



# Benchmarking ICT use among General Practitioners in Europe 2007

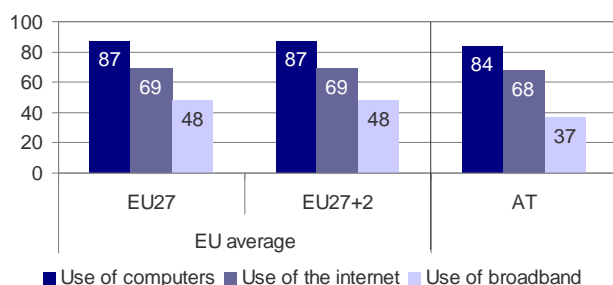
## Country Profile: Austria

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

Austria is among the average eHealth performers 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, 84% of the Austrian GP practices use a computer, which puts the country on a par with its European neighbours. 68% of the Austrian GP practices are connected to the Internet. Broadband Internet connections can be found in only slightly more than one third (37%) of the practices, compared to about 50% on EU27 average.

#### ICT Infrastructure in Austrian 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 Austria. At least one type of individual data is stored in 77% of GP practices. Most frequently Austrian GPs store administrative and medical data e.g. on the patients' health status, diagnosis, treatments etc. The results reached are more or less in line with the EU27 average.

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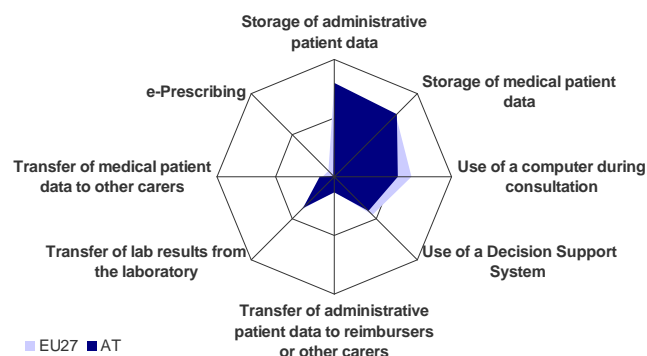
A computer is available in the consultation room of 77% of the Austrian GP practices. Notwithstanding the relatively high availability, only about half of the GPs actually make use of the computer in consultation with the patient. This "availability versus use" gap can be found in many European countries, sometimes being as high as 50% absolute. Roughly one out of two GP practices in Austria uses a Decision Support System (DSS), which corresponds to the average use rate in the EU27.

In Austria the electronic exchange of patient data via the Internet or other dedicated networks is not yet well established. However the use rates for the transfer of medical as well as administrative patient data all correspond more or less to the averages that can be found across the EU27. In Austria 37% of the GP practices receive results from laboratories electronically. This is by far the most frequent type of data transfer in the EU27 (40%). 12% of the GP practices exchange medical data with other health care providers, a figure which also corresponds to the EU average. The frontrunners in Europe in this regard are Denmark, Finland, and Norway where percentages above 30% are attained.

Electronic exchange of prescriptions, commonly referred to as ePrescribing, is practiced by only 2% of the GP practices in Austria. ePrescribing can be regarded as a reality in only three member States: Denmark, the Netherlands and Sweden.

7% of the Austrian GPs exchange administrative data with other care providers as compared to average rate of 10% reached by the EU27. With a use rate of 19% for the exchange of administrative data with reimbursers, Austria scores slightly above the EU average.

