Collaboration and the Knowledge Economy: Issues, Applications, Case Studies
Paul Cunningham and Miriam Cunningham (Eds)
IOS Press, 2008 Amsterdam
ISBN 978–1–58603–924-0

eHealth Consumer Attitudes in Poland and Greece: a Comparison

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Abstract: The use of the Internet for health related purposes is growing rapidly in Europe and worldwide affecting deeply our society and way of living. As part of WHO/eHealth Consumer Trends Survey, this paper attempts to identify similarities and differences of Internet use for Health and Illness (H&I) between Poland and Greece. Results show that penetration of the Internet in general as well as for H&I, is almost 20% higher in Poland than in Greece. However, when we come to eHealth consumer attitudes the differences are not as striking. Acceptance of telemedicine in the form of medical tele-visits is still low in both countries. As far as sending medical data to health professionals they never met before and online access to their Electronic Health Record (EHR) both Polish and Greek respondents are less hesitant. In particular, acceptance of innovative health services appears to be wider among Internet users in general and for health related purposes. That implies that as citizens become mature Internet users, more familiar with information and communication technology (ICT), the need for comprehensive, secure and high quality services shall be recognized and demand for eHealth will grow.

Keywords: eHealth, Telemedicine, Electronic Health Record, Poland, Greece

1. Introduction

With more than 280 million Internet users in the European Union (55% of the population) and growth rates of more than 230% in 2000-2007, eServices on the Internet are affecting deeply our society and our way of living [1]. At the same time the use of the Internet for Health and Illness (H&I) is growing worldwide, as the quantity and detail of health-related information are increasing [2]. A rising number of eHealth consumers are looking for high quality, up-to-date health information and to some degree online eHealth services to better manage their health and that of their loved ones [3].

This paper compares eHealth consumer attitudes in Poland and Greece, two European states with different health care systems, trying to pin down similarities and differences. During 2000-2007 Internet growth in Greece and Poland has been above the European average at 280% and 400% respectively [1]. Does this increase correspond to wider acceptance of eHealth services? Does the profile of eHealth consumers differ in Poland and Greece? And moreover, are these differences in the healthcare systems reflected in consumer attitudes?

1.1 Greece and Poland: Two Different Health Systems

Poland with its population of 38.6 million, GDP per capita €8,788, 81600 practicing physicians, and health care expenditure of approximately 6.2% of GDP in 2005, has a large number of web portals, which provide general health information [4,5]. However, the sites

offering health-related administrative services or transactions as well as online interactions between patients and physicians or pharmacists, are still hard to find [6,7]. The importance of information and communication technologies (ICTs) for H&I is well-recognized by the Polish Government and Ministry of Health. The draft eHealth Strategy for Poland for the years 2004-2006 has taken into account consumers' orientation, especially in the field of accessibility, but on the other hand, it did neither mention nor suggest projects focused on utility, flexibility, usability or customization [8].

In Poland the public expenditure on health is estimated by OECD [5] as 69.3% (down from 91.7% in 1990) of the total healthcare costs. In contrast, the Greek health care system is one of the most privatized in the OECD, with just 42.8% of the total health care costs being covered by public expenditure, corresponding to 0.57 the OECD average.

Greece with 10.6 million population, GDP per capita €17,677, has 53943 practicing physicians (2004), and health care expenditure at the level of 10.1% of GDP. As far as health infrastructure is concerned Greece with 3.8 acute care beds per 1000 people is slightly below the OECD average of 3.9. There is also high availability of diagnostic equipment with 25.8 CT scanners (OECD avg. 20.6) and 13.2 MRI scanners (OECD avg. 9.8) per million people. In Poland diagnostic equipment is scarcer with 7.9 CT scanners and 2 MRI scanners per million people (2005).

A higher percentage of Greeks than Polish perceive their health status as good or very good, and based on available data they consult their doctor less often. In 2005, the number of consultations per capita in Poland was 6.3, up 0.6 from 1990. In Greece, the most recent data reported to OECD suggest 2.7 consultations per capita (1993), a number that is well below most OECD countries.

The 2000 reform plan in Greece, entitled «Health for the Citizen», supports a strategy for providing higher quality health and welfare services to all citizens with the use of ICT [9,10]. The national eHealth roadmap was revisited in 2006 promoting a National Health Information System. The introduction of Electronic Health Records with pilots and demonstrations is planned for 2007-2012, followed by nationwide integration for 2012-2015 [11].

Thus, the health care systems in Poland and Greece differ and so does availability of health professionals and infrastructure. Moreover, although, both countries have established an eHealth strategy, they lag in eHealth adoption [12].

