

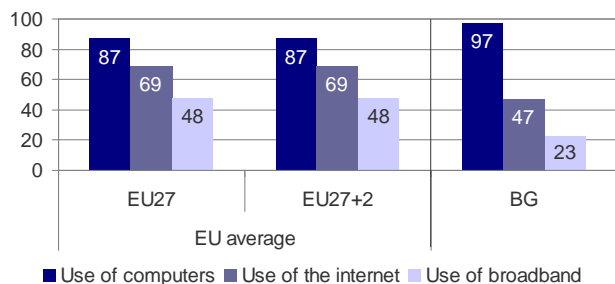


Benchmarking ICT use among General Practitioners in Europe 2007

Country Profile: Bulgaria

Key findings: eHealth among GPs in Bulgaria¹

Bulgaria is an average eHealth performer in the EU27. In terms of infrastructure, 97% of the Bulgarian GP practices use a computer, which puts the country on a par with 13 other EU countries where a computer availability rate of nearly 100% is reached. Only 47% of Bulgarian GP practices are connected to the Internet, a result which is below the EU27 average of 69%. Broadband connection has not yet arrived in Bulgaria; only 23% of the Bulgarian GP practices make use of it.



ICT Infrastructure in Bulgarian 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 Bulgaria. At least one type of individual data is stored in 96% of GP practices. The results reached in Bulgaria for the storage of the different types of medical patient information (e.g. diagnoses, medications etc.) are all above the European averages.

A computer is available in the consultation room in 86% of the Bulgarian GP practices. Here it could for instance be used to display a patients' file to the practitioner, to explain medical issues to the patient by means of a photo or animation but also to run a decision support system helping in diagnosis or

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prescribing. In Bulgaria 76% of the GPs – e.g. nearly all GPs that have a computer in the consultation room - actually use the computer for consultation purposes with the patient. This corresponds to a quite low availability versus use gap.

55% of the Bulgarian GP practices use a Decision Support System for diagnosis or prescription purposes (50% on average in the EU27).

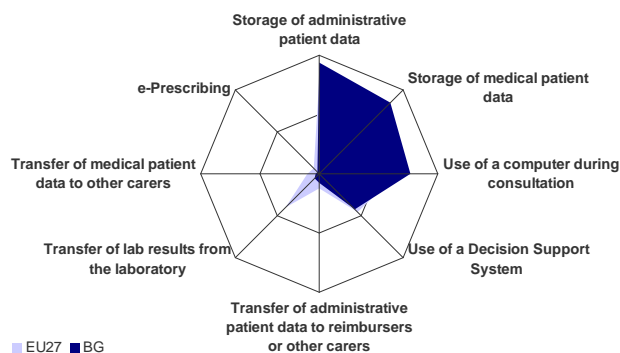
The electronic exchange of patient data on the other hand is not yet well established. This concerns medical as well as administrative patient data.

Only 5% of the GP practices receive results from laboratories. This compares to an EU27 average of 40%. The reception of lab results is the type of medical patient data exchange the most frequently used. Only 3% of the Bulgarian GP practices exchange medical data with other health care providers. In this regard as well Bulgaria positions itself below the EU average of 10%.

6% of the Bulgarian GPs exchange administrative data with other care providers, compared to the average rate of 10% reached by the EU27. With a usage rate of 10% for the exchange of administrative data with reimbursers, Bulgaria scores slightly below the EU average of 15%.

The electronic exchange of prescriptions, commonly referred to as ePrescribing, is practiced by only 2% of the GP practices in Bulgaria. ePrescribing can be regarded as a reality in only three member States: Denmark, the Netherlands and Sweden. Apart from these countries adoption levels are never higher than 5%.

eHealth Use by GPs in Bulgaria



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 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.

