

## ORIGINAL PAPER ΕΡΕΥΝΗΤΙΚΗ ΕΡΓΑΣΙΑ

### Internet use for health and illness in Greece Preliminary results of a European study on eHealth consumer trends

**OBJECTIVE** The aim of this study was to investigate the perception and attitudes of people in Greece regarding the use of the Internet for Health and Illness (H&I). It is the Greek part of a survey conducted concurrently in 7 European countries in 2005 and 2007, to establish eHealth consumer trends across Europe. **METHOD** 1000 men and women aged between 15 and 80 years, in telephone interviews expressed their opinion on the use of the Internet for H&I. The sample was stratified for age, occupation, and geographic location of residence. The questionnaire used is based on earlier Norwegian surveys (2000–2002) and was translated to national languages, including Greek, using the dual focus method. Four questions designed specifically for Greece explored the acceptance of innovative eHealth services. **RESULTS** In all Greek regions, the Internet is considered an important information source for H&I by 37.7–38.5% of the respondents. Internet use for H&I, however, varies considerably between urban and rural areas (29.5% vs 18.5%), reaffirming the existence of the digital divide in Greece. While personal contact with health professionals ranks first among information sources for H&I, half the Internet users for H&I go online in search of information before or after a medical appointment. Moreover, 59% of the Internet users for H&I make their decision about whether to consult a health professional based partly on information found on the Internet. Of the Internet users, 58.5% feel relief after consulting the Internet on H&I issues. Regarding eHealth, 26% of the respondents feel comfortable with medical visits via computer or video-phone. Furthermore, 46% would grant remote access to their medical data to expedite diagnosis. Given the opportunity, 61.7% would access their Electronic Health Record (EHR) online, 59.2% even with an annual fee. **CONCLUSIONS** Perception and use of the Internet as an information source for H&I assert the existence of a wide digital divide in Greece. However, favorable disposition towards online EHR access and hesitance towards telemedicine suggest that this divide can be bridged with education, user-oriented services, and incentives.

As the line separating self-management of well-being and treatment of illness fades away, eHealth i.e. the application of information and communication technologies (ICT) in the health sector, contributes to a paradigm shift in the way people perceive health services. Traditionally users of the health care system have been the “patients”, fulfilling their role as relatively passive recipients of health care. Nowadays, in the emerging information society, eHealth is recognized as an integrated intelligent person-centered health care delivery network that contributes to the improvement of quality,

access, and efficiency of healthcare. As a result, the scope of health services is expanding from treatment of the ill to addressing the needs of informed and health-conscious citizens.<sup>1,2</sup> The related concept of the “eHealth consumer” includes patients, patients’ friends and relatives, and citizens in general, who use the Internet and innovative ICT technologies to make decisions about their health. This is in line with the World Health Organization’s (WHO) definition of health as “...a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity”<sup>3</sup>

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Χρήση διαδικτύου για θέματα υγείας στην Ελλάδα: Πρώτα αποτελέσματα ευρωπαϊκής μελέτης για τις καταναλωτικές τάσεις στην ηλεκτρονική υγεία

Περίληψη στο τέλος της εργασίας

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The WHO eHealth consumer trends (eHealth trends) survey aims to confirm indications on the use of the Internet for H&I and to answer questions regarding current trends on the attitudes and needs of eHealth consumers in different European countries. The relevant questions and issues are outlined below and main findings are presented in the results section.

Previous surveys in Europe and worldwide<sup>4-14</sup> report that use of the Internet in general and for H&I is higher among young educated men. Paragraphs under “use of the Internet for H&I” present recent and detailed results from the eHealth trends survey relevant to the effects of gender and age, as well as the frequency of using the Internet for H&I in Greece.

The Internet provides access to a wide variety of information sources for H&I. At the same time, a new “online” culture is emerging as the Internet tends to substitute or complement other information sources for H&I. As a result, differences in perception between users and non-users of the Internet become evident. In the paragraphs “information sources for H&I”, we quantify differences in perception among Internet users, non-users, as well as people that have frequent direct or indirect contact with the health care system, e.g. family member that faces a chronic disability.

Throughout Europe and worldwide the main use of the Internet for H&I is information seeking, as eHealth consumers increasingly use the Internet to make decisions regarding their health. One study on Canadian oncologists and their patients reported that patients were three times as likely as oncologists to report that Internet information helped them cope with their disease.<sup>15,16</sup> Furthermore, oncologists report that as patients tend to discuss Internet information, the duration of a medical visit has increased by 10 minutes. In the eHealth trends study, the frequency of H&I-related online activities, such as e-mail communication with health professionals, participation in support groups, purchase of medication, and information search, is measured. Then, the impact of these activities on the behavior and psychological condition of eHealth consumers such as relief, anxiety and change of lifestyle or medication, is assessed. The relevant findings appear under “online activities related to H&I”.

Consensus regarding key evaluation criteria for health-related websites is gradually emerging with initiatives like the health on the net foundation (HON), accredited at the European level.<sup>17,18</sup> Frequently cited criteria include those dealing with content, design and esthetics of site, disclosure of authors, sponsors or developers, time-

liness of information, authority of information sources, and ease of use.<sup>19-21</sup> However, besides codes of ethics and objective measures of website quality, subjective assessment of quality for H&I websites indicates the needs, preferences, and priorities of Internet users for H&I. The eHealth trends survey attempts to identify what makes H&I websites attractive and credible to eHealth consumers in Greece. Up-to-date and high quality information, the design and language of a website, confidentiality and privacy are some of the criteria respondents rated on a five-point Likert scale. Findings appear under “assessment of H&I website quality criteria”.

The last 10–15 years, the notion of the family doctor or general practitioner as the gatekeeper of the health system is gradually introduced in Europe.<sup>22,23</sup> Under this system, in most countries people have the right to choose or change their family doctor. Thus, it would be useful to know the extent to which provision of online services for H&I affects the choice of the general population and Internet users in Greece. E-mail communication, short message (SMS) notifications, and a website are services increasingly provided by public and private medical practices.<sup>7</sup> Frequency and motivation for contacting a health professional online, as well as the rationale of those that have not, are investigated in the section “contact with health professionals”. Then, paragraphs under “selecting a family doctor or specialist” attempt to identify cultural differences between Internet users for H&I and the general population based on ratings of proposed selection criteria.

Four questions specifically designed for Greece attempt to further examine the perception and attitude of the population towards innovative eHealth services. The questions draw a distinction between (a) real-time telemedicine, i.e. a medical visit via video phone or computer, (b) granting remote access to one’s medical data for a second opinion, and (c) online access to one’s EHR. Whether people are equally receptive to these types of innovative eHealth services and their willingness to pay for them are discussed in the sections “perception of telemedicine”, “granting remote access to medical data”, and “online access to one’s EHR”.

Having established general patterns of perception and attitude regarding online services for H&I, in the section entitled “digital divide in Greece” we analyze the digital divide in Greece, as reflected by differences in perception and actual use of the Internet for H&I. Differences are related to residence (urban/rural) and attitude towards access to the EHR online.

Survey results from the Nordic countries suggest that Internet penetration, having reached 70% to 80% of the population, has started to saturate as demonstrated by the low intention of the population to go online.<sup>9</sup> Paragraphs under “intention to use the Internet for H&I”, report on the intention of respondents in Greece to engage in online activities such as look for H&I information on the Internet, send an e-mail to the family doctor or a health professional, order medication or other health products online.

The methodology of the survey is covered in the section “material and method”. Results drawn from the responses to twenty-three questions, four of which were specifically designed for Greece, are presented in the results section. In the discussion section, the results of the eHealth trends survey are placed into perspective and conclusions are presented on the driving forces and barriers to eHealth adoption in Greece. Key findings will be used as reference to establish eHealth trends, after the results from the second wave of the eHealth consumer trends survey are available, in 2007.

## MATERIAL AND METHOD

Partners from seven European countries, Norway, Latvia, Germany, Denmark, Portugal, Greece, and Poland, participate in the eHealth trends survey, which seeks to establish eHealth consumer trends in Europe. This effort builds on prior surveys conducted by the Norwegian Centre for Telemedicine (NST) (2000–2002) to monitor the use, attitudes, and needs of Norwegian eHealth consumers.<sup>10</sup>

The design of the eHealth trends survey and the common part of the questionnaire were established in the course of two years and two international workshops. The first workshop was organized in Barcelona by the WHO European Office for Integrated Health Care Services in May 2004.<sup>24</sup> The aim of the workshop was to develop a common framework for the survey and ensure comparable data-sets. In June 2005, a second workshop was held in NST, Tromsø, to refine the design of the eHealth trends survey and finalize the content of the questionnaire.

