EUROPEAN COMMISSION
Information Society and Media Directorate General

Pilot on eHealth Indicators

Benchmarking ICT use among General Practitioners in Europe 2007

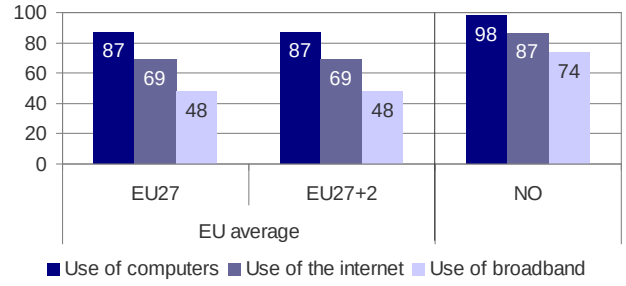
Country Profile: Norway

Key findings: eHealth among GPs in Norway[1]

Norway 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.

In terms of infrastructure, 98% of the Norwegian GP practices use a computer and 87% of practices dispose of an Internet connection. In Norway, broadband represents the usual form of access to the Internet with 74% of GP practices resorting to broadband connections.

ICT Infrastructure in Norwegian 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 patient data is common practice in Norway. Nearly all the GP practices store at least one type of individual patient data. Norway also shows results that are above the EU27 averages with respect to the storage of all types of patient data.

A computer is available in the consultation room in 98% of the Norwegian GP practices. It is actually used for consultation purposes with the patients by already 93% of the GPs.

Decision Support Systems are also used in 93% of the Norvegian GP practices (62% on average in the EU27).

Norway is one of the six countries (Denmark, Finland, the Netherlands, the United Kingdom and Sweden), where the electronic exchange of patient data is common practice. In Norway 35% of the practices exchange medical data with other care providers or professionals and 88% of GP practices in Norway receive laboratory results in digital form. Higher use rates in regard to both indicators are reached only in Denmark and Finland.

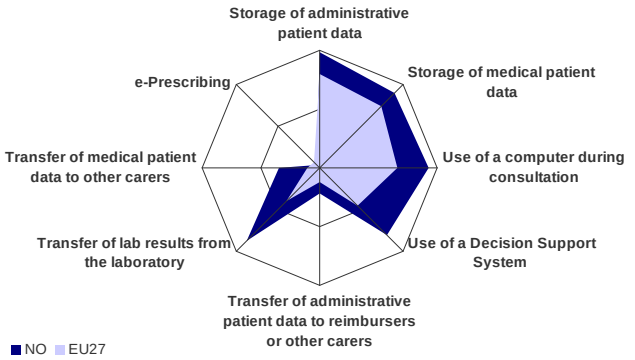
25% of the Norwegian GPs exchange administrative data with other care providers, compared to the average rate of 10% reached by the EU27. Again Norway is part of a frontrunner group (together with Denmark, the United Kingdom, the Netherlands and Finland).

With 19% of GP practices that exchange administrative data with reimbursers, Norway scores slightly above the EU average of 15%. Frontrunner countries in this are Denmark, the Netherlands and the United Kingdom, but even here not more than one out of two practices uses this feature.

Electronic exchange of prescriptions, commonly referred to as ePrescribing, is practiced by only 3% of the GP practices in Norway. EPrescribing can be regarded as a reality in only three Member States: Denmark, the Netherlands and Sweden.