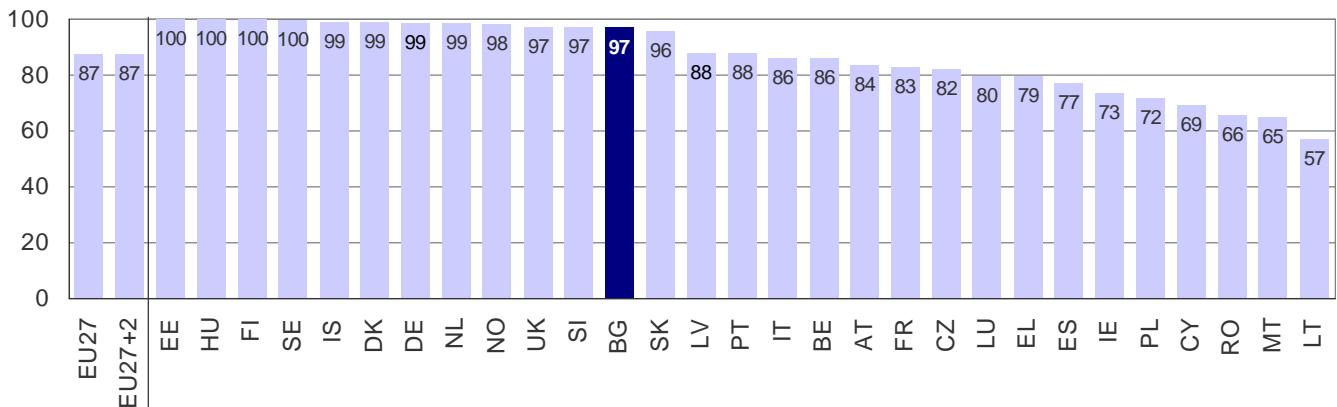
ICT infrastructure as understood here entails

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

Use of computers

Bulgaria is among the top performers with regard to computer availability as 97% of GP practices are equipped with one or more PCs. This result puts Bulgaria on a par with 13 other EU countries where a computer can be found in all or nearly all GP practices. All in all 24 countries show an availability 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.

Use of Computers in GP Practices in Bulgaria



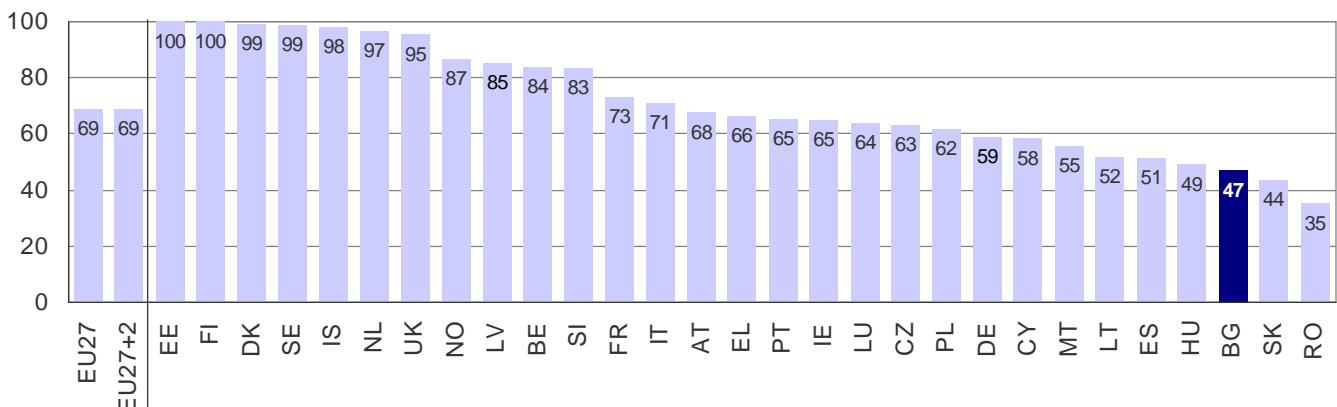
Base: All GPs. **Indicator:** R4 (cf. annex for more information), % values. **Source:** empirica, Pilot on eHealth Indicators, 2007.

Use of the Internet and broadband

Even though a computer is nearly ubiquitous in Bulgarian GP practices, only 47% of the GP 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.