2. Objectives

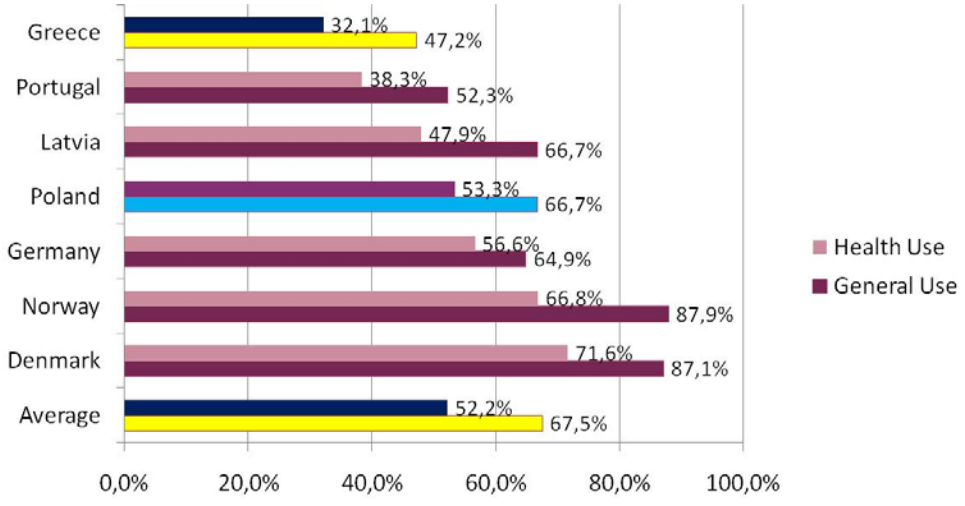

Figure 1: General and Health Related Use of the Internet in 2007 [13].

The objective of this paper is to investigate the attitudes and perceptions of current and future eHealth consumers, who are currently using or not using the Internet for health purposes, in Poland and Greece. In this way, it aims to provide some insights on their role as potential eHealth consumers in the emerging online society and to identify the necessary interventions by the healthcare system.

3. Methodology

This study was conducted in the frame of the WHO/eHealth Consumer Trends Survey that investigated aspects of health-related use of the Internet in seven European countries, [13-17], see fig.1. Country-specific questions in Poland and Greece investigated the citizens' attitudes towards eHealth:

- Do you feel comfortable with a medical tele-visit via computer or video-phone? If yes, are you prepared to pay 10€ for each medical tele-visit?
- Do you feel comfortable with granting a medical doctor or specialist you have never met remote access to your EHR in order to expedite diagnosis and treatment?
- Are you willing to access your Electronic Health Record (EHR) online? If yes, are you willing to pay an annual fee of 30€ for this eHealth service?

Telephone samples of 1000 people (15-80 years old) from the telephone directory in Poland and in Greece were stratified for age, gender, and residence. Data collection using computer assisted telephone interviews was carried out in two waves, in October 2005 and May 2007. The reference questionnaire was created in English and translated to Greek and Polish using the dual focus method [18]. The results reported here are from the second wave of the survey. The maximum sampling error for the total sample was estimated to be ±3.1%. Statistical analysis was carried out using SPSS v15.0.

4. Results

Amongst the countries in the eHealth Consumer Trends Survey (see fig. 1), Greece demonstrated the lowest use of the Internet in general (47.2%), as well as for health-related purposes (32.1%). In 2007, less than half of the Greek respondents have used the Internet, and one third have used it for H&I – corresponding to 68% among Internet users. The survey in Poland on the other hand, revealed a relatively high percentage of Internet users and Internet users for H&I, 66.7% and 53.5% respectively (see Table 1).

Table 1: Main Findings of the eHealth Trends Survey on Internet Use for H&I in Poland and Greece.

	Poland		**Greece**	
	N	**%**	**N**	**%**
Sample	1000	100.0%	1000	100.0%
Internet Users	667	66.7%	472	47.2%
Internet Users for H&I	533	53.3%	321	32.1%

In both countries, Poland and Greece, the dominant profile of Internet users can be described as urban male residents of main or minor cities, 15 to 44 years old, with higher education or students. They hold white-collar jobs (managers, medical doctors, lawyers, researchers, educationists, etc.) and perceive their health as good. However, notably, the profile of Internet users for H&I is urban female residents 15 to 34 years old, holding white collar jobs, students, or housewives with at least one child.

4.1 Perception of Telemedicine

Despite differences in the level of Internet use, variations in the profile of eHealth consumers as well as their attitudes are not as striking (see Table 2).

Table 2: Positive Attitude Towards Innovative eHealth Services in Poland and Greece.