The high degree of eHealth use in Norway can be attributed to a longstanding eHealth policy that has been implemented since 1997 already. A project aiming for the establishment of ePrescribing is under way.

eHealth Use by GPs in Norway



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

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ICT Infrastructure in GP Practices

An appropriate ICT infrastructure in the GP practice lays the ground for different eHealth uses and applications (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

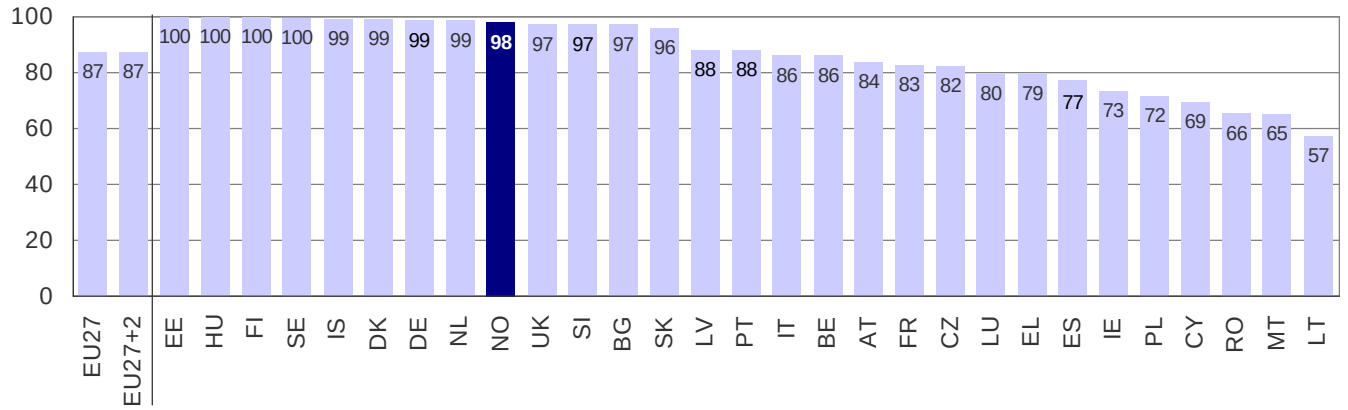
- the availability of one or more computers in the practice;
- a connection with the Internet; and
- the availability of a broadband connection.

Use of computers

With regard to the use of computers in GP practices, Norway is among the top performers as 98% of GP practices are equipped with one or more PCs. This result puts Norway on a par with 13 other EU countries where a computer availability rate of nearly 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. They are becoming more and more an essential and unquestioned part of practice fixtures.

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

Use of Computers in GP Practices in Norway



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

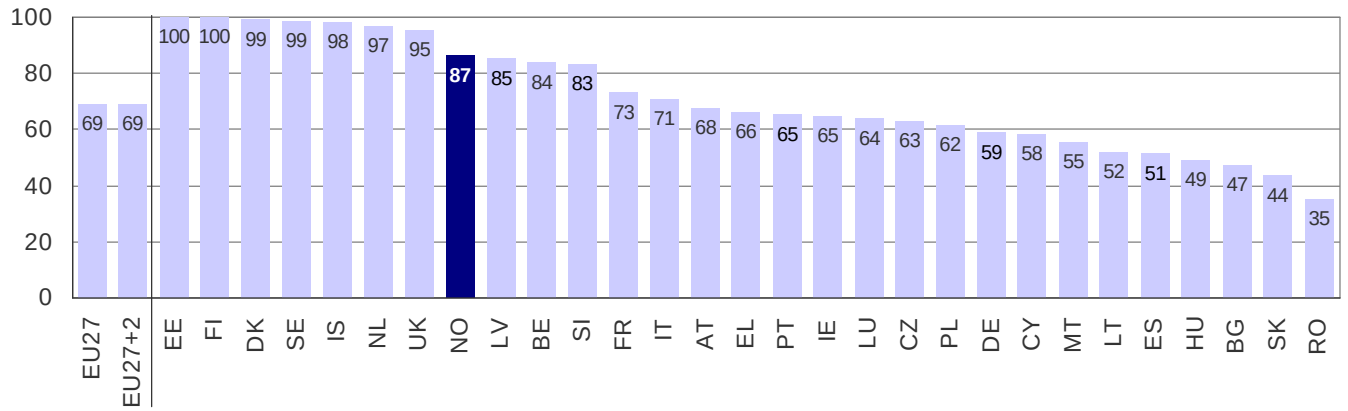
Use of the Iternet and broadband

A connection to the Internet or any other dedicated network is a prerequisite for all those eHealth applications that entail data transmissions and information retrieval. In this regard Norway scores above average as well: 87% of Norwegian GP practices are connected to the Internet as compared to an average of 69%.