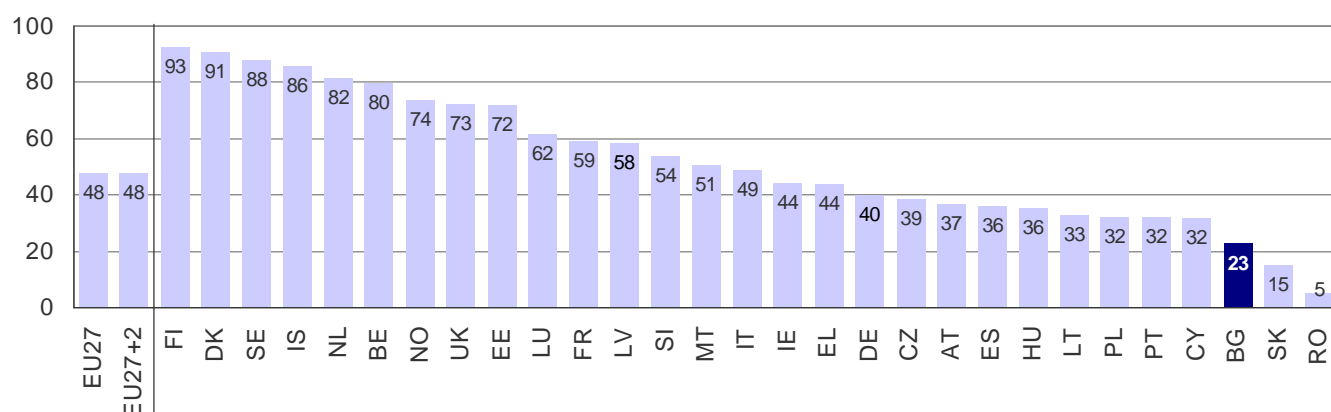
Broadband connections have not yet arrived in Bulgaria. Only 23% of the Bulgarian GP practices use it. Other than in case of computer and Internet availability, differences remain high across the EU27 Member States. Broadband availability rates vary between 93% and 5%.

Use of the Internet in GP Practices in Bulgaria



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

Bulgarian 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 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 common in Bulgaria. 96% of GP practices store at least one type of individual patient data. Bulgaria scores above the EU27 average use rates not only for some, but for almost all types of data under

observation. In more detail, electronic data stored in Bulgarian practices relates most often to diagnosis (97%), symptoms/reasons for encounters (94%), medications (93%), vital signs measurement (93%), medical history (93%), lab results (83%), basic medical parameters (80%), and examinations and results (86%). Even in regard to the storage of treatment outcomes and radiological images, which is a lot less common (65% and 34% respectively), Bulgarian scores above average (78% and 50%).

Electronic Patient Data Storage in Bulgaria:

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 Bulgaria nor in the EU as a whole. In Bulgaria, only 3% of GP practices use a network connection to receive results from laboratories. This use type is the one is used by far the most frequently in the

EU27 as 40% of the GP practices receive laboratory results via network connections. Not more than 3% of the Bulgarian GP practices exchange data with other medical carers. This compares to an average of 10%.

Telemonitoring has not yet arrived on the scene neither in Bulgaria – where only 1% of the GP practices offer telemonitoring services - nor in the EU as a whole. The highest

share can be found in Sweden, where 9% of GPs report making use of telemonitoring. 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 Bulgaria the use level is in line with the EU27 average of 1%. In this regard the Netherlands show the highest use level with however still 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. The relatively low transfer rates for electronic patient data are due to the fact that Bulgaria does not have a centralized data store or a nationwide EHR.

Electronic Exchange of Different Types of Medical Patient Data in Bulgaria

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

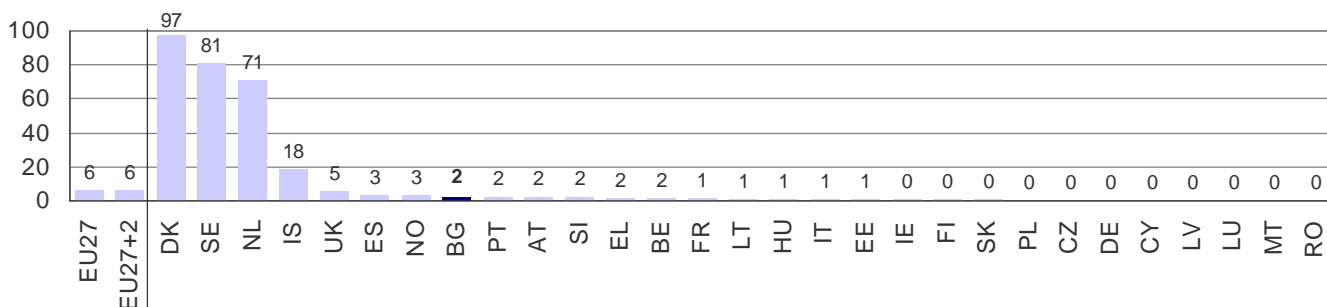
Base: All GPs. Indicator: D1 (cf. annex for more information), % values. Source: empirica, Pilot on eHealth Indicators, 2007.