The master questionnaire consists of nineteen questions. Each country was encouraged to include country-specific questions, within the time limit of 15-minute interviews. Four questions were added to address the attitude of the Greek population with regards to innovative eHealth services. The first wave of the eHealth trends survey was completed in November 2005 and the key findings are presented in this paper. The second wave of the survey has been planned for April 2007.

## Translation of the questionnaire: Dual focus method

The reference questionnaire was developed in English. Each participating country was responsible for its translation to their national language (or languages) using the dual focus method based on “translation for meaning”.<sup>25</sup> The dual focus method involves a team of experts and professional translators with skills in both languages: the translation team. The translation team discusses the translation word for word, sentence by sentence focusing on meaning. Translation adequacy is evaluated using a focus group of seven people reflecting the population under investigation. Within the focus group, one explores the feelings that words and phrases evoke, looking for expressions with similar meaning, even if the translations seem dissimilar on the surface.

The translation of the questionnaire took place during a two-day workshop in September 2005. A translation team including two professional translators went through a pre-prepared translation of the questionnaire clarifying and selecting appropriate wording to reflect meaning in the Greek language. The focus group was comprised of seven persons 15 to 60 years old of different educational levels, who responded to the questionnaire in individual 15 minute interviews. Any issues that came up during the interviews were subsequently discussed in a plenary session to finalize the Greek translation. The observation that a member of the focus group had used the Internet through someone else resulted in modification of the master questionnaire to address use of the Internet for H&I via a third party in all countries.

## Survey methodology and data quality

The sample included 1000 men and women 15–80 years old and was stratified to reflect the Greek census data as provided by the National Statistics Agency.<sup>26</sup> The sampling methodology involved selection of telephone numbers from the archives of the national telephone company (OTE) using stratified sampling. The fixed line phone coverage in Greece is 86.9%, which means that 13.1% of the population could not be reached through a fixed phone line.

The survey was carried out through Computer Assisted Telephone Interview software (CATI) that facilitates automatic checking of the sample selection. CATI is connected to a database of telephone numbers based on requirements of the eHealth trends survey. The size of the database was 20-times the size of the required sample to anticipate non-answers. The sample has been stratified along the control variables of region of residence, urbanity, gender and age. Telephone interviews took place from 15–31 October 2005. 40.0% of the interviews were checked via co-listening and 100% electronically. Average time for each interview was 10 minutes. The response rate was 20.5%. The sampling error on the full sample was in the range of  $\pm 3.1\%$ .

A cross-sectional comparison design was used to examine the responses of the general population, Internet users, and Internet users for H&I in different regions of Greece. Response alternatives were formulated along the 5-point Likert scale.<sup>27-29</sup> Data were analyzed using descriptive statistics, correlations, cross-tabulations, and binary logistic regression. In particular cases where the sample is less than 60 respondents, results are considered purely “indicative” and are noted as such.

## RESULTS

### Use of the Internet for H&I

Eurostat<sup>11-14</sup> reports that for several years now Greece maintains the lowest percentage of regular (at least once a week) Internet users (18%) and the lowest percent of Internet users in EU15 that have ordered goods or services for private use over the Internet in 2005 (2%). Gender, age, education, and profession are the main factors affecting Internet use. In 2005, 22% of men and 15% of women in Greece are users of the Internet on a weekly basis, while 71% of men and 75% of women have never used the Internet. Furthermore, while 48% of the students are regular users of the Internet, 31% have never used it.

In general, the results of the eHealth trends survey in Greece (tab. 1) are consistent with those reported by Eurostat. According to our results, gender affects the use of the Internet ( $\chi^2=22.765$ ,  $P$  value=0.000) and 59.5% of the Internet users are male. A second factor that influences the use of the Internet is age ( $t=15.054$ ,  $P$  value=0.000). The younger a person is, the more likely they are to be an Internet user. Mean age of non-users is 51.8 years (95% CI, 50.32–53.03), whereas mean age of Internet users is 33.8 years (95% CI, 32.49–35.01). Mean difference of age between Internet non-users and users is 18 years (95% CI, 15.7–20.4).

According to our results, 54.2% of the Internet users go online to search for information on H&I. Men use the Internet more than women, while women use it more for H&I: 52.6% of male and 56.7% of female Internet

users go online in pursuit of information on H&I. Female Internet users focus on H&I issues more strongly than Internet users in general. As shown in table 2, this is particularly prominent at the ages 25–64 with a peak at the ages 35–44 (71.9%). The mean age of women who look for online information on H&I is 34.7 years (95% CI, 32.34–37.14). Mean age of women that use the Internet but not for H&I is 28.9 years (95% CI, 26.11–31.70). The difference in age between women that use the Internet in general from those that use it for H&I, 5.8 years (95% CI, 2.19–9.49), is statistically significant ( $t=-3.151$ ,  $P$  value=0.002). This result could be explained taking into consideration that women of higher education in Greece form families and bear their children typically in their thirties,<sup>26</sup> and at that time in life they need to learn more about H&I.

Although actual use of Internet drops with age, the probability of Internet use for H&I increases as people get older. Figure 1 shows the predicted probability of using the Internet along one’s lifetime against the predicted probability of using the Internet for H&I, calculated with binary logistic regression weighted for age. Among Internet users only 40% of respondents 15 to 24 years old, 44% of men and 35% of women, search online for H&I. However, 64.8% of Internet users at the ages 35–44 look for H&I information on the Internet. This trend increases as people get older: nearly all Internet users search for information on H&I.

The frequency of Internet activities related to H&I indicate a monthly activity focusing on information search. 23.1% of the respondents use the Internet to find information about H&I on a daily or weekly basis, 33.6% every month, 26.7% once or twice a year, and 16.6% less than once a year (tab. 3). Thus, people in Greece are mainly monthly users of the Internet for H&I.

### Information sources for H&I

People explore different kinds of information sources in their quest for knowledge about health or illness. Some information sources for H&I are personal and confidential such as friends or health professionals, others occasional, impersonal and circumstantial like TV or radio, yet others highly specialized such as books, encyclopedias, or seminars. A question in the eHealth trends survey requested respondents to rate different information sources for H&I on a Likert scale 1–5 (not important to very important).

Multidimensional scaling analysis on sources of information for H&I grouped respondents according to their preferable information sources. According to figure 2, 45%

**Table 1.** Main findings of the eHealth trends survey on Internet use for health and illness (H&I) in Greece.

Sample	1000	100%
Internet users*	422	42.2%
Internet users for H&I**	229	22.9%

\* Respondents that have used the Internet

\*\* Respondents that have used the Internet to find information about health or illness (H&I)

**Table 2.** Internet use for H&I and for purposes other than H&I by age and gender among Internet users (n=422).

Age group	Internet users for purposes other than H&I		Internet users for H&I		Total per gender		Total Internet
	Male (m=34.29, s=13.918)	Female (m=28.81, s=12.064)	Male (m=35.24, s=13.464)	Female (m=34.74, s=11.920)	Male (m=34.79, s=13.664)	Female (m=32.22, s=12.294)	
<b>15–24</b>							
N	42	39	33	21	75	60	135
% Age groups	56%	65%	44%	35%	100%	100%	100%
% Internet use	35.3%	52.7%	25%	21.6%	29.9%	35.1%	32%
<b>25–34</b>							
N	23	16	36	33	59	49	108
% Age groups	39%	32.7%	61%	67.3%	100%	100%	100%
% Internet use	19.3%	21.6%	27.3%	34%	23.5%	28.7%	25.6%
<b>35–44</b>							
N	22	9	34	23	56	32	88
% Age groups	39.3%	28.1%	60.7%	71.9%	100%	100%	100%
% Internet use	18.5%	12.2%	25.8%	23.7%	22.3%	18.7%	20.9%
<b>45–54</b>							
N	21	6	18	13	39	19	58
% Age groups	53.8%	31.6%	46.2%	68.4%	100%	100%	100%
% Internet use	17.6%	8.1%	13.6%	13.4%	15.5%	11.1%	13.7%
<b>55–64</b>							
N	10	4	4	6	14	10	24
% Age groups	71.4%	40%	28.6%	60%	100%	100%	100%
% Internet use	8.4%	5.4%	3%	6.2%	5.6%	5.8%	5.7%
<b>65–80</b>							
N	1	0	7	1	8	1	9
% Age groups	12.5%	0%	87.5%	100%	100%	100%	100%
% Internet use	0.8%	0%	5.3%	1%	3.2%	0.6%	2.1%
<b>Total</b>							
N	119	74	132	97	251	171	422
% Age groups	47.4%	43.3%	52.6%	56.7%	100%	100%	100%
% Internet use	100%	100%	100%	100%	100%	100%	100%

N: Actual number of cases reported, % Age group: The % of Internet users within each age group, % Internet use: The % of cases in different age groups of Internet users

of respondents rate friends and family, TV/radio, and newspapers as important or very important. In the same way, 67% deem as important or very important the close personal attention provided by physicians and pharmacies. A rather high percentage of respondents (55%) prefer authoritative reference information sources such as books, while the Internet (38%) may be identified close to books and courses, but is a group in its own.