As of today, Internet connections are already (nearly) ubiquitous in GP practices in seven countries.

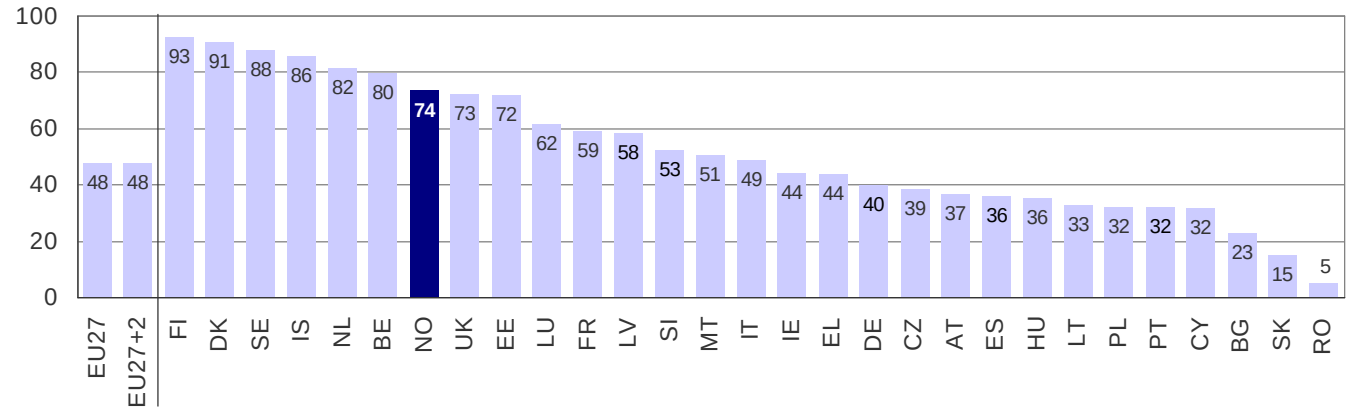
In Norway, 74% of the practices use a broadband connection. Norway thus positions itself clearly above the EU average of 48%. Other than in the case of computer and Internet use, differences regarding bandwidth remain high across EU27 Member States, with usage rates varying between 93% and 5%.

Use of the Internet in GP Practices in Norway



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

Norwegian 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

The storage of electronic medical patient data is quite common in Norway. Nearly all the GP practices store at least one type of individual data. Given that Norwegian GP practices display extremely high usage rates for all types of medical patient data under observation in the survey, it can be deduced that most GP practices store more than only one type of information. A rather encompassing patient information data base seems to be the norm in the Norway. The electronic data stored by Norwegian GPs concerns most often information on diagnosis (100%), medications (99%), lab results (98%), examinations and results (98%), medical history (97%), symptoms/reasons for encounters (95%), treatment outcomes (91%). The only data type stored less often concerns radiological images that are registred in 54% of the practices.

Electronic Patient Data Storage in Norway:
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

Norway is one of the six countries (together with Denmark, Finland, the Netherlands, the United Kingdom and Sweden), where the electronic exchange of patient data via network connections is quite common.

In Norway 35% of the practices exchange medical data with other care providers or professionals, as compared to 10% on average in the EU. Higher usage rates are reached only in Denmark (74%) and Finland (55%). 88% of GP practices in Norway receive laboratory results in digital form. 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 mode of communication

across Europe. On average 40% of the GP practices in the EU receive analytic results from labs via different networks.