ePrescribing

Electronic exchange of prescriptions, commonly referred to as ePrescribing, is currently practiced by 2% of GP practices in Bulgaria. A similar situation can be found in nearly all EU27 Member States as well as in Norway. There are only three EU

Member States where ePrescribing is a reality. These are Denmark, Sweden and the Netherlands. This shows clearly that ePrescribing has so far not arrived on the scene throughout the EU.

Use of ePrescribing by GPs in Bulgaria



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

Coded data entry

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

22% of the Bulgarian GP practices store patient data in coded form only, while 27% of the practices store data only in un-coded form. Around one half of the practices store both

coded and un-coded data. For the latter, a clear estimation of the coded/uncoded share is not possible.

In this regard, Bulgaria displays results that corresponds more or less to the findings ranks at the European averages. A majority of the GP practices in Europe use a combination of coded and un-coded data.

Use of data coding for the storage of electronic patient data by Bulgarian 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.

6% of the Bulgarian GPs use networks to exchange administrative patient data with other carers, compared to the average rate of 10% reached in the European Union.

As far as the networked exchange of administrative data with reimbursers is concerned, Bulgaria is in a similar position. Networks are used for this purpose by 10% of GP practices,

compared to 15% on average in the EU27. The frontrunners 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: the exchange of administrative data with other care providers differs 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 Bulgaria

	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 Bulgaria, 97% of GP practices have established a password protected access. High use rates for this security measure (on average 94%), are due to the fact that password protection can be achieved comparatively easy as it is basically available for all commercial computer operating systems. Password protection of transmitted files is used by 77% of Bulgarian GP practices. This compares favourably to the EU27 average: 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.

49% of the Bulgarian GP practices encrypt transmitted files and e-mails and 68% of the Bulgarian GP practices use e-signatures. Concerning the use of e-signatures, Bulgaria scores well compared to his European neighbours. On average all countries of the EU27 reached 19%. An exceptional frontrunner country is Denmark (93%). Relatively low usage rates are reached in almost all countries because both methods (encryption and e-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 Bulgaria

	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

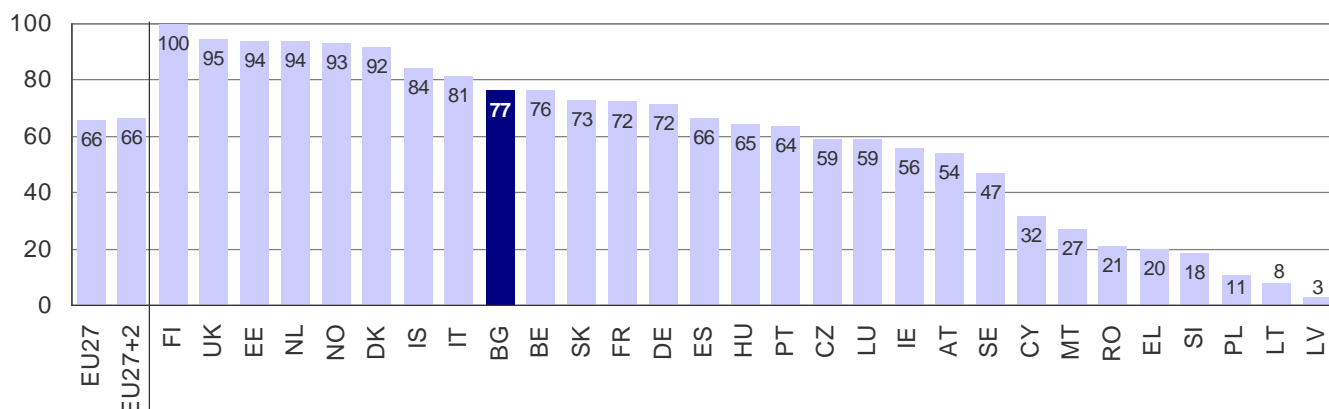
Base: All GPs. **Indicator:** D4 (cf. annex for more information), % values. **Source:** empirica, Pilot on eHealth Indicators, 2007.