Factor analysis on the other hand (data not shown) identified only three groupings: (a) courses and lectures,

medical encyclopedias and leaflets, and the Internet, (b) pharmacies, face to face (f2f) contact with physician, (c) newspapers and magazines, TV/radio, family and friends. The classification provided by factor analysis presents the Internet as an authoritative information source along with books and encyclopedias.

Table 4 reports the rating of different information sources amongst the general population (n=1000) and amongst Internet users (n=422). Among the general population, f2f contact with health care professionals

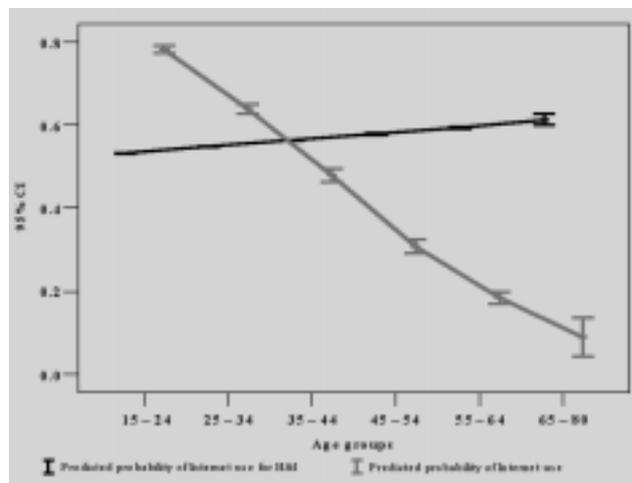


Figure 1. Predicted probability of Internet use for health and illness (H&I) or not by age.

Table 3. Frequency of Internet use for H&I among Internet users for H&I (n=229).

Frequency of Internet use for H&I	N	%
Every day	9	3.9%
Every week	44	19.2%
Every month	77	33.6%
Every six months	40	17.5%
Every year	21	9.2%
Less than once a year	38	16.6%
Total (Internet users for H&I)	229	100%

N: Number of respondents that reported to have used the Internet for H&I, %: Percentage of these cases among Internet users for H&I

clearly rates first in importance (80.5% rate it important or very important). Books and medical encyclopedias

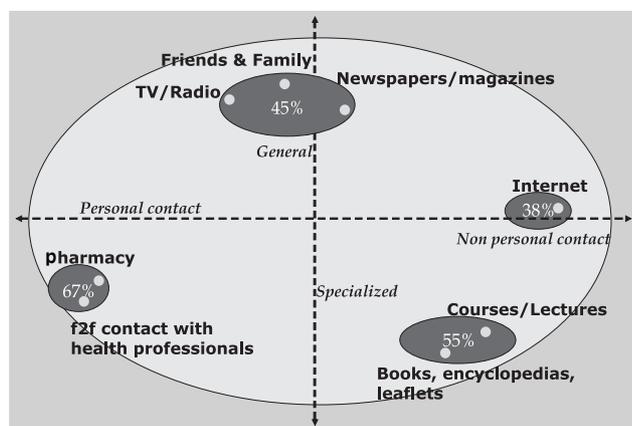


Figure 2. Multidimensional scaling analysis on information sources for H&I among the general population (n=1000).

(60.8%), TV/radio (57.7%), pharmacies (52.2%) follow. Courses and lectures, newspapers, family and friends are next, and rate last in importance is the Internet (38.1%). Moreover, if we consider people with chronic illness (data not shown), then f2f contact with physicians is even more important (86%), with TV/radio (70%) followed by pharmacies (56%) next. People leaving with a chronically ill person, value personal contact with physicians (84%), but also turn to books (63%), courses and seminars (57%), and the Internet (44%).

Although the Internet is last in the preferences of the general population, it rates third among Internet users (55.3% rate it important or very important). The characteristics of those who consider the Internet as an important or very important source of information for H&I are male, 15-44 years old, white collar workers of higher education. Again, just like factor analysis, these findings emphasize the perception of the Internet as a reference source for H&I equitable to books and encyclopedias

Internet users appreciate the Internet more than TV/radio as a source of information for H&I. Actually, the Internet replaces TV/radio as the third most preferred information source for H&I (55.3% vs 50.2%). The preferred information sources for H&I common to the general population and Internet users are f2f contact with physicians and books.

When comparing, in table 4, the ratings by general population and Internet users, there are indications that a new online culture emerges. These indications are further supported by confidence rates and mean values shown in figure 3. The perceived value of TV/radio (50.2% vs 57.7% for the general population) and the Internet (55.3% vs 38.1% for the general population) are reversed. To a lesser extent the same is true for f2f contact with physicians (75.8% vs 80.5%), but also family and friends (40.5 vs 44.7%) and pharmacies (48.1% vs 52.2%), which are all rated consistently lower by Internet users than by non-users.

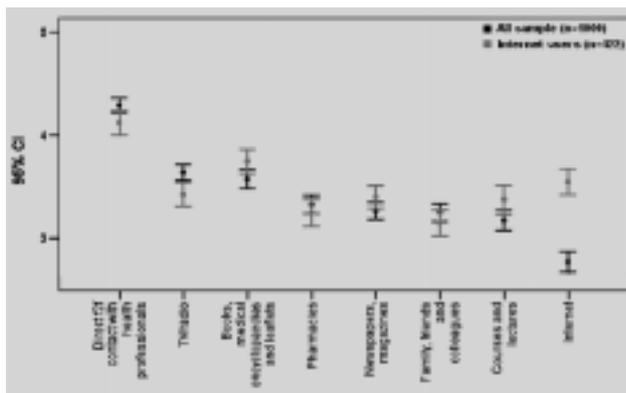
Online activities related to H&I

In Greece and worldwide, the Internet has the potential to affect the decision of eHealth consumers on H&I issues. The power of the Internet and the underlying cultural change are revealed with the findings of the eHealth trends survey. More than half the Internet users for H&I consult the Internet to make up their mind whether to consult a physician. In addition, almost one

**Table 4.** Rating of information sources for H&I in the general population (n=1000) and among Internet users (n=422) (1 not important; 5 very important).

General population (n=1000)		1		2		3		4		5		4+5	4+5
Information source/rating	N <sup>a</sup>	(%) <sup>b</sup>	N	(%)	N	(%)	N	(%)	N	(%)	N	N	%
Internet*	370	38.1%	76	7.8%	155	15.9%	153	15.7%	218	22.4%	371	38.1%	
TV/radio	85	8.5%	105	10.5%	233	23.3%	241	24.1%	336	33.6%	577	57.7%	
Books, encyclopedias	154	15.5%	87	8.8%	148	14.9%	244	24.5%	361	36.3%	605	60.8%	
Courses and lecture	265	26.9%	89	9.0%	152	15.4%	173	17.5%	307	31.1%	480	48.6%	
Newspapers mag	147	14.8%	120	12.0%	255	25.6%	274	27.5%	200	20.1%	474	47.6%	
Family and friends	153	15.4%	157	15.8%	241	24.2%	184	18.5%	261	26.2%	445	44.7%	
Pharmacies	184	18.5%	126	12.7%	166	16.7%	222	22.3%	298	29.9%	520	52.2%	
f2f contact	61	6.1%	47	4.7%	87	8.7%	150	15.0%	655	65.5%	805	80.5%	
Internet users (n=422)		1		2		3		4		5		N	%
Information source/rating	N <sup>c</sup>	(%) <sup>d</sup>	N	(%)	N	(%)	N	(%)	N	(%)	N	%	
Internet (n=418)	40	9.6%	49	11.7%	98	23.4%	103	24.6%	128	30.6%	231	55.3%	
TV/radio	37	8.8%	57	13.5%	116	27.5%	113	26.8%	99	23.5%	212	50.2%	
Books encyclopedias (n=421)	26	6.2%	53	12.6%	68	16.2%	127	30.2%	147	34.9%	274	65.1%	
Courses (n=415)	70	16.9%	53	12.8%	73	17.6%	89	21.4%	130	31.3%	219	52.8%	
Newspapers (n=421)	30	7.1%	59	14.0%	113	26.8%	150	35.6%	69	16.4%	219	52.0%	
Family & friends	56	13.3%	81	19.2%	114	27.0%	85	20.1%	86	20.4%	171	40.5%	
Pharmacies	67	15.9%	65	15.4%	87	20.6%	102	24.2%	101	23.9%	203	48.1%	
f2f contact	32	7.6%	25	5.9%	45	10.7%	76	18.0%	244	57.8%	320	75.8%	

<sup>a</sup>N: Number of respondents that have rated the information source, <sup>b</sup>%: Percentage of cases in the general population., <sup>c</sup>N: Number of Internet users that have rate this information source accordingly, <sup>d</sup>%: Percentage of cases among Internet users that have rated this information source

**Figure 3.** Sources of information about H&I in the general population (n=1000) and among Internet users (n=422).

out of two Internet users for H&I looks for information on the Internet before and after a medical appointment.