#### eHealth Use by GPs in Austria



**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.

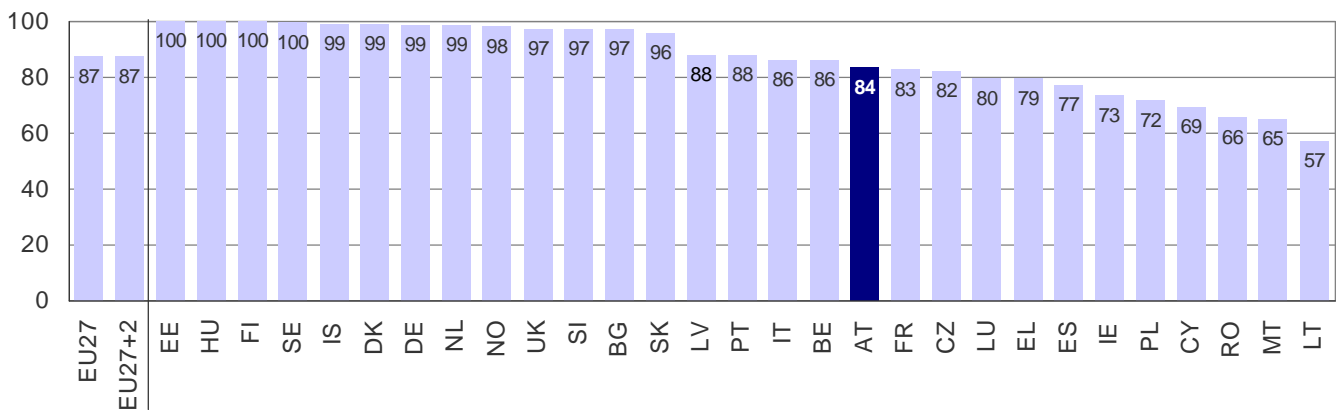
ICT infrastructure as understood here entails

- 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

84% of GP practices in Austria are equipped with one or more PCs. This result is close to the EU27 average and puts Austria on a par with 8 other EU countries where computer availability rates of 80 - 90% are reached. All in all 24 countries show an penetration 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 Austria**



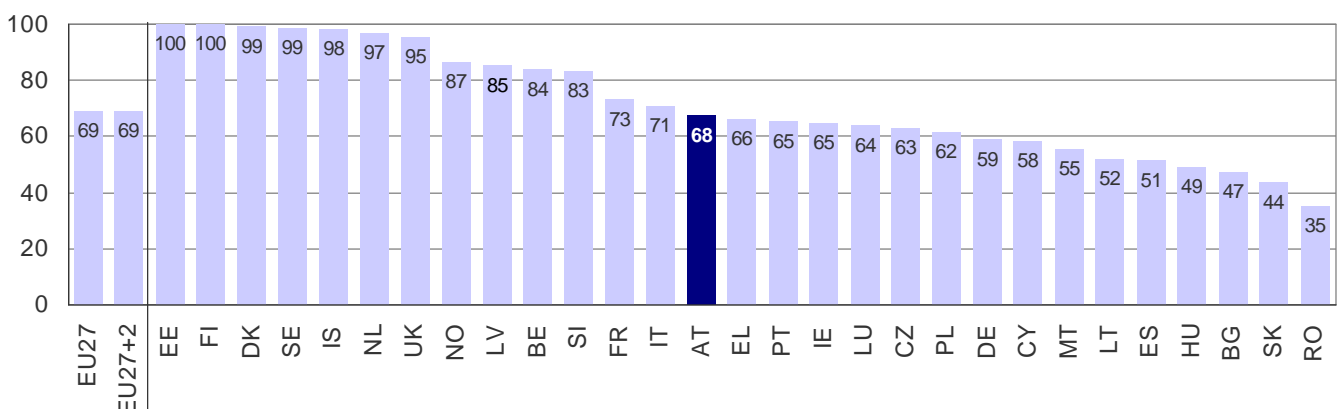
**Base:** All GPs. **Indicator:** R4 (cf. annex for more information), % values. **Source:** empirica, Pilot on eHealth Indicators, 2007.

### Use of the Internet and broadband

68% of the Austrian GP practices are connected to the Internet, a result which is again close to 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. As of today, Internet connections are (nearly) ubiquitous in GP practices in seven countries.

