EUROPEAN COMMISSION
Information Society and Media Directorate General

Pilot on eHealth Indicators

Benchmarking ICT use among General Practitioners in Europe 2007

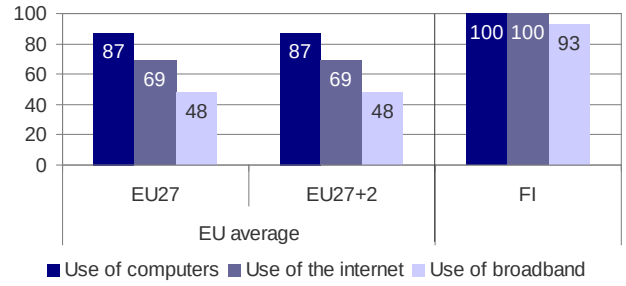
Country Profile: Finland

Key findings: eHealth among GPs in the Finland[1]

Finland is one of the frontrunners of ICT use among General Practictioners in the European Union. This concerns both the availability of ICT infrastructure (computer, Internet) and the use of ICT for different eHealth-related purposes. When comparing the overall use of eHealth solutions in the EU27, Finland comes in third, being outnumbered only by the absolute frontrunner Denmark and the Netherlands.

In terms of infrastructure Finland is among the top performers as 100% of GP practices are equipped with one or more PCs. This result puts Finland on a par with three other EU countries where a computer availability rate of 100% is attained. The same share, that is 100% of the practices, disposes of an Internet connection. In Finland, broadband represents the most common form of access to the Internet with 93% of GP practices resorting to broadband connections.

ICT Infrastructure in Finnish GP practices



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

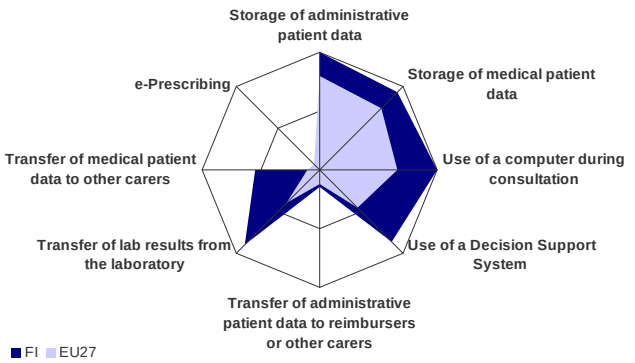
The storage of electronic medical patient data is universal in Finland as 100% of the GP practices register at least one type of patient data. Finland scores above the EU27 average use rates not only for some, but for all types of data under observation.

In Finland the use of electronic networks for the transmission of medical patient data is well established and widespread. 90% of the GP practices use networks to receive laboratory results and 55% exchange data with other health care providers. In both cases Finland holds one of the top positions vastly above the EU27 average exchange rates for medical data.

The exchange of administrative data is averagely well developed. 21% of the Finnish 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). Finland thus positions itself behind Denmark (72%) and the Netherlands (28%). With a usage rate of 8% for the exchange of administrative patient data with reimbursers, Finland 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 GP practices uses this feature.

EPrescribing has not yet arrived neither in Finland nor in the EU as a whole. There are only three EU Member States where ePrescribing is a reality: Denmark, Sweden and the Netherlands. Apart from these countries adoption levels are never higher than 5%. e-Prescriptions are only at the beginning of their development across Europe.

eHealth Use by GPs in Finland



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

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Finland does not have an explicit national eHealth strategy. However, legislation with regard to the establishment of a national Electronic Health Record is under way. The first pilot phases for the establishment of an an Electronic Medication Record (EMD) and an Electronic General Practitioner's Record (WDH) that will be included in the larger framework of the national EHR, are already being run.