Telemonitoring has not yet arrived on the scene neither in the Norway nor in the EU as a whole. In Norway none of the GP practices offer telemonitoring services. The highest share in this regard is realised in Sweden, where however still only 9% of GPs report making use of it. The only other countries with a mentionable use rate of telemonitoring are the Netherlands and Iceland, scoring 3% each.

A similar pattern can be discovered with regard to the exchange of medical patient data across borders. The Norwegian GPs having participated in the survey do not exchange medical data across national borders at all. In this case the Netherlands shows the highest usage level with however still only 5% of practices taking part in cross-border transmissions of medical data. Denmark, Cyprus, Malta, France 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 is explicitly under the jurisdiction of the indivdual Member States. Due to the differing health care systems in EU Member States, it is unsurprising that, with only very few exections, planned treatment is provided principally in the country of residence.

Electronic Exchange of Different Types of Medical Patient Data in Norway

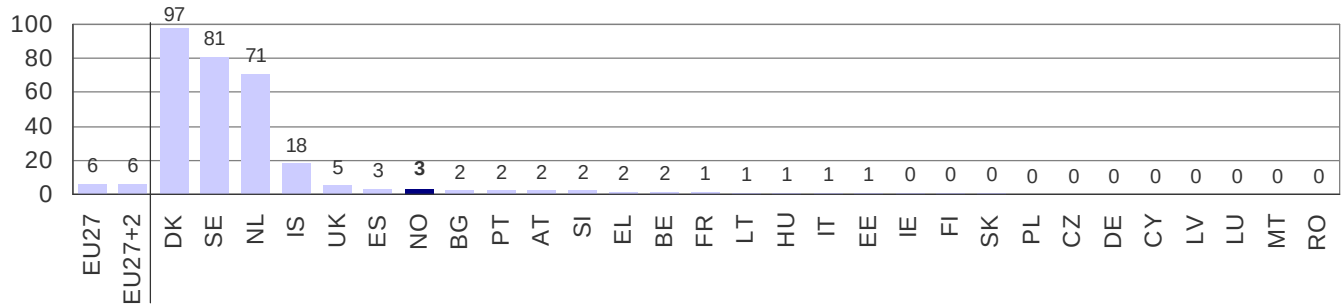
	EU27	EU27+2	BE	BG	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU	HU	MT	NL	AT	PL	PT	RO	SI	SK	FI	SE	UK	IS	NO
Medical data with carers	10	11	13	3	6	74	4	1	4	13	5	2	7	3	0	3	0	2	7	26	12	2	8	2	0	1	55	13	26	17	35
Analytic results from labs	40	40	73	5	25	96	63	39	3	30	33	40	8	10	1	8	27	12	11	84	37	10	1	4	10	5	90	82	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 Norway only 3% of the GP practices use ePrescribing. In most EU Members States however, ePrescribing is not used at all. The only three EU Member States where ePrescribing is a reality are Denmark, Sweden and the Netherlands. In Norway the share of GP practices using ePrescribing is expected to increase as the government is currently planning a project to mainstream ePrescribing in the Norwegian health sector

Use of ePrescribing by GPs in Norway



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

Coded data entry

In Norway 14% of the practices store electronic patient data in a coded format only and 18% use only un-coded data. A clear majority of the Norwegian GPs store both coded and uncoded data (64%). 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 patient data by Norwegian 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.

Norway scores well in regard to the storage of administrative data with other carers. 25% of the Norwegian GPs use networks to exchange administrative data with other carers, as compared to an average rate of 10%. With a usage rate of 19% for the exchange of administrative data with reimbursers, Norway scores slightly above the European average of 15%. Frontunner countries in this respect are Denmark, the Netherlands and the United Kingdom, but even here not more than one out of two practices use this eHealth application.

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

Exchange of Administrative Patient Data in Norway

	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.

Norwegian GPs show above average rates for all of the security measures under observation. The use of e-signatures in particular is quite remarkable: 48% of the Norwegian GP practices use e-signatures. Norway thus positions itself clearly above the EU average of 19%. The only other countries showing higher usage rates are Denmark (93%), Belgium (68%) and Estonia (58%).