Most Internet users for H&I in Greece consult the Internet when they are about to make a decision about their health. The prevalence and impact of online activities relevant to H&I on the attitude and decision making of respondents were investigated with a closed ques-

tion suggesting the alternatives shown on table 5. An astounding 93.9% use the Internet primarily as an information source for H&I. Just 27.9% have interacted with physicians they hadn't met before, 24.9% have participated in self-help groups or forums, while just 7.4% have ordered medicine or other products online.

Furthermore, although currently only 17 persons (1.7% of the general population) have ordered medication or H&I related products on the Internet (tab 5), once e-Commerce is more widely and culturally accepted in Greece this percentage is expected to increase. These findings are consistent with the low penetration of e-Commerce in Greece which has been reported around 2–2.5% by Eurostat in 2005.<sup>12–14</sup>

According to our results, online search for H&I has a positive effect on the attitude and lifestyle of people in Greece (tab 6). After searching the Internet on H&I issues, most respondents have reported feelings of relief or assurance. Only 1 in 3 felt anxiety and only 5 people changed their medication without prior consultation with their family physician. On the other hand, 55.9% came up with suggestions or questions on diagnosis and treat-

**Table 5.** H&I related activities on the Internet among Internet users for H&I (n=229).

H&I related activity on the Internet	N	%
Read about H&I	215	93.9%
Search for information to decide whether to consult a physician	135	59.0%
Search for information after a medical appointment	114	49.8%
Search for information prior to medical appointment	112	48.9%
Interact with health professionals you have not met before	64	27.9%
Participate in forums or self help groups (focusing on H&I)	57	24.9%
Order medicine or other H&I products online	17	7.4%

N: Number of cases that selected the specific option, %: Percentage among Internet users for H&I

ment for their family doctor or specialist. The fact that almost three out of five respondents have addressed questions or suggestions to their family doctor or specialist attests to the impact of the Internet on awareness and health empowerment.

#### Assessment of H&I website quality criteria

A critical aspect in the promotion and acceptance of online services for H&I and eHealth in particular is the way that Internet users for H&I perceive the website of a medical practice or more generally, websites with medical content. Such a website provides information and, in some cases, services, advice, or guidance to potential eHealth consumers. According to a 2002 Eurobarometer flash report,<sup>7</sup> 23% of the medical practices in EU15 and 10% of the medical practices in Greece have a website offering administrative information and in some cases health information and appointment scheduling.

A closed question prompted respondents to rate on a 5-point Likert scale seven evaluation criteria for H&I websites: recent information, security, involvement of health professionals, language, interactivity, and indication of sponsorship. Language was included as prior surveys have indicated that most people prefer to access information in their own language.<sup>4</sup> Security and confidentiality of personal information were also included due to the proliferation of bots, viruses, and other malware that infect virtually any unprotected computer connected to the Internet, frequently resulting in unauthorized access to personal data. H&I information originating from health professionals, affects the quality and

**Table 6.** Effects of Internet search on Internet users for H&I (n=229).

Effect of Internet search for H&I	N	%
Feeling of reassurance or relief	134	58.5%
Suggestions or queries on diagnosis or treatment to the family doctor or specialist	128	55.9%
Willingness to change diet or lifestyle	83	36.2%
Feeling of anxiety	73	31.9%
Making, cancelling or changing an appointment with your family doctor	17	7.4%
Changing use of medicine without consulting your family doctor or specialist	5	2.2%

N: Number of respondents among Internet users for H&I that selected the specific option, %: Percentage among Internet users for H&I

prestige of the presented content. In addition, interactivity i.e. the ability to interact with other people and health care professionals online is perceived favorably by eHealth consumers. Availability of up-to-date medical information and clear indication of sponsorship i.e. who is responsible for the portal, were the final two criteria rated by Internet users for H&I (fig. 4).

Respondents consider up-to-date content as the most important evaluation criterion for a H&I website (97%). The associated confidence interval is narrower than in any other evaluation criterion, reinforcing the perception of the Internet as a knowledge resource for H&I (figures 4, 5). Respondents most likely presume that health professionals participate in the collection of medical information presented on a H&I website. Participation of health professionals was rated third with 87% of the respondents considering it important or very important.

Secure handling of personal information was rated second (91%) among the evaluation criteria, suggesting the strong concerns about privacy of potential eHealth consumers. This finding can be attributed to raising concerns about security and confidentiality as well as the trust of respondents on health professionals and email exchange discussed in the next section.

The availability of information in Greek comes up fourth in the preferences of the respondents, followed by interactivity and clearly stated sponsorship. The low impact of language is due to the prevalence of the English language among Internet users in Greece. On the other hand, the relatively low importance (74%) of interactivity can be explained by the low interest in online interaction with health professionals. Note that, although there is no statistically significant difference between men

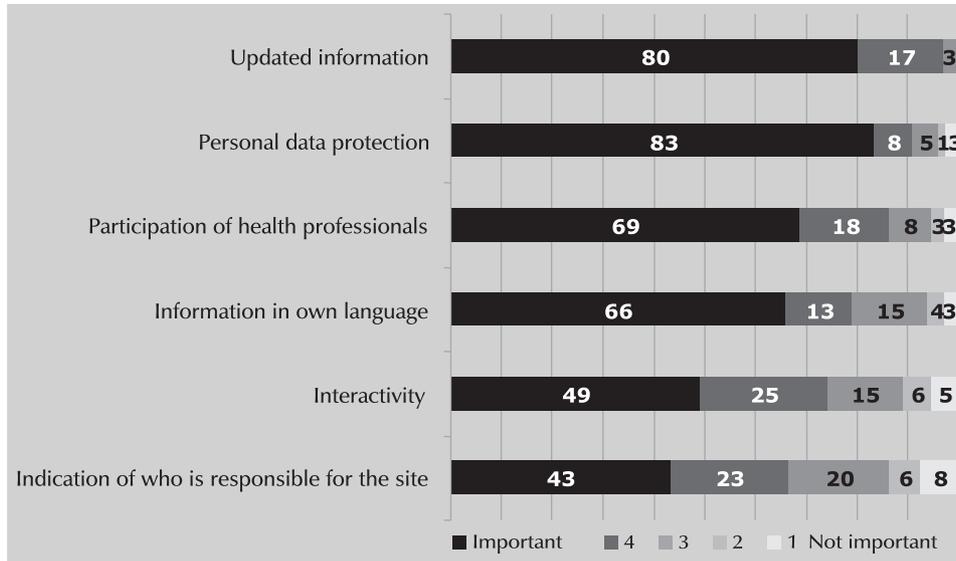


Figure 4. Rating of quality criteria for H&I websites by Internet users (n=229).

and women when evaluating a website, women consider up-to-date information more important than men. The same holds true for clearly stated responsibility for the site as shown in figure 5. Presumably, when Internet for H&I is available and affordable to a wider population, language and quality labeling like HON will become more important.<sup>17</sup>

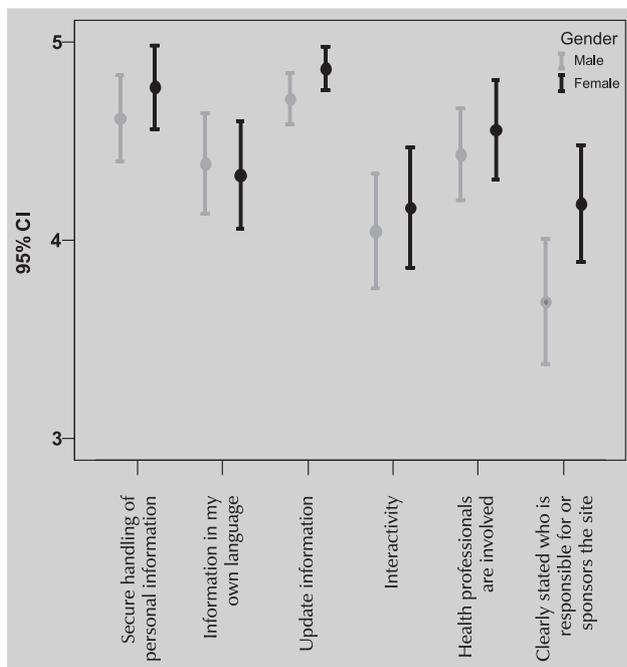


Figure 5. Rating of quality criteria for H&I websites by male and female Internet users for H&I (n=229): Mean importance and confidence intervals.