ICT Infrastructure in GP Practices

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

ICT infrastructure as understood here entails

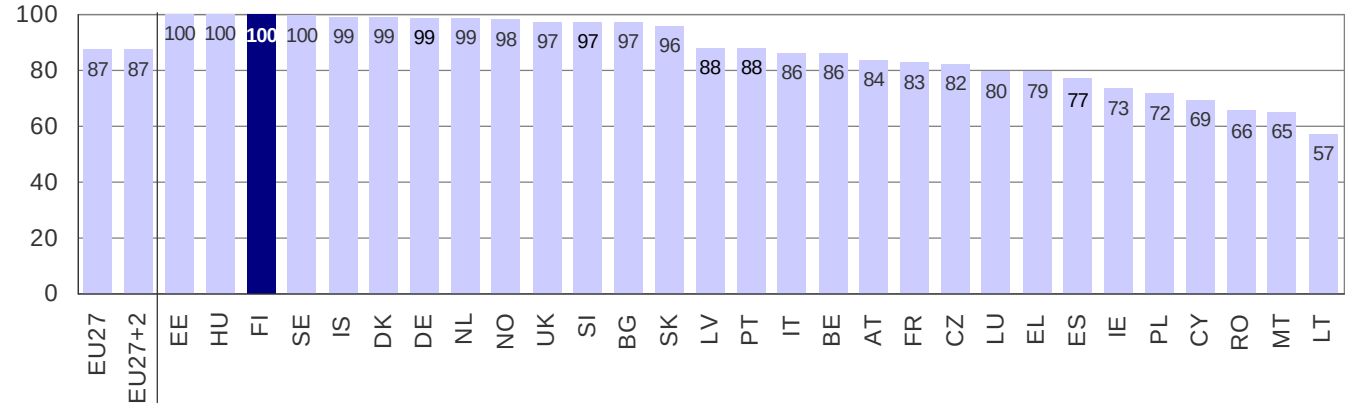
- the availability of one or more computers in the practice;
- a connection with the Internet; and
- the availability of a broadband connection.

Use of computers

Finland is among the top performers as 100% of GP practices are equipped with one or more PCs. This result puts Finland on a par with three other EU countries where a computer availibility rate of 100% is reached. All in all 24 countries show a 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.

Finland clearly fulfills the infrastructural prerequisite for the successful implementation of eHealth applications.

Use of Computers in GP Practices in Finland



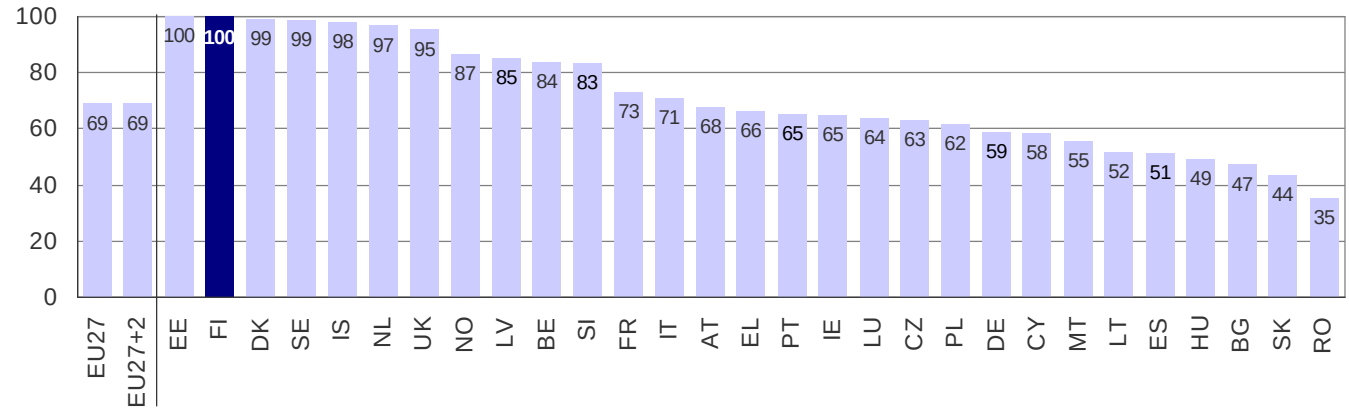
Base: All GPs. **Indicator:** R4 (cf. annex for more information), % values. **Source:** empirica, Pilot on eHealth Indicators, 2007.

Use of the Internet and broadband

A connection to the Internet or any other dedicated electronic network is a prerequisite for all those eHealth applications that entail data transmissions and information retrieval. In this regard Finland again scores very well as 100% of Finnish GP practices are connected to the Internet. As a result Finland is again part of the frontrunner group together with Estonia, the Netherlands, Denmark, Sweden, and the United Kingdom.