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.

77% of the GPs in Bulgaria use a computer in patient consultation. 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 77% Bulgaria is in among a group of advanced average performers with use rates varying between 70% and 80%.

Computer Use in Consultation with the Patient in Bulgaria



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

Attitudes and Impacts

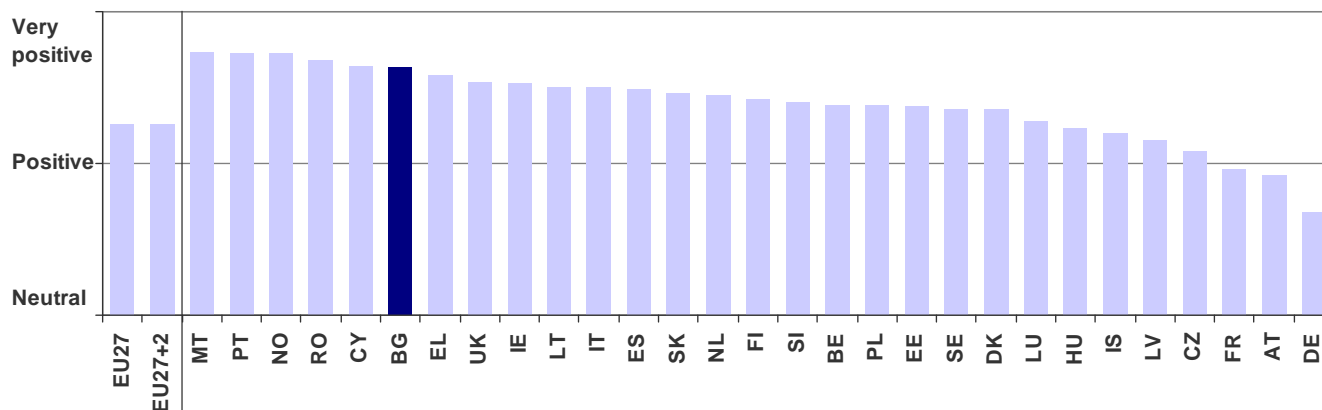
What role do ICTs play in the day-to-day work of a European General Practitioner? What is a GPs general attitude towards ICT and what facilitators and barriers towards a wider uptake of eHealth do they perceive? What are the impacts of eHealth?

GPs in Bulgaria 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, Bulgarian 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 Bulgaria



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

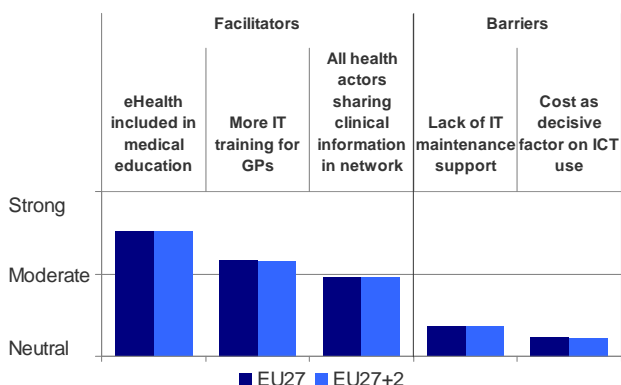
Perception of facilitators and barriers

The perception of facilitators and barriers of Bulgarian 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 support is seen as a barrier to

eHealth — at least to a certain extent — by a majority. In these countries cost is also seen as a barrier to eHealth by a noticeably larger number of GPs 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