### Contact with health professionals

Online contact with health professionals was further investigated by asking whether the respondent has contacted their family doctor or other health professionals on the Internet. If the response was positive, the purpose of contact was further investigated with a list of common activities. Otherwise, a list of reasons for not contacting a health professional on the Internet was proposed.

The vast majority of Internet users for H&I (86%) has never contacted a health professional on the Internet (fig. 6). The main reason for not contacting a physician online, shown on table 7, was their preference for personal contact (66%), rather than lack of opportunity (8.6%). Very few people were worried about confidentiality in using the Internet to contact health professionals (3.6%), despite findings shown in the previous section. This might be surprising if one considers the impor-

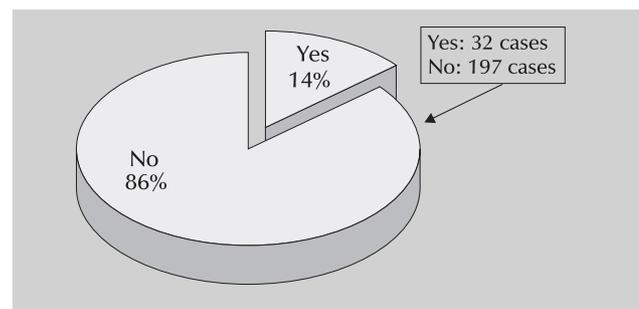


Figure 6. Percentage of Internet users for H&I having contacted the family doctor or a health professional online (n=229).

**Table 7.** Reasons for not contacting the family doctor or a health professional online among Internet users for H&I (n=197).

Possible reason	N	%
I worry about confidentiality	7	3.6%
I prefer face-to-face communication	130	66.0%
My family doctor doesn't offer such services	17	8.6%
There was not need to contact a health professional online	59	29.9%
Other	9	4.6%

N: Number of respondents among Internet users for H&I that selected the specific option, %: Percentage among Internet users for H&I that have never contacted health professionals online

tance of confidentiality and personal data protection when evaluating H&I websites. These findings may be attributed to the limited adoption of online services for H&I. As recorded in the 2005 year book of statistics by Eurostat,<sup>14</sup> people in Greece are less concerned with security and privacy than in the EU25: 0.4% have encountered fraudulent payment with credit card use, 0.5% have experienced personal information sent out on the Internet, and 17.5% have dealt with computer viruses. The correspondent percentages in EU25 are 1.3%, 3.8%, and 34.5%, respectively

For the 32 respondents that reported having contacted the family doctor or a health professional online, it was to access their website (15 people), to schedule an appointment online (9 people), and to ask about their health (9 people). Just one person reported accessing his electronic health record online.

### Selecting a family doctor or specialist

Response to an earlier question on online activities related to H&I revealed that respondents do consult the Internet before they make decisions about their health, 59% of Internet users for H&I search online for information to help them decide whether to consult a health professional (tab 5). Clearly the Internet helps respondents to be informed and active participants in the management of their health. Does this affect their selection of a doctor?

To investigate the extent to which online services for H&I affect the selection of a family doctor or specialist by Internet users, a closed question asked respondents to rate the importance of ten criteria. Six of the selection criteria refer to eHealth or online services for H&I: online access to electronic health records, medical practice has a website, support for reminders in the form of

short messages on the mobile phone, communication via email, online appointment scheduling, and electronic prescription. Although online prescription or renewal i.e. ePrescription, is not possible under the current regulatory framework in Greece,<sup>5,8</sup> it was still included to obtain uniform results and trends across Europe. The selection criteria also included accessibility and convenient office hours, cost of services, recommendations by others, and information on the medical practice.

The general population mainly selects a family doctor or specialist based on accessibility and convenient office hours (80%). Information on the practice and recommendations by others, were rated important or very important respectively by 66% and 64% of the respondents (fig. 7). All other criteria ranked lower. These findings can be explained by the high value of personal contact (recall f2f contact with physicians in table 4). The non-response rate for selection criteria addressing online services was slightly higher in the general population (0.7–4.2%), compared to the Internet users (0.2–2.1%), suggesting that some of the respondents had never considered that such options exist.

Nevertheless, an emerging interest in online services for H&I can be identified in our findings. Excluding ePrescription, 22–33% of the general population and 32–45% of the Internet users, consider eHealth or online services for H&I important or very important when selecting a family doctor or a specialist (figures 7, 8). Even though not widely available, online access to one's EHR is the top-rated eHealth-related selection criterion for a family doctor or specialist. 33% of the general population and 45% of the Internet users rate it important or very important. Access to the EHR is considered important or very important by a higher percentage than the existence of a website for the medical practice. Existence of a website for the medical practice is important or very important for 29% of all respondents and 42% of the Internet users. In particular, Internet users consider online access to one's EHR as slightly more important than the cost of services (fig. 8).

Figure 9 shows the importance and confidence interval of selection criteria among Internet users and non-users. There is no substantial difference in ratings for general criteria such as accessibility, recommendations, cost of services, and information on the doctor's practice. However, Internet users rate online services consistently higher than non-users. Scheduling appointments online, the availability of a website with information on the medical practice, the ability to contact the family

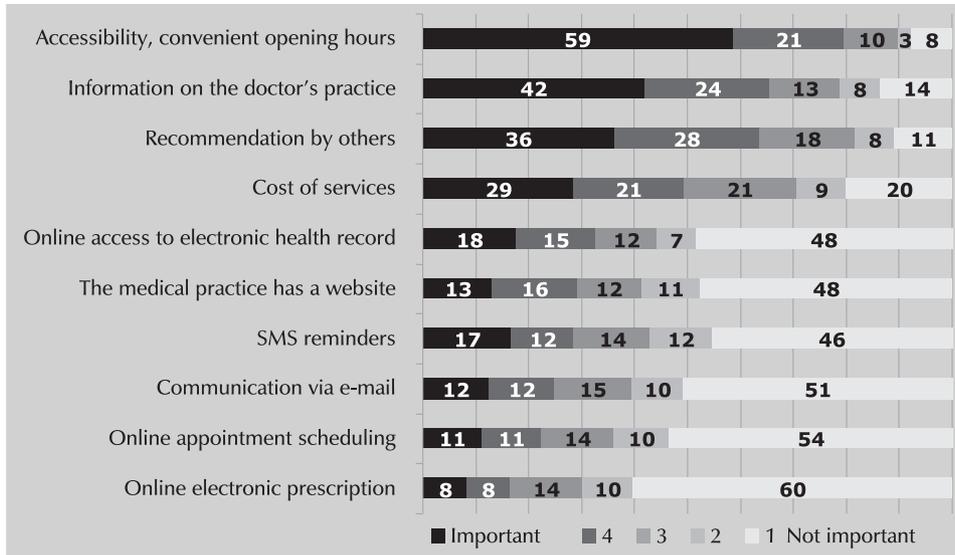


Figure 7. Ratings of selection criteria for a family doctor or specialist in the general population (n=1000).