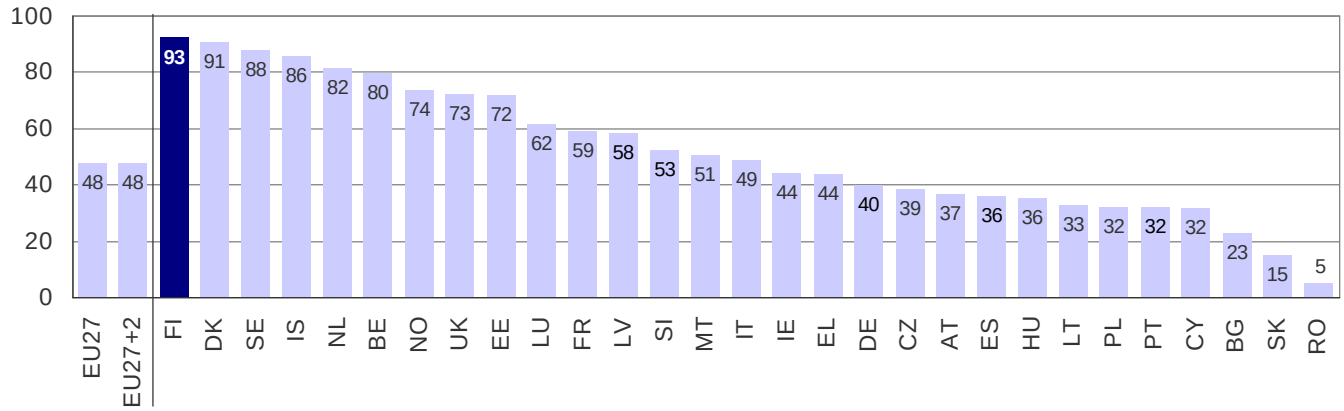
On average about 70% of the EU GP practices have an Internet connection. However, large differences between Member States persist and there are still a number of countries with less than 75% practices having Internet access.

Use of the Internet in GP Practices in Finland



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

Finnish GP Practices Using a Broadband Connection



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

Finland holds the top position in regard to the availabitlity of broadband connections. 93% of the practices make use of it. All in all, the discrepancies regarding bandwidth between the EU27 Member States remain high and there are are still several countries where less than 50% of GP practices have broadband connections.

Use of eHealth Applications

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

Electronic patient data storage

Electronic patient data storage is universal in Finland as 100% of the GP practices register at least one type of patient data.

Lab result, medical history, examinations and results, are stored in 98% of all GP practices. Nearly all practices that use local EHRs also store radiological images (95%), symptoms/reasons for encounters (96%), medications 96%, vital signs measurement, treatment outcomes (88%) and diagnosis (81%).

Finland scores above the EU27 average use rates for all but one type of data under observation. Even the storage of treatment outcomes and radiological images, which is a lot less common on average (65% and 34% respectively), is made use of in just about all GP practices in Finland. The only other EU27 Member State showing a similar usage pattern is Denmark.

Electronic Patient Data Storage in Finland:
Storage of Different Types of Individual Patient Data by GPs storing electronic medical patient data

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

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

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

Finland displays the second highest share of GP practices receiving results form laboratories. 90% of the GP practices use networks to receive laboratory results. The advantages to be gained from networking with regard to the transfer of lab results appear to be sufficiently substantial to result in a relatively high uptake of this eHealth use type across Europe.

55% of the practices exchange medical data with other care providers or professionals, compared to 10% on average. Again Finland holds a top position and is only outnumbered by Denmark (74%).

Telemonitoring has not yet arrived on the scene, neither in Finland, 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 Finland the usage no practice transfers medical data across national data. On average in the EU27 only 1% of the practices use this eHealth feature. In this regard 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 Finland

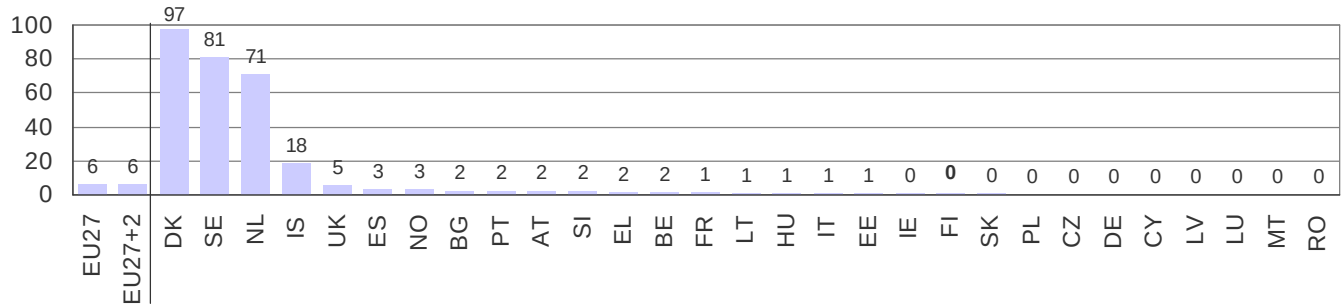
	EU27	EU27+2	BE	BG	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU	HU	MT	NL	AT	PL	PT	RO	SI	SK	FI	SE	UK	IS	NO
Medical data with carers	10	11	13	3	6	74	4	1	4	13	5	2	7	3	0	3	0	2	7	26	12	2	8	2	0	1	55	13	26	17	35
Analytic results from labs	40	40	73	5	25	96	63	39	3	30	33	40	8	10	1	8	27	12	11	84	37	10	1	4	10	5	90	82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