In Norway, 100% of GP practices have established a password protected access High use rates for this security technique (on average 94% in the EU27), 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 59% of Norwegian GP practices. Even though password protection of files is also technically available in many applications, only 57% of the GP practices in the EU27 use this security technique.

58% of the Norwegian GP practices encryption transmitted files. This compares to 42% on the EU average.

GPs Use of Security Features in Norway

	EU27	EU27+2	BE	BG	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU	HU	MT	NL	AT	PL	PT	RO	SI	SK	FI	SE	UK	IS	NO
Password (PW) protected access	94	94	97	92	97	97	95	100	59	93	88	97	100	72	100	92	96	100	94	95	94	86	97	80	92	94	100	98	98	100	100
PW protection of transmitted files	57	57	60	77	65	71	63	76	40	56	39	59	70	41	100	45	54	57	47	62	60	63	62	62	64	69	56	27	58	83	59
Encryption of transmitted files	42	42	64	49	31	68	53	85	22	35	36	30	45	19	50	32	42	31	21	36	46	40	26	44	32	28	14	20	42	37	58
Use of e-signatures	19	19	22	68	49	93	7	58	15	24	16	11	40	13	0	12	12	7	9	28	12	11	5	12	20	19	16	41	10	43	48

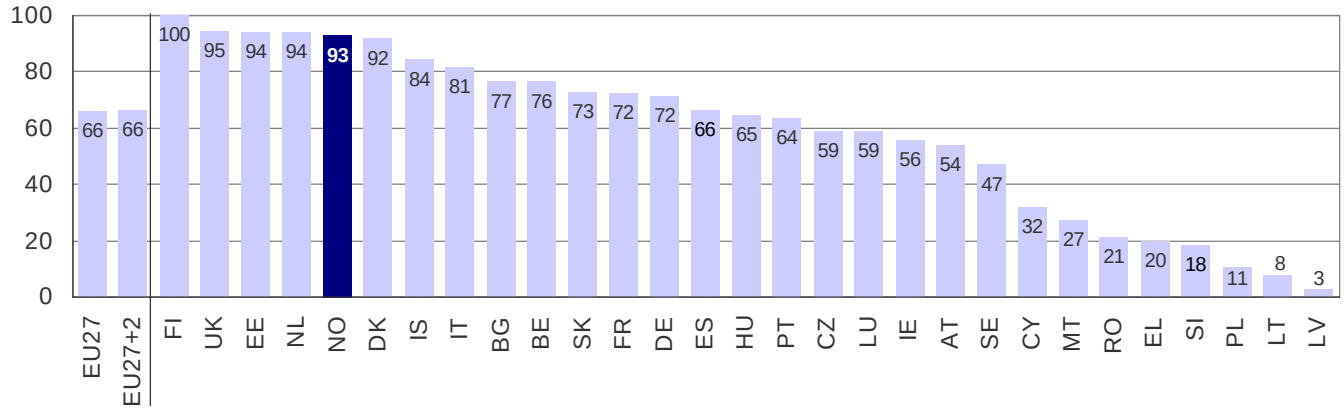
Base: All GPs. **Indicator:** D4 (cf. annex for more information), % values. **Source:** empirica, Pilot on eHealth Indicators, 2007.

Computer use in consultation

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

In Norway 97% of the GP practices dispose of a Pc in the consultation room. It is actually made use of for consultation purposes with the patients by 93% of the Norwegian GPs. Higher use rates can be found only in the Netherlands, Estonia, the United Kingdom and Finland. With regard to computer use in consultations with the patients, Norway scores clearly above the EU27 average of 66%. This indicator shows a considerable gap between frontrunners with more than 90% of computer use and the countries following or lagging behind.