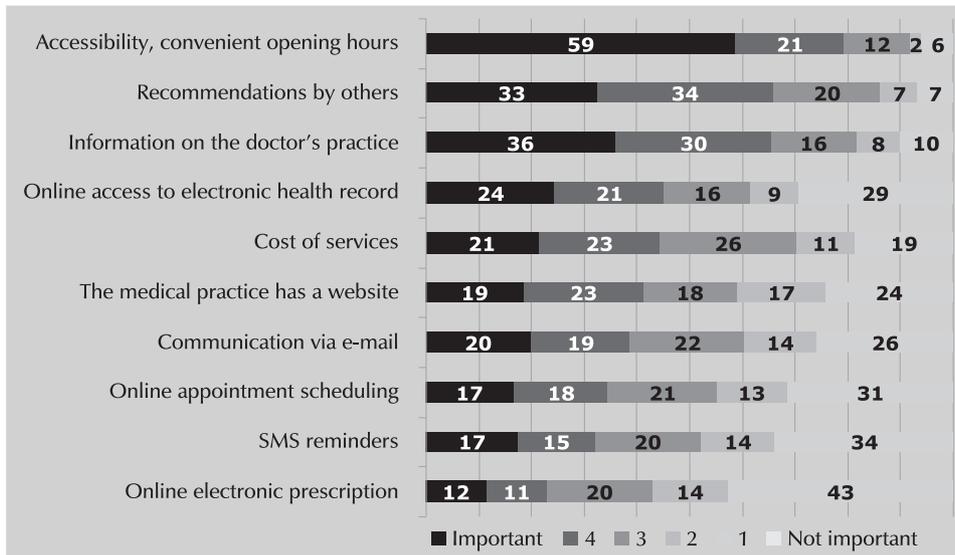
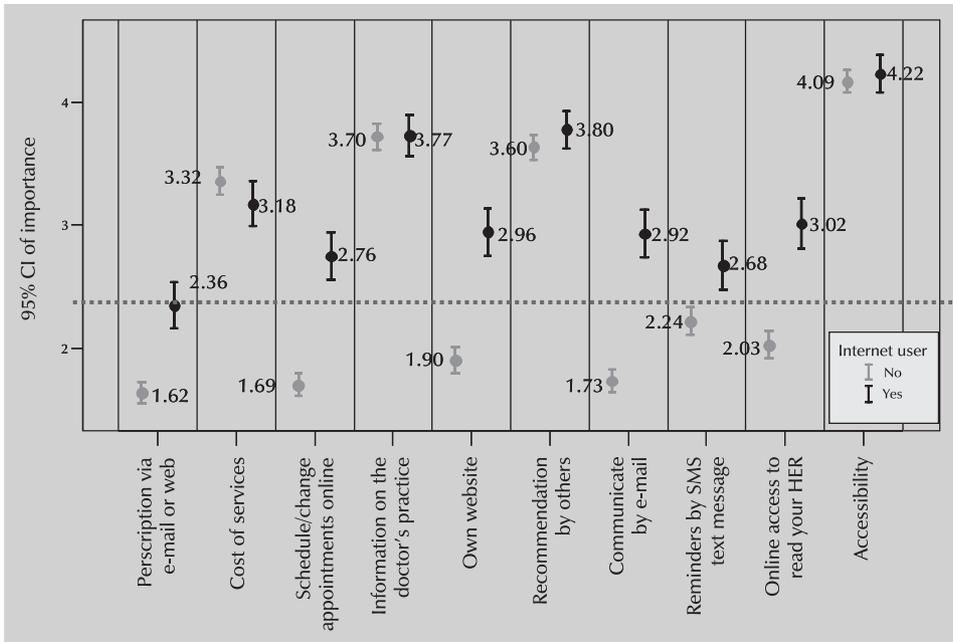


Figure 8. Rating of selection criteria for a family doctor or specialist among Internet users (n=422).

doctor or a specialist by e-mail, and online EHR access are all at least by 10% more important for Internet users than for the general population. SMS reminders correspond to the online service for which the least difference between Internet users and non-users is observed (fig. 9). This observation can be explained by the prevalence of mobile telephony in Greece. Just like assessing evaluation criteria for H&I websites, findings reported in this section point to cultural differences among users and non-users of the Internet: there is a 10% difference in the perceived importance of eHealth or online services for H&I, when selecting a family doctor or specialist.

### Perception of telemedicine

Although it is quite ordinary to call up the family doctor when someone is ill, three out of four respondents told us that they do not feel comfortable with the idea of a medical visit via computer or video phone. 26% of the respondents do not perceive favorably the opportunity of online medical visits (non-response below 1%). Given the context of online services for H&I, this should be considered as a further indication that when it comes to health issues, personal contact with the family physician is preferable to impersonal contact with an unknown health professional.

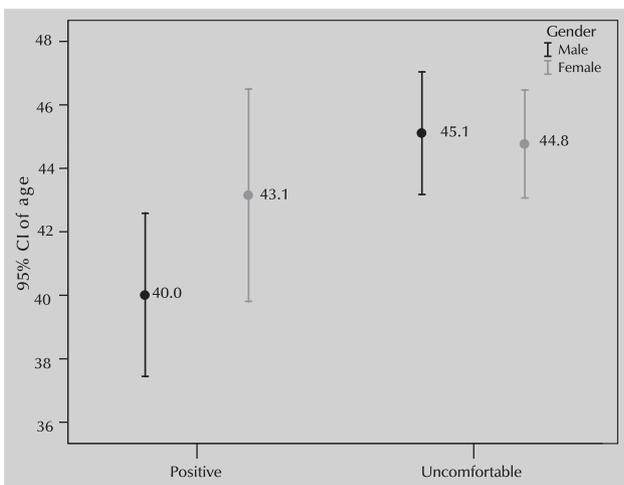


**Figure 9.** Significance of selection criteria for a family doctor or specialist among Internet users (n=422) and non-users (n=578): Mean value and confidence interval.

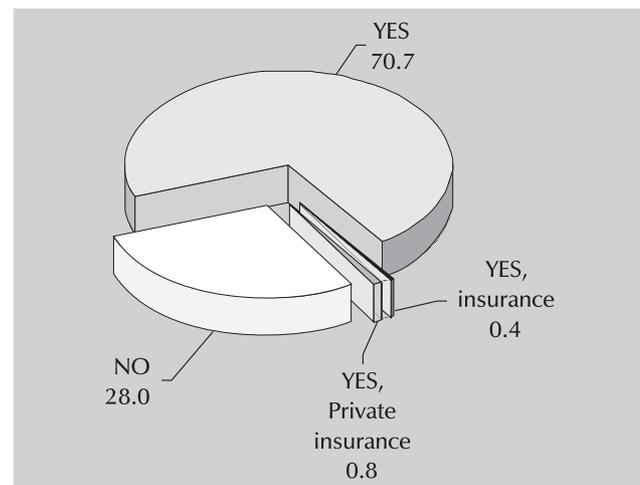
People that accept the idea of telemedicine are in their forties (95% CI, m=40.6, 39.06–42.16). There is very strong statistical evidence ( $\chi^2=20.782$ , P value=0.000) that men are more keen to telemedicine (62%) than women. These findings can be explained by the fact that men are more inclined to use the Internet. As shown in figure 10, women at the age 40–45 (95% CI, m=43.1, 39.7–46.5) and men at the age 37–43 (95% CI, m=40.0, 37.4–42.6) are the main supporters of the idea (by more than 79%). Statistically significant differences also exist between age groups, education (higher

education levels), use of the Internet for H&I, and residence in urban areas (data not shown). Those favoring medical visits via computer or video-phone, with high probability, also have a family with kids, university education, and higher income.

Over 70.7% of those inclined to use telemedicine would agree to pay • 10 per visit (fig. 11). Thus, although penetration of telemedicine is low, respondents that support the concept of telemedicine are willing to pay a fee for a telemedical visit. This finding is of particular interest because it could mean that respondents are pre-



**Figure 10.** Perception of a remote visit by computer or video-phone across age and gender in the general population (n=1000).



**Figure 11.** Respondents willing to pay • 10 for a medical visit via computer or video phone among those favoring telemedicine (n=246).

pared to accept telemedicine as an equitable medical procedure.

### Granting remote access to medical data

In Central Europe, particularly on the borders between Belgium, the Netherlands, and Germany, it is common to seek cross-border care, or even request a second opinion from cross-border health professionals to expedite delivery of care.<sup>30,31</sup> In Greece, CT scans are sent by ambulance to another hospital for a second opinion. However, people in Greece are hesitant to grant remote access to their medical data, even to expedite diagnosis.

Just 44% of the respondents are comfortable with granting access to their medical data even for the sake of an accurate, faster or more effective diagnosis (tab.8). One out of two respondents feels uncomfortable with both telemedicine and granting remote access to their medical data. Just one out of five respondents feels comfortable with both services (data not shown). The non-response rate for the general population is notable: 2.5% did not respond.

Again, those in favor of granting remote access to their data are in their early forties (95% CI, m=40.6, 39.1–42.1). They are also typically of higher education, use the Internet (also for H&I), and live in urban areas. Unlike telemedicine, men and women are not divided over the issue of granting remote access to their medical data. Although the percentage of respondents accepting remote diagnosis is higher than that for telemedicine, survey results indicate that older people do not trust or do not appreciate some applications of novel technologies in health care. They resist the adoption of eHealth, despite its promise for efficient and effective access to high quality care.

### Online access to one's EHR

Access to the electronic health record appears to be the most attractive online service related to H&I. When asked if they would go online to access their EHR when given the opportunity, 61.7% responded positively. Note that this percentage is more than double the percentage reported for telemedicine.

Men seem to be more supportive to the idea of accessing their EHR online, particularly when they are young, have higher education, use the Internet, and live in urban areas. Comparing figure 10 (telemedicine) and figure 12 (access to EHR), it is worth noting that wom-

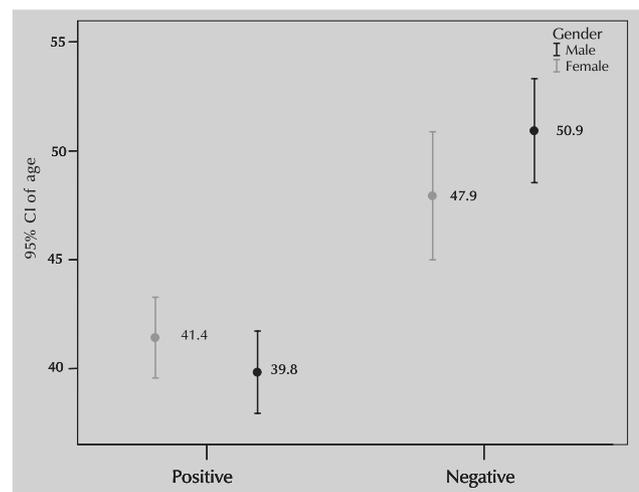
**Table 8.** Attitude towards granting remote access to one's medical data to expedite diagnosis in the general population (n=1000).