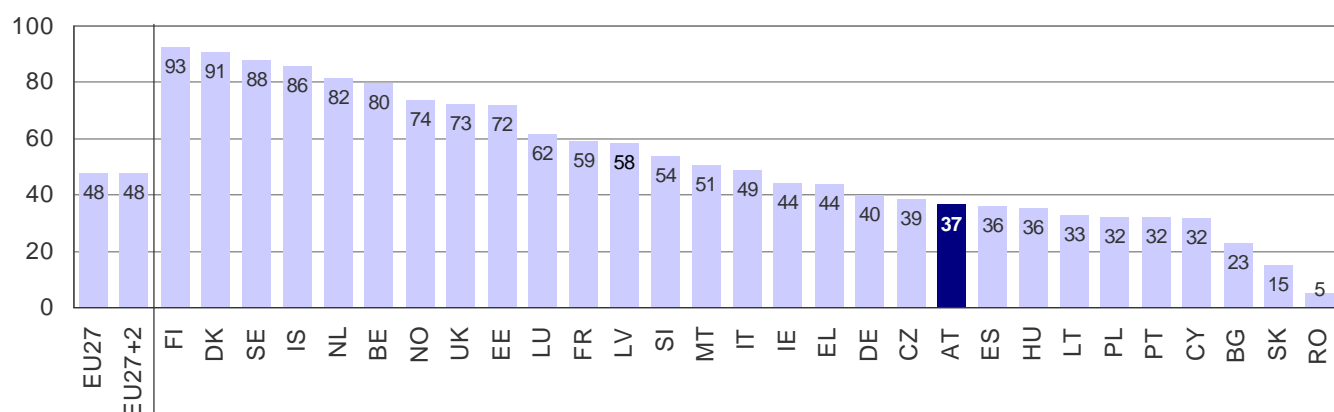
In Austria, only 37% of the practices use a broadband connection. Other than in the case of computer and Internet use, differences regarding bandwidth remain high across the EU27 Member States. Availability rates vary between 93% and 5%. Austria belongs to a group of 11 countries where less than 40% of GP practices access the Internet via broadband connections.

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



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

## Austrian GPs 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 quite common in Austria. At least one type of individual patient data is stored in 77% of GP practices. Electronic data stored in Austrian GP practices relates most often to medications (84% of those GP practices

that do store electronic patient data), basic medical parameters (80%), diagnoses (88%) and symptoms/reasons for encounters (82%). Medical parameters, lab results, medical history, and vital signs measurements are stored in between 50 and 80% of the GP practices.

Austrian GP practices score well above average with regard to the storage of radiological data and treatment outcomes. Both use rates exceed the EU27 average rates by nearly 15%.

## Electronic Patient Data Storage in Austria:

### 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

In Austria the Internet or other dedicated networks are not widely used for the electronic exchange of patient data. 37% of the GP practices use a network connection to receive results

from laboratories. This is by far the most frequent type of data transfer to be found in the EU27. On average 40% of the GP practices receive results via network connections. 12% of the Austrian GP practices exchange data with other medical care providers. While these results arguably leave some room for

improvement, they are at the same time well in line with the EU27 averages.

Telemonitoring has not yet arrived on the scene neither in Austria nor in the EU as a whole. In Austria only 1% of the GP practices offer telemonitoring services. The highest share in this regard 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 Austria only 1% of the GP practices exchange medical patient data across national borders. In this case the Netherlands show the

highest usage level with 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 Austria

	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

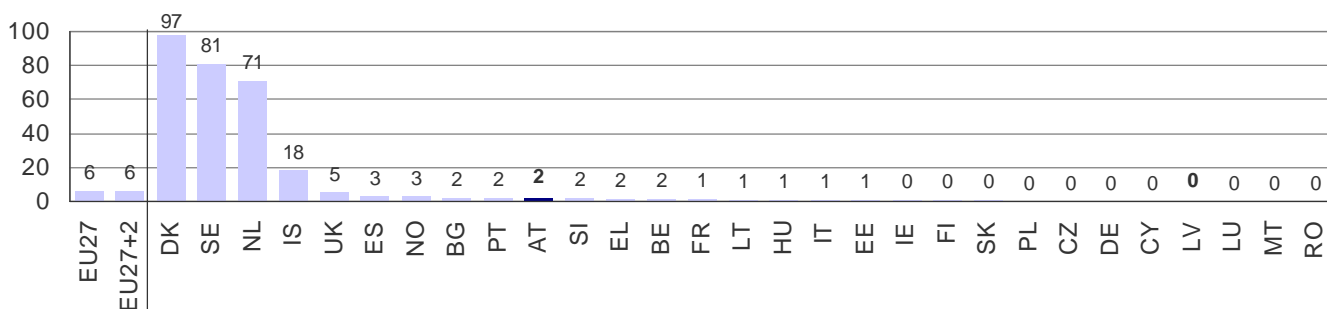
Base: All GPs. Indicator: D1 (cf. annex for more information), % values. Source: empirica, Pilot on eHealth Indicators, 2007.