In Finland, not even one of the GP practices reported making use of ePrescribing. However, there are only three EU Member States where ePrescribing is a reality: Denmark, Sweden and the Netherlands. Apart from these countries adoption levels are never higher than 5%. e-Prescriptions are only at the beginning of their development across Europe.

Use of ePrescribing by GPs in Finland



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

Coded data entry

2% of the Finnish practices use coded data entry and 26% of the practices store data only in un-coded form. Compared to other European Member States the storage of coded data is less prevalent, whereas the storage of un-coded is on the European average. The majority of Finnish GPs (72%) store 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 data coding for the storage of electronic medical patient data by Finnish 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.

21% of the Finnish GPs use networks to exchange administrative patient data with other carers, compared to the average rate of 10% reached in the EU27.

Among the 27 EU members, shares differ between 0% (Latvia and Luxembourg) and 72% (Denmark). Finland thus positions itself behind Denmark (72%) and the Netherlands (28%). With a usage rate of 8% for the exchange of administrative patient data with reimbursers, Finland 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 GP practices uses this feature.

Exchange of Administrative Patient Data in Finland

	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.

For most security features, Finland shows rates that roughly correspond to EU27 averages. The only exception is the use of encryption of transmitted files. Only 14% of the Finnish GPs make use of it compared to 42% on the European average.

In Finland, all GP practices have established a password protected access. 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 56% of Finnish GP practices. Even though password protection of files is also technically available in many applications, only 57% of GPs in the EU27 use this technique.

Concerning the use of e-Signatures Finland is on par with the other European Member States (19%). An exceptional frontrunner country in this regard is Denmark (93%). Low usage rates are reached by 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 Finland

	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

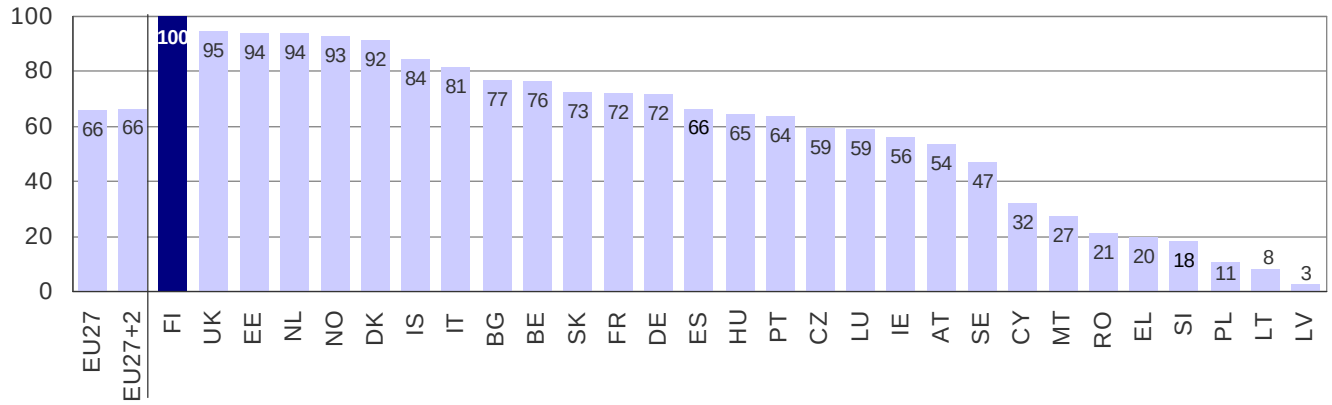
Base: All GPs. **Indicator:** D4 (cf. annex for more information), % values. **Source:** empirica, Pilot on eHealth Indicators, 2007.

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.