Computer Use in Consultation with the Patient in Norway



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

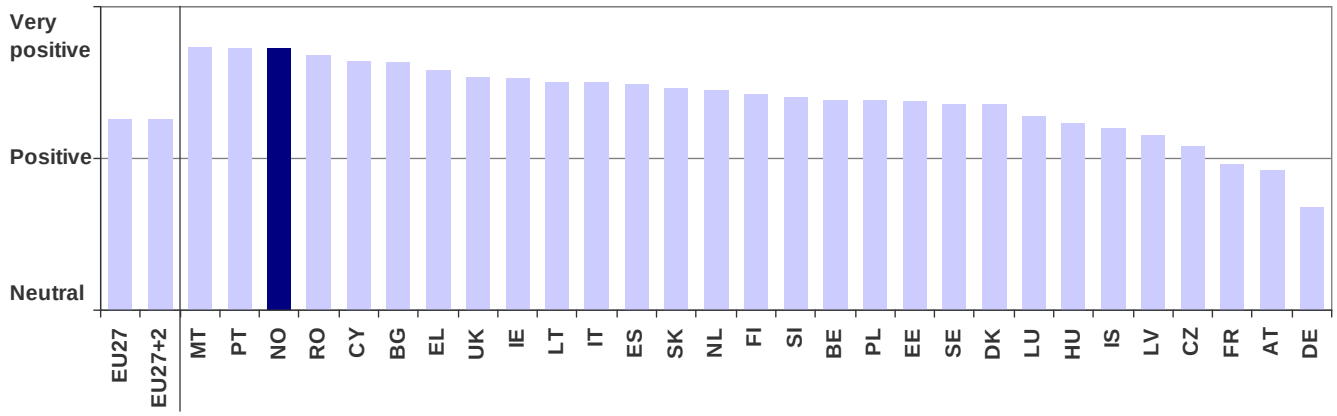
Attitudes and Impacts

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 Norway 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. The Norwegian GPs are even slightly more positive than most of their European counterparts. 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 Norway



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

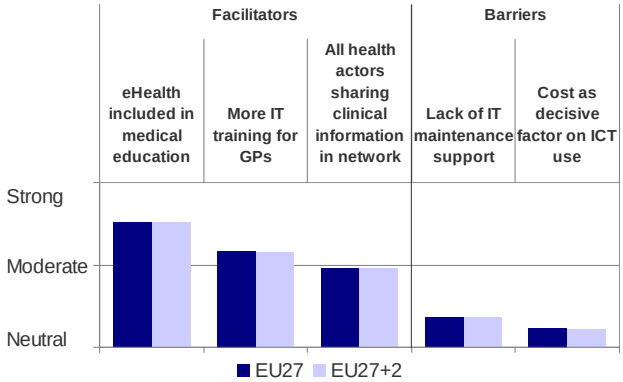
Perception of facilitators and barriers

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

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 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 Norway the perception of eHealth impacts resembles the general pattern found in the EU27. Norwegian GPs are – in relation to all impact indicators – among those reporting the most positive effects. This is especially remarkable as they also represent one of the groups with the most extensive experience in this domain.

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.