### ePrescribing

Electronic exchange of prescriptions, commonly referred to as ePrescribing, is currently practiced by 2% of GP practices in Austria. 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: 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 Austria



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.

11% of Austrian GP practices exclusively use coded data entry, compared to 55% of the practices storing data only in

un-coded form and about one third storing both coded and un-coded data. For the latter, a clear estimation of the coded/un-coded share is not possible.

In the European Europe the use of coded data entry is slightly more prevalent than in Austria (21% on average). However, only in a handful of countries the share of practices using exclusively coded data is above one third. Rather, most practices use a combination of coded and un-coded data when they store electronic patient data.

### Use of data coding for the storage of electronic patient data by Austrian 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.

7% of the Austrian GPs use networks to exchange administrative patient data with other carers, compared to the average rate of 10% reached by the EU27. Between the 27 EU

members, shares differ between 0% (Latvia and Luxembourg) and 72% (Denmark). With a usage rate of 19% for the exchange of administrative patient data with reimbursers, Austria scores slightly above 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 GP practices uses this feature.

### Exchange of Administrative Patient Data in Austria

	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 Austria, 94% of GP practices have established a password protected access. In the table shown below, nearly all (94%) of the European GPs use this feature. This puts Austria right on a par with most of the EU27 Member States. High rates in almost all countries 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 60% of Austrian GP practices. Even though password protection of transmitted files is also technically available in many applications, only 57% of GPs in the EU27 use this technique.

46% of Austrian GPs use encryption of transmitted files and e-mails and only 12% of the GP practices use e-signatures. The average use rate of the EU27 differs only slightly from the one in Austria. 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. This explains the relatively low use rates in Austria but also in most of the countries of the EU27. Frontrunners in regard to the usage of both methods are Denmark and Estonia.

## GPs Use of Security Features in Austria

	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.

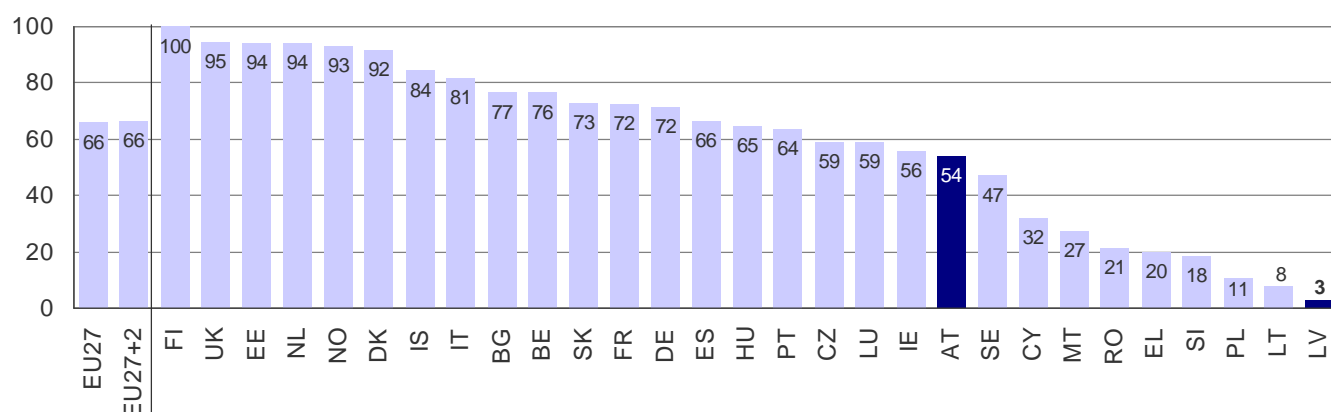
## Computer use in consultation

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.