Again Finland scores highest, as all Finnish GPs use a computer in consultation with the patients. In this regard, Finland scores clearly above the EU27 average of 66%. This indicator shows a considerable gap between frontrunners with more than 90% of computer use in consultation and the countries following or lagging behind. In seven countries computers are used for consultation with the patients in less than 30% of the GP practices.

Computer Use in Consultation with the Patient in Finland



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

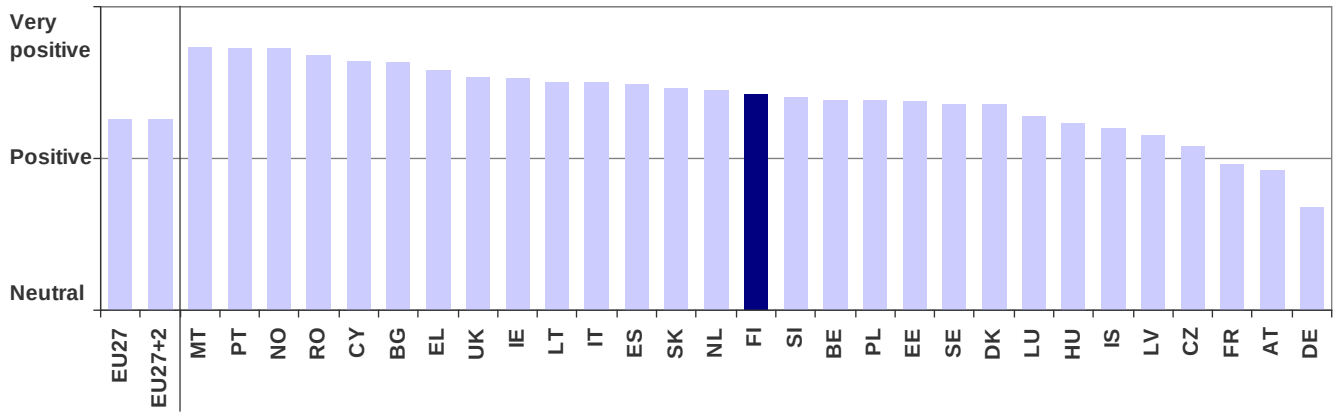
Attitudes and Impacts

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 the Finland 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, Finnish 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 differences between the countries in relation to the perception of facilitators and barriers as well as eHealth impacts are only small, the following analysis focuses on the EU average results, reporting national deviations where they occur.

GPs General Attitude Towards ICT Use in Health Care in Finland



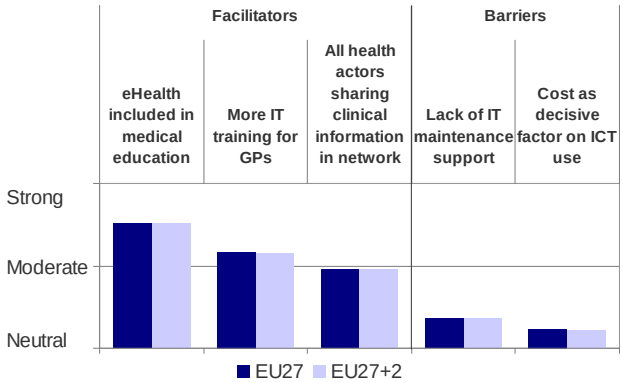
Base: GPs using computers. **Indicator:** F1 (cf. annex for more information), attitude scores. **Source:** empirica, Pilot on eHealth Indicators, 2007.

Perception of facilitators and barriers

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

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

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 these countries cost are perceived as a barrier to eHealth also 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 Finland the perception of eHealth impacts resembles the general layout found in the EU27. The general impact perceptions show quite a clear pattern: the GPs are most positive about the administrative impacts of ICT use in health care, namely impacts in relation to their personal or practice staff working processes.

When it comes to patient-related or medical impacts a more ambivalent picture emerges. For every GP being positive about those impacts, there is at least one other GP not perceiving any benefit. This is for instance the case in relation to impact on the quality of diagnosis and treatment decisions: here about half of the GPs see positive impacts as compared to the other half seeing no impacts. This holds true for Finland as well, where 65% of the GPs reported a positive influence, the other GPs not being able to signal an improvement whatsoever with this regard. 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. This effect is evident in Finland as well, where over 80% of the practioners report improved working processes while at the same time 40% deplore increased workloads of the support staff.

