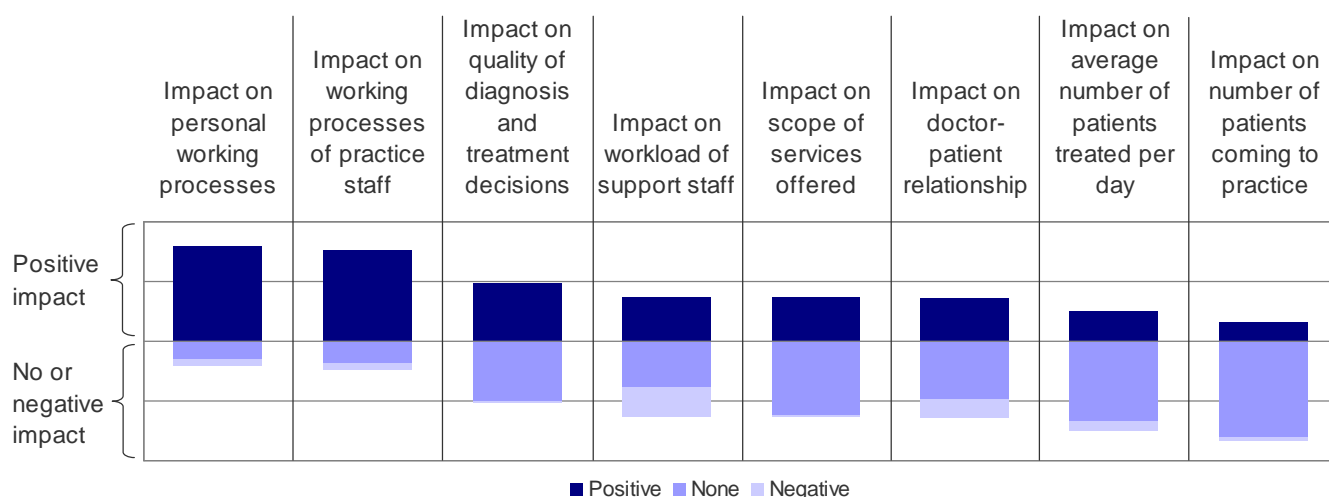
make existing — e.g. administrative — processes more efficient but to broaden the range of their activities.

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 Hungarian GPs did not experience any changes in the number of patients coming to the practice (82%) nor the number of patients treated per day (82%) that could be related to the introduction of eHealth solutions. 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

Hungary is among the average eHealth performers in the EU27. In terms of infrastructure, Hungary scores extremely well in regard to availability of computers in the GP practices: all GP practices having participated in the survey have one or more PCs at their disposition. When it comes to Internet connectivity and broadband connections, however, Hungary scores slightly below the European averages.

While the storage of patient data is quite common in Hungary, the use of electronic patient data transfer is only at the beginning of its development. Around 65% of Hungarian GP practices use a computer for consultation purposes. The consultation and also the use of a Decision Support System is also quite common (83%).

eHealth policy activities initiated by the Hungarian Ministry of Health are aligned with the European Commission's eHealth Action Plan. The implementation of the Hungarian eHealth Programme started in January 2004, which followed the Hungarian Information Society Strategy (HISS) of 2002 and the HISS for Health and Social Affairs in 2003.

### Hungarian policy strategies with eHealth relevance

National eHealth Programme 2004

Hungarian IS strategy for health and social affairs 2003

The program addresses many eHealth issues, amongst others the elaboration of e-Application data models and communication standards, like ePrescribing or electronic patient records and the development of evidence-based medical knowledge bases. Some effects in the field of General Practitioners can already be seen, above all with regard to the electronic storage of individual patient data. According to the survey results, all GPs in Hungary store individual administrative data and more than 90% store at least one type of individual medical patient data.

In Hungary, plans are being made to develop other eHealth applications such as ePrescribing, and electronic data exchange between hospitals, GPs and care providers in the near future. Several regions in Hungary participate in European projects that were launched to connect all levels of healthcare and provide eHealth services.



## 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[at]empirica[dot]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)