54% of the GPs in Austria 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, United Kingdom, Estonia, Netherlands and Denmark) and the countries following or lagging behind (less than 30%). With 54% Austria is positioning itself at the tail-end of a group of average performers where usage rates vary between 50% and 85%.

## Computer Use in Consultation with the Patient in Austria



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

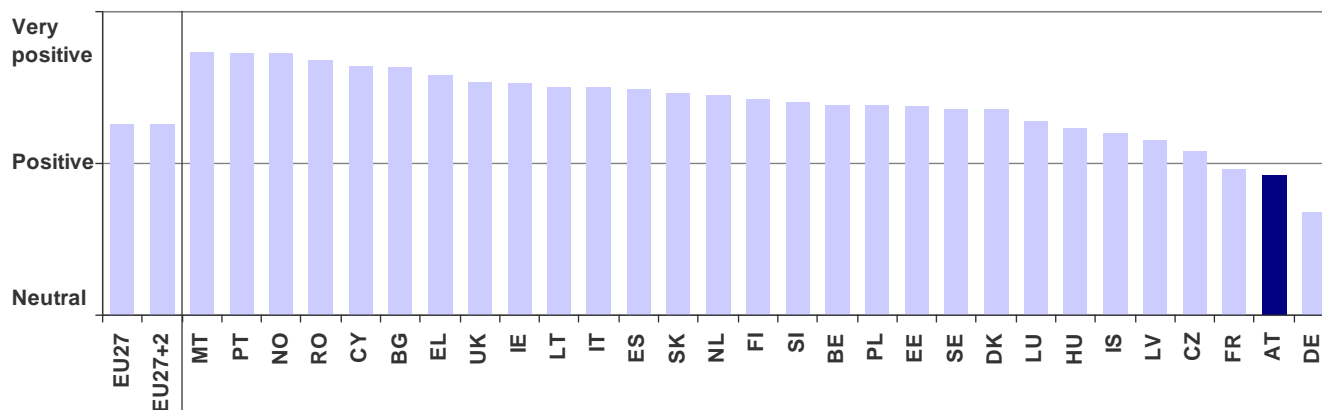
## Attitudes and Impacts

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 Austria are moderately 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, Austrian GPs tend to a moderately positive attitude. 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 Austria



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

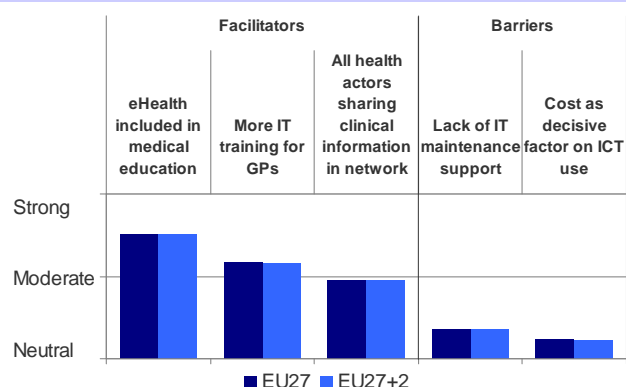
### Perception of facilitators and barriers

The perception of facilitators and barriers of Austrian 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 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 these countries cost are 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 Austria the perception of eHealth impacts resembles the general pattern found in the EU27. Compared to the EU27 averages, the Austrian GPs were however slightly less positive with regard to the perceived impacts. As compared to the other EU Member States, Austria has the highest amount of GP practices that view the influence of IT on personal and staff working processes negative. However, even here a majority of the GP practices see the impact of ICT in a positive way (70%).

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.