	Poland		Greece	
	N	**%**	**N**	**%**
Medical tele-visits	355	35.5%	280	28.0%
Pay 10€ per visit	207	58.3%	205	73.2%
Pay 10€ per visit via insurance	3	0.8%	5	1.8%
Grant access to medical data	643	64.3%	541	54.1%
Access EHR online	669	66.9%	647	64.7%
Pay 30€ annual fee	368	55.0%	411	63.5
Pay 30€ annual fee via insurance	6	0.9%	19	2.9%

In Greece, just three out of ten respondents (28%) feel comfortable with the idea of a medical tele-visit via a computer or video-telephone. As shown in Table 3, among Internet users and Internet users for H&I, the percentage of those comfortable with remote tele-visits is 36.4% and 36.8% respectively.

In Poland the percentage of those comfortable with remote medical consultation was higher in the general population (35.5%), but also among Internet users (42.3%) and Internet users for H&I (44.1%). The best results in Poland were observed in the age group 15-29 years old, whereas in Greece among young adults (25-44 years). Three out of four Greek respondents (75%), once they feel comfortable with telemedicine, they are ready to pay 10€ for each tele-visit. The percentage of Polish respondents that are willing to pay for telemedicine is lower 58.3%, but still significant. In Poland 1 out of 5 respondents is ready to pay 10€ for a medical tele-visit.

Table 3: Positive Attitude Towards eHealth by Internet Use in General and for H&I.

	Participate remote medical visit		**Grant remote access to their HER**		**Willing to access their EHR online**	
	Poland	Greece	Poland	Greece	Poland	Greece
Internet Use						
Users	42.3%	36.4%	72.0%	62.1%	73.5%	76.7%
Non users	22.1%	20.5%	48.9%	46.9%	53.8%	53.9%
Internet Use for H&I						
Users	44.1%	36.8%	74.5%	62.3%	76.0%	77.9%
Non users	34.1%	35.8%	60.5%	61.6%	62.0%	74.2%
Total Sample	**35.5%**	**28.0%**	**64.3%**	**54.1%**	**66.9%**	**64.7%**

4.2 Granting Remote Access to One's Medical Data

More than half the Greek respondents (54%) reported that they would agree to grant remote access on their medical data to a specialized doctor from another part of Greece or abroad, so that they receive promptly a valid diagnosis. One in five respondents have positive attitude towards both services, medical visit via a computer or videophone and granting access to a doctor from another part of Greece or abroad.

In Poland, 64.3% would grant access on their medical data to expedite diagnosis. The willingness to give Internet access to medical records is more prominent in younger people (aged 15-29 years). It is interesting that Polish respondents are not afraid about loss of privacy over the Internet; only 6.3% of Internet users said that they were worried about confidentiality. Just as in the case of telemedicine, non-response was 3.5% and 4%, in Greece and Poland respectively.

4.3 Accessing Their EHR Online

In both countries, the percentage of respondents in favor of accessing their EHR online is the highest among the eHealth services considered. Almost one third of Greeks (64.7%), given the possibility, would use the Internet in order to read their EHR (e.g., medical history, results of laboratorial examinations, radiographs, cardiograms etc.). Among them

66.4% are willing to pay an annual fee of 30€ for this eHealth service. Acceptance of the service is common to early and young adults (15 to 44 years old) still in education or working in paid jobs. Respondents with at least one child under 18 years old in their household or a relative with long-term illness are more likely to be in favor of the service.

The percentage of Polish respondents that welcome the idea of accessing their EHR online was slightly higher (66.9%), and more than half were willing to pay 30€ for this service. Acceptance of the service, like in Greece, is common among young adults.

4.4 Attitude Towards eHealth

The general attitude towards eHealth can be reflected by the total rejection or enthusiastic acceptance of the proposed eHealth services, namely medical tele-visits, granting remote access to their medical data, and accessing their own EHR online. Table 4 shows the general attitude towards eHealth addressing the percentage of those against eHealth, open to eHealth and eHealth promoters i.e. strong supporters of eHealth. Only 19.4% of the Greek respondents are eHealth promoters accepting all three services, compared with 26.4% of the Polish respondents who are generally more positive than Greeks ($p<0.05$). Overall, the general attitude is positive with 3 out of 4 respondents in Greece and 4 out of 5 Poles are open to eHealth.