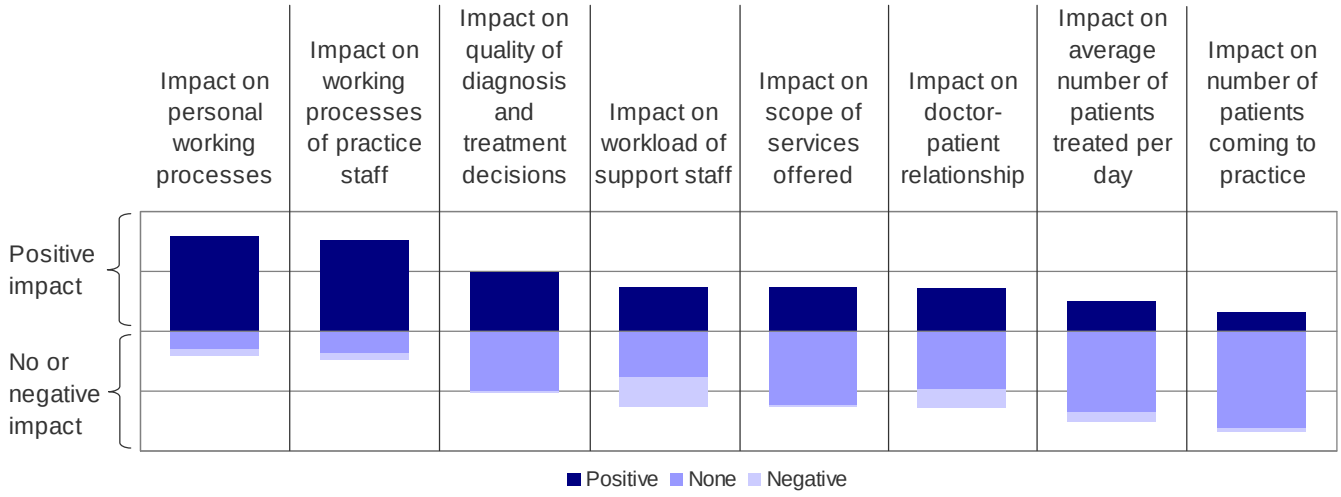
When it comes to patient-related or medical impacts a majority of Norwegian GPs see the influence of IT on the quality of diagnosis and treatment decisions in a positive way (73%). The general perception found in most of the other European member states shows a more ambivalent picture. For every GP being positive about those impacts, there is at least one other GP not perceiving any benefit. 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. As far as Norway is concerned, a slightly different picture emerges: one out of two GPs considers the introduction of IT to have decreased the workload on their staff (EU27 average being one out of four) and only 20 % perceive a negative im-

pact. This result might be indicative of a relatively well established eHealth system where tasks that require extra work input during the introductory phase of new IT solutions have already become part of daily routines. 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 Norway this hold true for over 65% 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. Although across Europe most GPs do not perceive any impact in relation to both areas, in Norway a remarkable percentage of GPs noticed a positive impact of IT. 60% of the GPs reported an increase in the number of patients that can be treated per day. This figure is clearly above the EU27 average of 25%. Positive impacts on the number of patients coming to the practice, were perceived by 40% of the Norvegian GPs. This corresponds to two times the EU27 average. The increase in the number of patients might be attributed to the improved working processes due to the introduction of ICT solutions to the practice. These improvements in working processes were experienced by 97% of the Norwegian GPs.

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

Norway is one of the frontrunners of ICT use among General Practitioners. This concerns both the availability of ICT infrastructure (computer, Internet) and the use of ICT for different eHealth-related purposes.

In all areas under observation (use of local and networked EHRs, exchange of administrative patient data, and computer use in consultation), usage rates are among the highest found in all 29 countries included in the survey.

The history of eHealth in Norway goes back to 1997 when the government published the eHealth strategy “More health for each bIT”. The strategy paper was followed by “Say @h!” and the latest strategy Te@mwork 2007.

Norwegian policy strategies with eHealth relevance

"Te@mwork 2007" is the latest eHealth roadmap

The Ministry for Health and Care Services aims to prepare clearly specified implementation programs, steps and measures. The electronic infrastructure is well advanced and can be used for telemedicine and Electronic Data Interchange. Norway has a wide experience in structural exchange of information via electronic messaging. According to the data presented here, electronic data storage, computers in consultation and transfer of lab results are already extensively used. Other modes of electronic data exchange — ePrescribing in particular — are used only to a lesser degree.

A national eGovernment portal serving all sectors is planned and an EHR research project started at the University of Trondheim. Furthermore Norway is going to implement ePrescribing — called eResept in Norwegian — allowing for the transfer of electronic prescriptions to pharmacies from GPs and hospitals and also including an ePrescribing database.

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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