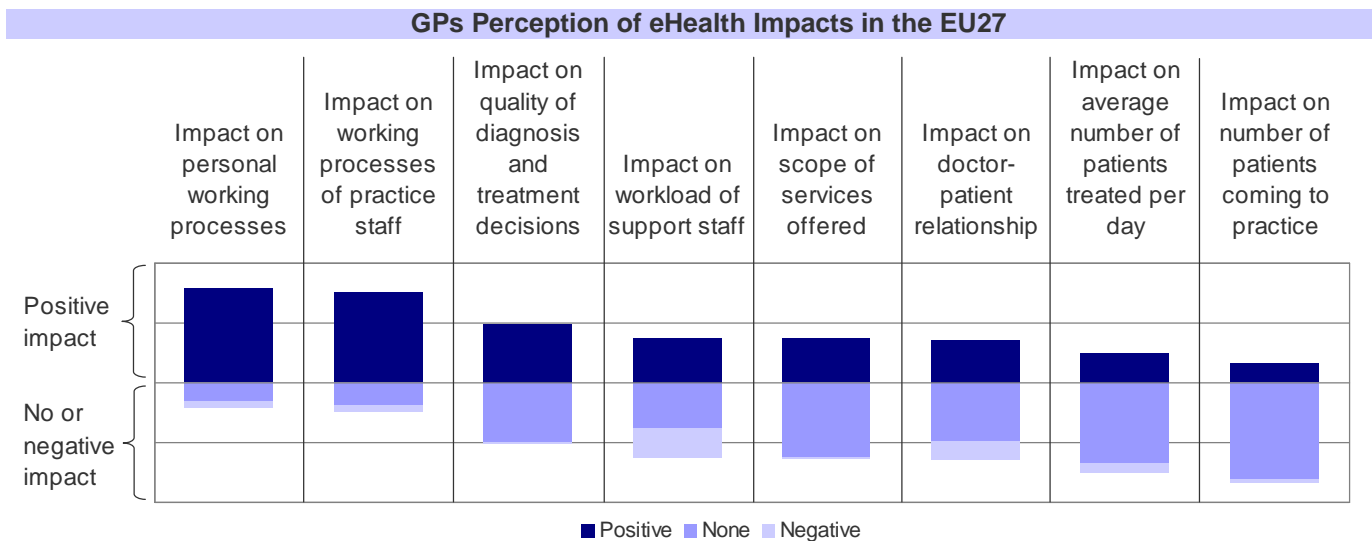
This pattern hold true for the EU27 as a whole as well as for the Austrian GPs in particular. This is for instance the case in relation to impact on the quality of diagnosis and treatment decisions: here about half of the GPs see positive impacts as compared to the other half seeing no impacts. In case 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 Austria this positive impact could be discerned by 31% 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. A majority of Austrian GPs did not experience any changes in the number of patients coming to the practice (78%) nor the number of patients treated per day (77%) 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.



**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

Austria is among the average eHealth performers in the EU27. In terms of infrastructure, Austria is on par with the EU27 average concerning the use of computers and the use of the Internet. When it comes to broadband connections, Austria scores slightly below average.

In regard to the storage of patient data, the computer use in consultation and the use of electronic patient data transfer in the country positions itself close to the EU27 average. The use rate of Decision Support Systems also comes close to the EU27 average of 40%.

Within Austria's federal system there are several regional eHealth solutions already implemented. The Ministry of Health is the main actor of the national eHealth strategy. The "Health Telematics Act", a part of the Health Reform 2005 and the "E-Government Act" 2004 provide the legal framework for eHealth in Austria. In 2006 a draft National eHealth Strategy was presented by the Austrian eHealth committee.

### Austrian policy strategies with eHealth relevance

Austrian eHealth Strategy 2006

The data presented in this study seem to suggest that the eHealth activities of the Austrian government do have some impact among General Practitioners. In particular, the use of computers during consultation and the electronic storage of administrative and medical patient data are fairly advanced. A core element of the National eHealth strategy is the consistent refinement of the Health Insurance Card system. With the Austrian Citizen Card Austria is a frontrunner in e-Identity implementations. 12,000 General Practitioners use the system since the rollout in 2005. In the near future the hospital information system will be integrated in the Health Insurance Card system.

An e-Medication system that is currently offered on a voluntary basis will be extended to also include ePrescribing. The new system is based on the network and security infrastructure of the e-Card system. General Practitioners have not used the new system yet. The National Electronic Health Record of Austria (ELGA) is currently at an early stage with work focusing on creating the necessary regulatory framework conditions for such a scheme.

## 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 or get in touch with us.



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