Response	N	%
To get a quick and valid diagnosis. I would grant access to my medical data	440	44%
Even if I were to receive a quick and accurate diagnosis I would not grant remote access to my medical data	535	53.5%
Subtotal	975	97.5%
I do not know	25	2.5%
Total	1000	100%

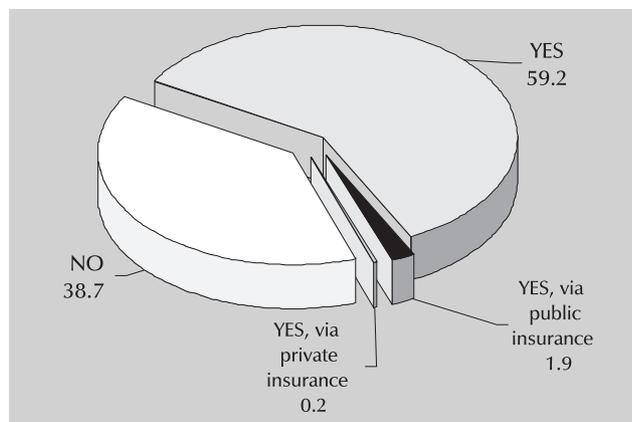
N: Number of respondents in the general population that selected the specific option, %: Percentage among the general population (n=1000)

en are interested in their EHR at an earlier age (95% CI, m=38.0, 39.7–41.7) than men (95% CI, m=41.4, 39.6–43.3). This finding may originate from their information needs, interest in health and diet, their starting a family or having their first child in their thirties.<sup>26</sup> On the other hand, their interest in telemedicine occurs even later in life probably when they recognize the need for it.

Additionally, as reported in figure 13, 61.3% of those that look forward to accessing their EHR online would agree to pay • 30 a year for the service (2% via insurance). This is an indication that people in Greece perceive online access to their EHR as a significant added-value service. The percentage of respondents interested in accessing their EHR online is almost twice that of current Internet users, reflecting a potentially high impact service.



**Figure 12.** Willingness to access their EHR online across age and gender in the general population (n=1000).



**Figure 13.** Attitude towards an annual fee of • 30 for online EHR access among those who would like to access their EHR online (n=617).

### Digital divide in Greece

Studies by Eurostat, Eurobarometer and others, regularly monitor the digital divide that separates the more developed from the less developed regions in Europe.<sup>25,26</sup> Findings of the eHealth trends survey indicate that there is also a digital divide within Greece. It is manifested by the statistically significant difference between the perception of the Internet as a valuable information source for H&I and its actual use in different regions of Greece.

The relation between perception and actual use of the Internet for H&I appears on table 9. Between 37.7–38.5% of the population perceives the Internet as valuable information source regardless where they live. However, reported use of the Internet for H&I varies considerably across regions. Starting at 18.5% in Crete and

the Aegean and 19.1% in other mainland areas, it reaches 29.5% in the urban centers of Attica and Thessaloniki. This discrepancy may be attributed to the lack of broadband infrastructure, shortage of computing equipment, and high costs of Internet connectivity.

Survey results indicate that the region of residence affects the use of the Internet in general and for H&I and the attitude of residents towards telemedicine and online EHR access, but not in the same way. Despite low Internet penetration in Crete and the Aegean (34.8% vs 49.3% in urban areas), residents are more willing to access their EHR online than respondents living in other regions (tab 9). In Crete and the Aegean, the percentage of respondents that favor online access to the EHR is 72.8%, 9.5% higher than in the urban, substantially

**Table 10.** Attitude towards online EHR access in different regions of Greece among the general population (n=1000).

Region of residence	Would you access your EHR online?				Total
	Yes		No		
	N	%	N	%	
Urban areas of Attica and Thessaloniki	236	63.3%	137	36.7%	373
Crete and Aegean	67	72.8%	25	27.2%	92
Other	314	58.7%	221	41.3%	535
Total	617	61.7%	383	38.3%	1000

N: Number of respondents in the corresponding geographic area that selected the specific option

?: Percentage among the general population of the corresponding area

**Table 9.** Perception and use of Internet as an important information source for H&I in different regions of Greece among the general population (n=1000).

Region of residence	Attica and Thessaloniki		Crete and Aegean		Other		Total	
	N	%	N	%	N	%	N	%
<i>Internet as a source of information about H&amp;I</i>								
Important or very important	136	37.7%	35	38%	200	38.5%	371	38.2%
Not important/indifferent	225	62.3%	57	62%	319	61.4%	601	61.8%
Total	361	100.0%	92	100.0%	519	100.0%	972	100.0%
Non-response rate		3.2%	0	0%	12	3.1%	28	2.9%
<i>Use of the Internet for H&amp;I</i>								
Internet users for H&I	110	29.5%	17	18.5%	102	19.1%	229	22.9%
Internet users for other reasons	74	19.8%	15	16.3%	104	19.4%	193	19.3%
Non-users of the Internet	189	50.7%	60	65.2%	329	61.5%	578	57.8%
Total	373	100.0%	92	100.0%	535	100.0%	1000	100.0%

N: Number of respondents in the corresponding geographic area that selected the specific option, %: Percentage among the general population of the corresponding area

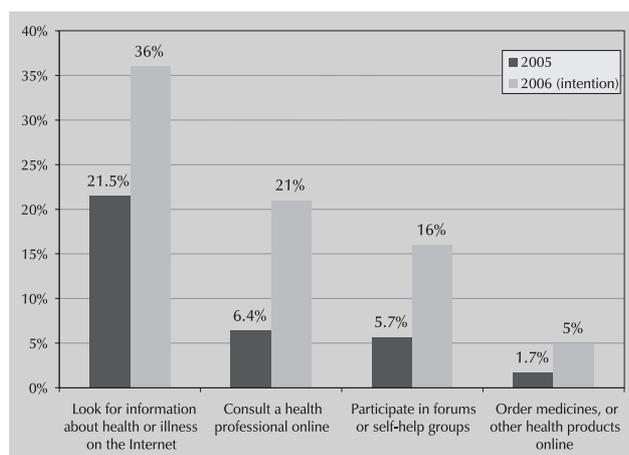
more developed regions of Attica and Thessaloniki (tab 10).

This fact points to a clearly identified need, but also to the pioneering work of HYGEIANet ([www.hygeianet.gr](http://www.hygeianet.gr)) the regional health information network of Crete,<sup>32,33</sup> well-known for introducing the concept of the integrated EHR as a comprehensive online catalog of an individual's contacts with the health care system.

### Intention to use the Internet for H&I

The eHealth trends survey also evaluated the view of respondents regarding online H&I-related activities in the future. A closed question investigated the preferences of the respondents given that they had the opportunity of Internet access in the next twelve months. Respondents reported on whether they are likely to search for H&I information, consult a health professional online, participate in forums or self-help groups, and order medicine or other health products on the Internet.

Figure 14 contrasts their responses with the actual levels of Internet use for H&I reported in the eHealth trends survey. 36% of the respondents consider it likely to surf the Internet for information on H&I, a percentage that corresponds closely to that of respondents who consider the Internet as a valuable information source for H&I (38.1%). In addition, 21% consider it likely to contact a health professional online, while 5% may order drugs or other health products online. The second wave of the eHealth trends survey, which will be reproduced in eighteen months, will provide the opportunity to see if these trends will materialize.



**Figure 14.** Current use of the Internet for H&I and intention to use it during the next 12 months in the general population (n=1000).

## DISCUSSION

Greece has the lowest levels of Internet use in Europe, while the main use of the Internet for H&I is information seeking. Currently there are small indications for the penetration of eHealth or online services for H&I. The main reason for this attitude is that existence of a website, online appointment scheduling, or e-mail consultations are currently not recognized as an opportunity and do not fulfill the recognized need for personal contact with health professionals, which prevails particularly in the general population. Young people are using the Internet and are developing a new culture that values the Internet as a reference knowledge source, while at the same time promoting the use of eHealth services. For Internet users, the Internet gradually takes the place of TV/radio as the preferred medium for news and entertainment. However, both Internet users and the general population apparently consider that personal contact with health professionals cannot be substituted with innovative technologies and eHealth. Online access to one's electronic health record emerges as the most important among online services that could be provided by a family doctor or specialist. Finally, advocates of eHealth are willing to pay for eHealth, directly or through public or private insurance.