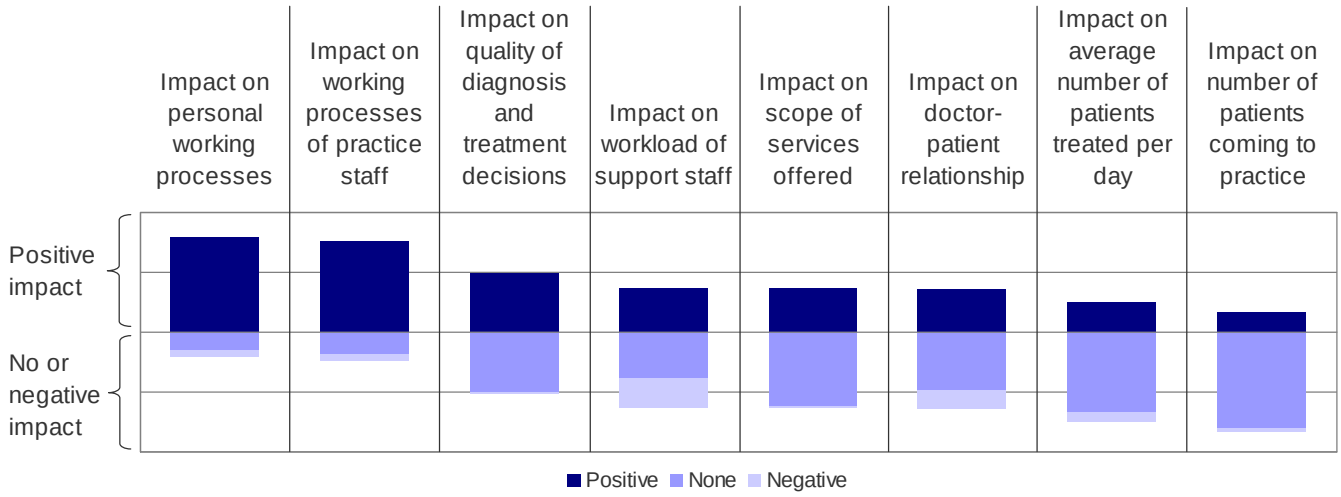
About one-third of the practitioners in Europe state that the scope of services offered by their practice actually increased due to the use of IT systems and software. In Finland this hold true for nearly half of the practicioners. It can be assumed that

for these 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 Finnish GPs did not experience any changes in the number of patients coming to the practice (65%) nor the number of patients treated per day (56%) 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

Finland can be regarded as one of the frontrunner countires in eHealth use among General Practitioners. In all areas under observation (use of local and networked EHRs, exchange of medical patient data, and computer use in consultation), usage rates are among the highest found in the EU27, Iceland and Norway. The only area under observation which is only averagely well developed concerns the exchange of administrative patient data. EPrescribing is not made use of by Finnish GPs.

The decentralized Finnish health care system has been dealing with eHealth issues for quite some time. Already in 1996 Finnish legislature forced the horizontal integration of services and a systematic networking of information. The Strategy for the Utilization of Information and Communication Technologies in Welfare and Health was established in the same year and updated in 1998. The update included the adoption of digital patient and client records.

Finnish policy strategies with eHealth relevance
Strategy for national EHR 2004,
Strategy for utilisation of ICT in welfare and health 1996, update1998

Nationwide interoperability on a very high level between healthcare organisations is a Finnish characteristic. Health information is transferred using broadband networks. All service providers are connected to the Internet. E-Services include the transfer of images, e-Referrals, laboratory results and among other things the use of ICT in consultation. In these fields the impact on the daily ICT use of GPs is very high as the data from the survey show.

EHR systems are used by most primary care centers to document medical data. The National Program for Securing the Future of Health Care 2002 is not concluded until now. It will result in the implementation of a nationwide EHR system including an electronic medical data archive.

The National Insurance Agency (KELA) is very well connected and there is an electronic communication between KELA and pharmacies. This does currently not include administrative patient data transfer for GPs, which is in line with the findings of this study. A similar situation can be found in relation to ePrescribing: while KELA is hosting a national ePrescribing database, GPs are currently not included in this system and accordingly usage rates are low. In the wake of several pilot projects there are however some ongoing activities that aim to provide a legal framework for ePrescribing which will also include GPs.

ANNEXES

The Pilot on eHealth Indicators Study

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

The Final Report

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

Indicators used

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

Methodology Report

The survey

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

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

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

Universe/ Target Person and Sampling

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

Number of Interviews Conducted

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

Weighting schemes

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

More information

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

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