Table 4: General Attitude Towards eHealth in Poland and Greece

	Poland		Greece	
	N	**%**	**N**	**%**
Against eHealth *(no to all three services)*	171	17.1%	192	19.2%
Open to eHealth (*yes to at least one of the services)*	827	82.7%	803	80.3%
Comfortable with eHealth (*yes to at least two services)*	532	53.2%	508	50.8%
eHealth Promoter *(yes to all three proposed services)*	264	26.4%	194	19.4%
Undecided *(DA/DK to all three services)*	2	0.02%	5	0.05%

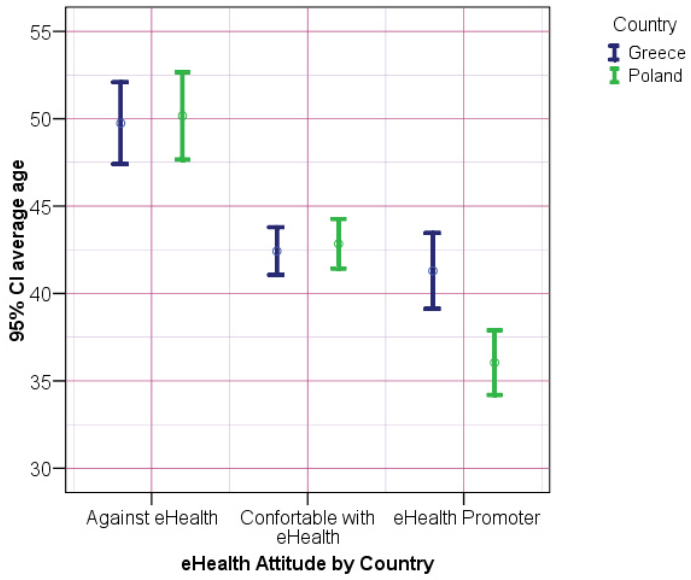

Figure 2: A More Positive Attitude Towards eHealth is Noted Among Younger People

Gender and socioeconomic status affect eHealth attitudes. eHealth promoters can be identified among highly educated young white collar men in Greece and Poland. More

positive attitude towards eHealth is noted among younger people particularly in Poland, as shown in Fig. 2. The effect was noted in remote tele-visits, but it is even more notable among eHealth promoters, those that accept all three of the proposed services. Just as expected, those against eHealth are older respondents in both countries.

5. Conclusions and Summary Recommendations

Use of the Internet in general and for H&I is more uniform in Poland than in Greece. Respondents of all ages and socio-economic status are using the Internet for health purposes. In contrast, Internet users in Greece are highly educated and hold a white collar job. Greece is characterized by significant divides as far as the use of the Internet in general and for health related purposes, is concerned.

People in Poland and Greece are hesitant towards medical tele-visits. However, once comfortable with it, Greeks are more willing to pay for eHealth than Polish do. That can be explained by the largely privatized nature of the Greek healthcare system.

Most of Polish and Greek respondents are willing to give access to their medical data under justified circumstances. In comparison, Polish patients are more open and confident. Moreover, Poles turn to the Internet for health purposes earlier that Greek people do. That may be explained by the perceived health status: 77.4% of the Greek respondents deem their health status as good or very good, compared to 59.2% of the Polish respondents.

Greek and Polish respondents are aspired by the idea of accessing their EHR online. The EHR is perceived as an important health information tool and the dominant eHealth service in both countries. However, the relatively high non-response rate may indicate that people are not familiar with the idea and benefits of eHealth, an issue that becomes increasingly important as we move from health care to health management and aging citizens seek to remain independent.

Policy makers in both countries and particularly in Greece must address eHealth literacy [19] and build incentives that will allow citizens irrespective of age and socio-economic status to use the Internet and benefit from online eHealth services. Looking back into the 2005 results of the survey in Greece [15,16], when the same questions were asked, there is a very low positive trend on eHealth attitudes. That can be attributed to the fact that online EHRs largely remain a strategic objective rather than a service widely available to citizens.

In Poland, there are no specific policies and legal regulations that could encourage online or telephone medical consultations. Patients often cannot find basic online eHealth services [8]. One survey on eGovernment services showed that only 11% of eHealth services were accessible online [20]. According to another study, making appointments with a doctor online is one of the most demanded services that could be implemented easily. About 90% of respondents pointed out that this service is very important and about 40% stated that provision of this service should precede any other eHealth services [21].

eHealth holds promise for citizens in Poland and Greece and the market must deliver it. So far, eHealth has been largely about technology, now is the time to embrace the human factor. There is a need for comprehensive, intuitive, secure, high quality services and people expect the health system will deliver. They should not be disappointed!

Acknowledgements

The data reported in this paper is part of the project, "WHO European survey on eHealth consumer trends", funded by the European Commission. Seven countries participate in the project; lead partner is NST, the Norwegian Centre for Telemedicine.

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