Prior to the eHealth Consumer Trends Survey in Greece, a survey was conducted in 2002 by the SIBIS project (Statistical Indicators Benchmarking the Information Society)<sup>4</sup> focusing on eHealth and more specifically on the usage of the Internet to search for health-related information. This survey was smaller in comparison and of a more general nature with a total sample size of 11,832 (significantly smaller sample for Greece). The sample used for the SIBIS project was taken from the EU Member States, the US and Switzerland and included ages 15 and up. Upon comparing the results from the two surveys, one notices the similarities concerning age, gender, employment status and the reasons one chooses to go online for additional information. For example, it is generally true that a young educated man, who holds a white collar position, is more likely to go online. For the most part, users going online for health-related information feel the need to have better knowledge of issues pertaining to their health and secondly, to be able to cross-check a diagnosis, thus seeking additional information and extra medical opinions. The SIBIS report also stresses the importance of language in order to avoid health divides, aiming for equal access and easy retrieval of the information each user needs at any

given time. Contrary to that, our results indicate that language is not all that important for the current population of Internet users for H&I in Greece. However, quite likely this situation will change as the Internet is more widely used.

Superusers of the Internet for H&I in Greece, those respondents that use it at least once a month, are just 13%. They are predominately men, educated, white collar workers, 25–44 years old and live in cities. They use the Internet to get information for H&I (95.4%), to decide whether to visit a health professional (66.2%), to be further informed before and after a medical appointment (59.2% and 57.7%, respectively), to contact health professionals online (34.6%), to participate in forums and self-help groups (28.5%), and to order medicine or other health products (7.7%).

The fact that super-users live in urban areas also confirms a number of studies mainly by Eurostat<sup>11-14</sup> which monitor the digital divide in Europe. One can also conclude from these findings the role of the socio-demographic divide setting a certain group of people at a disadvantage as their access to the Internet is limited or not available. Although ICT technologies have become widely available, accessible, and affordable, a cultural and social gap can be identified between Internet users and non users. This divide, frequently attributed to the lack of infrastructure, computer equipment, incentives, or skills, affects the society as a whole. It can be identified in Greece, among rural and urban communities, among young and older people, among the more and less educated, among men and women. This divide in Greece appears to be wider than the corresponding divide in Europe and affects mainly those living in rural areas with small populations, lower education, and scarce opportunities to access the Internet. Many times, it is an issue of not having the opportunity or knowledge to go online, rather than a lack of need, desire or interest. This is evident in the results of the eHealth trends survey, where women once Internet users are also users of the Internet for H&I. Surveys in the Nordic countries suggest that at least their gender divide is slowly bridged as women receive higher education and employment.<sup>9</sup> Fi-

nally, both the eHealth trends and the SIBIS survey, based on the fact that the younger age groups tend to be the super-users and due to the ever-evolving availability and increasing Internet penetration, note that the percentage of users going online for H&I will most likely grow. Moreover, the quality of H&I information available on the Internet will be challenged by its very users, making it more reliable and trustworthy.

In conclusion, the results of an eHealth consumer trends survey carried out in Greece concurrently with six other European countries reveal a number of interesting findings about the perception and the actual use of eHealth in Greece. First, there is indeed a digital divide in Greece that can be attributed to the lack of infrastructure and opportunity in the rural areas. The perception of the Internet in Greece as a source of information for H&I is positive, given that awareness about Internet services and eHealth in general is low. Even-though the results of the eHealth trends survey indicate resistance to innovative eHealth technologies, people in Greece welcome the opportunity to access their EHR online and that is a starting point for promoting the use of the Internet for H&I, and eHealth.

Awareness activities are necessary for the citizens to recognize the benefits and establish a favorable image for eHealth. This is the only way to ease social inequalities and support the re-engineering of the health care sector providing high quality, affordable, and accessible health care to the citizens and visitors of Greece, even in the remote rural areas and the isolated islands of Aegean Sea.

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## ΠΕΡΙΛΗΨΗ

**Χρήση διαδικτύου για θέματα υγείας στην Ελλάδα: Πρώτα αποτελέσματα ευρωπαϊκής μελέτης για τις καταναλωτικές τάσεις στην ηλεκτρονική υγεία**

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**ΣΚΟΠΟΣ** Ο σκοπός αυτής της μελέτης ήταν η διερεύνηση της αντίληψης και της στάσης των ανθρώπων στην Ελλάδα σχετικά με τη χρήση του διαδικτύου για θέματα υγείας. Αποτελεί το ελληνικό τμήμα μιας μελέτης, η οποία πραγματοποιείται ταυτόχρονα σε 7 ευρωπαϊκές χώρες το 2005 και το 2007, με σκοπό να αποτυπώσει τις καταναλωτικές τάσεις στις υπηρεσίες ηλεκτρονικής υγείας (eHealth) στην Ευρώπη. **ΥΛΙΚΟ-ΜΕΘΟΔΟΣ** 1000 άνδρες και γυναίκες ηλικίας 15–80 ετών εξέφρασαν σε τηλεφωνικές συνεντεύξεις την άποψή τους σχετικά με τη χρήση του διαδικτύου για θέματα υγείας. Το δείγμα ήταν στρωματοποιημένο ως προς την ηλικία, το επάγγελμα και τον τόπο κατοικίας. Το ερωτηματολόγιο ήταν βασισμένο σε προηγούμενες Νορβηγικές έρευνες (2000–2002) και μεταφράστηκε στις εθνικές γλώσσες, συμπεριλαμβανομένης της Ελληνικής, χρησιμοποιώντας τη μέθοδο διπλής εστίασης. Τέσσερις ερωτήσεις, ειδικά σχεδιασμένες για την Ελλάδα, ερευνούσαν την αποδοχή καινοτόμων υπηρεσιών ηλεκτρονικής υγείας. **ΑΠΟΤΕΛΕΣΜΑΤΑ** Σε όλες τις περιοχές της Ελλάδας, 37,7–38,5% των ερωτηθέντων θεώρησαν το διαδίκτυο ως σημαντική πηγή πληροφοριών για θέματα υγείας. Εντούτοις, η χρήση του διαδικτύου για θέματα υγείας διέφερε σημαντικά μεταξύ αστικών και αγροτικών περιοχών (29,5% και 18,5%, αντίστοιχα), επιβεβαιώνοντας την ύπαρξη ψηφιακού χάσματος στην Ελλάδα. Παρόλο που η προσωπική επαφή με τον ιατρό κατατάσσεται πρώτη μεταξύ των πηγών πληροφόρησης για θέματα υγείας, ένας στους δύο χρήστες διαδικτύου για θέματα υγείας αναζητά στο διαδίκτυο πληροφορίες πριν ή μετά από μια επίσκεψη στο γιατρό. Επιπλέον, 59% των χρηστών του διαδικτύου για θέματα υγείας αποφασίζουν να λάβουν ιατρική συμβουλή, βασισμένοι εν μέρει στις πληροφορίες που βρήκαν στο διαδίκτυο. Το 58,5% των χρηστών αισθάνεται ανακούφιση αφού ενημερωθούν στο διαδίκτυο για θέματα υγείας. Όσον αφορά στις υπηρεσίες ηλεκτρονικής υγείας, 26% των ερωτηθέντων επιδοκιμάζουν τις ιατρικές επισκέψεις μέσω υπολογιστή ή εικονο-τηλεφώνου. Επιπλέον, είναι πρόθυμοι σε ποσοστό 46% να χορηγήσουν εξ αποστάσεως πρόσβαση στα ιατρικά τους στοιχεία αν πρόκειται να επισπεύσουν τη διάγνωση. Αν υπήρχε η δυνατότητα, 61,7% θα επισκέπτονταν τον ηλεκτρονικό τους φάκελο στο διαδίκτυο, ακόμα και με ετήσια συνδρομή (59,2%). **ΣΥΜΠΕΡΑΣΜΑΤΑ** Η αντίληψη για το διαδίκτυο και τα επίπεδα χρήσης του επιβεβαιώνουν την ύπαρξη ενός ψηφιακού χάσματος. Εντούτοις, η επιθυμία πρόσβασης στον ηλεκτρονικό φάκελο υγείας και η διστακτικότητα προς την τηλεϊατρική υποδηλώνουν ότι αυτή η διαίρεση μπορεί να αμβλυνθεί με εκπαίδευση, υπηρεσίες προσαρμοσμένες στους χρήστες και κίνητρα.

**Λέξεις ευρετηρίου:** Δημοσκόπηση για το διαδίκτυο, Διαχείριση υπηρεσιών υγείας, Ιατρικός φάκελος, Τηλεϊατρική

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