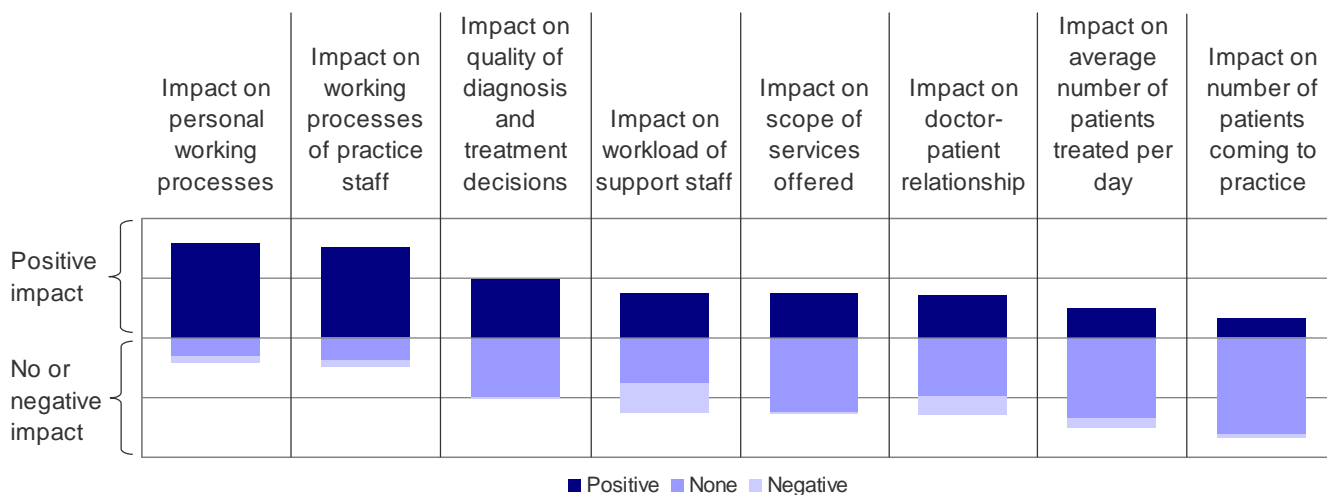
In Bulgaria the perception of eHealth impacts resembles the general pattern found in the EU27 to a very high degree. Compared to the EU27 averages, the Bulgarian GPs were however slightly more positive with regard to the perceived impacts. The general impact perceptions show quite a clear pattern: the 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 Bulgarian 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 Bulgaria this positive impact could be discerned by 50% of GP practices. 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. Bulgaria has the highest amount of GP practices reporting an increase in the number of patients coming to the practice (40%) and the number of patients treated per day (63%) compared to average rates of 16% and 25% in the EU27. However, 57% of the Bulgarian GP practices see no change in the number of patients coming to the practice and 32% of the Bulgarian GPs see no change in the average number of patients one can help in a 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

Bulgaria is among the solid average eHealth performers in the EU27. In terms of infrastructure, Bulgaria scores well in regard to the use of computers. When it comes to Internet connectivity and broadband connection, Bulgaria scores slightly below the European average.

While the storage of patient data is quite common in Bulgaria, the use of electronic patient data transfer is not even at the beginning of its development.

A high number of Bulgarian GP practices make use of a computer during the consultation and also the use of decision support systems is quite common.

Taking current policy activities as an indicator, Bulgaria seems to stand at the very beginning of a strategic policy response to eHealth questions. In April 2006, the Bulgarian government presented its first National Strategy on Health, including specific references to ICT use in the health system.

As of 2007, this strategy has not yet been adopted. In parallel, an action plan is currently under development that includes plans to implement pilot projects to realize a national eHealth system. According to the Bulgarian government the priority project will be the implementation of eHealth cards, hospital information system and of an EHR.

Notwithstanding this seemingly low maturity level of eHealth policy, basic ICT use in Bulgarian GP practices - including the electronic storage of patient data and the use of computers for consultation purposes - is already very much advanced.

On the other hand General Practitioners cannot transfer electronic patient data because Bulgaria does not have a centralized data store or a nationwide EHR. Just some hospitals and physicians use special software.

Bulgarian policy strategies with eHealth relevance

National Strategy for eHealth Implementation 2006

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
	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](mailto:indeh@empirica.com) or get in touch with us.



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