

Project report

WHO/European eHealth Consumer Trends Survey

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Summary: The project *WHO/European eHealth Consumer Trends, ('eHealth Trends')* is a study on eHealth use and uptake in seven European countries from 2005-2007. The project ended on time and within budget on 31 May 2008. A representative stratified randomised sample was made in seven European countries: Denmark, Germany, Greece, Latvia, Norway, Poland and Portugal. A CATI-telephone survey was conducted twice in each country, in late 2005 and spring 2007. A total of 7,934 interviews were conducted in 2005, and 7,022 interviews in 2007. In the total sample, the number of Internet health users increased from 42 % in 2005 to 52 % in 2007 (from 71 % to 83 % of the Internet-users). The growth in the use of Internet for health purposes was found in all seven countries participating in the survey. The largest relative growth of Internet health users was found in eastern and southern Europe. The project has ended as planned, on time and within budget. The survey results have shown that the Internet is gaining ground as a channel for health information in Europe. However, there is still a digital divide across Europe, and this divide matters also when it comes to eHealth. These results have been disseminated to policy makers, researchers and the general public through scientific papers, conferences, meetings, the Internet, television, newspapers and magazines. So far, the project has resulted in a total of 21 scientific papers in peer-reviewed journals, some still in the process of being published and several newspaper articles. Upon completion of the project, it is our aim that the survey will be conducted on a *regular basis* in *all* European countries forming a *forum for eHealth consumers*.

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Preface

The project 'WHO/European eHealth Consumer Trends survey' has been realised thanks to the co-funding from the Program of Community action in the field of Public Health (2003-2008) of the Health and Consumer Protection Directorate-General of the European Commission.

The project manager would like to thank all partners and colleagues who have contributed to the success of the project in general and this final report in particular.

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EXECUTIVE SUMMARY

There is fragmented valid knowledge on how eHealth is influencing health care services and health users - the patients¹. The potential of using the Internet and other electronic media in health promotion and health care seems promising, given the large group of people that can be reached, fast and at low costs. However, there are important issues to take into consideration when this technology is adopted in health: Will eHealth increase or diminish social disparities in health? Further, will eHealth increase or decrease the pressure on traditional health services? This was the focus of the project *WHO/European eHealth Consumer Trends, 'eHealth Trends'*, a study on eHealth use and uptake in seven European countries.

The project focuses on the 'new patients' or consumers and the digital divide in Europe, as the Internet is becoming an increasing source of health information. The focus on patients and health consumers gives an opportunity to monitor to what degree eHealth practices are becoming important in the everyday lives of European citizens. Thus, the 'eHealth Trends' survey repeated over a number of years, will provide a tool and a support to the work of the European Commission, based on the Action Plans for a European eHealth Area.

A representative stratified randomised sample was made in seven European countries: Denmark, Germany, Greece, Latvia, Norway, Poland and Portugal. A CATI-telephone² survey was conducted twice in each country, in late 2005 and spring 2007. The questionnaire with 21 questions was developed jointly, based on similar surveys. The respondents were asked how frequently they used the Internet, and how frequently they used it for health purposes.

A total of 7,934 interviews were conducted in 2005, and 7,022 interviews in 2007.³ In the total sample, the number of Internet health users increased from 42 % in 2005 to 52 % in 2007 (from 71 % to 83 % of the Internet-users). The growth in the use of Internet for health purposes was found in all seven countries participating in the survey. The largest relative growth of Internet health users was found in eastern and southern Europe.

The Internet seems to become a *more important channel for health information* although communicating with health carers was still rated the most important channel. For health care providers, it is worth noting that more than a third of the interviewed rated the provision of eHealth services⁴ important if they were to find a new doctor.

Health-related use of the Internet does affect patients' use of other health services: One in four of the respondents used the Internet to prepare for or follow up doctors' appointments. Also, 29 % had used information from the Internet to decide whether they needed to see a doctor. In general, we see that eHealth and Internet-based health information are rated as a *supplement rather than a substitute* for other health care services. More users feel *reassured* than worried after having visited health information sites. Therefore, there was no clear indication that more health literate citizens will become more heavy users of health services. On the contrary, there are indications that eHealth can prevent unnecessary visits to health care services. It is important to note that what we see are the eHealth *trends*, and trends which are at a rather early stage in many countries. Therefore, the area should be critically investigated in the years to come with multiple studies targeting eHealth consumers and eHealth providers, as eHealth use will depend on the variety and quality of the content of the services available.

The three-year project started on 1 June 2005. Seven countries participate in the project: Denmark, Germany, Greece, Latvia, Norway, Poland and Portugal, led by the Norwegian Centre for Telemedicine.

¹ eHealth describes the application of information and communication technologies across the whole range of functions that affect the health sector, from the doctor to the hospital manager, via nurses, data processing specialists, social security administrators and last, but not least, the patients

² Computer-Assisted Telephone Interviewing (CATI)

³ Please refer to www.telemed.no/ehealthtrends for an updated list of publications

⁴ eHealth services include all sorts of digital health services and health information, e.g. web-sites, e-mail contact, online scheduling, e-prescription, etc.

The project was co-funded by the Programme of Community action in the field of Public Health EHealth (2003-2008) of the Health and Consumer Protection Directorate General, Directorate C, EC. The project has been finalised according to the project-plan, on time and within budget.

Upon completion of the project, it is our aim that the survey will be conducted on a *regular basis* in *all* European countries forming a *forum for eHealth consumers*. The forum will be a platform for eHealth trends research focusing on the citizens' use of the Internet for health purposes and its implications. The empowerment of patients, the digital divide within Europe and within population groups are areas of interest for future research.

1 BACKGROUND

Although European populations have never been healthier, health care systems are scrambling to effectively cope with demand. There is little knowledge on how e-health will influence health care delivery. The potential of using the Internet and other electronic media in health promotion and health care seems promising, given the large group of people that can be reached, fast and at low costs. However, there are important issues to take into consideration when this technology is adopted in health. Although Information and communication technologies (ICT) have become widely available, accessible, and affordable, a cultural and social gap can be identified between the Internet users and the non-users (Kreps, 2005). This divide, frequently attributed to the lack of infrastructure, computer equipment, incentives, or skills, affects the society as a whole. Through the use of mass media, like the Internet, there is also the potential of creating needs in the population, a well known strategy in marketing and advertising. We should acknowledge that these mechanisms also might have unintentional consequences within health. The problems related to the medicalization of modern society (Conrad, 1992; Illich, 1976) should therefore be of vital interest to researchers and policy makers interested in e-health.

The 'WHO/European e-health consumer trends survey' supports the work of the European Commission, based on the Action Plans for a European e-health Area. The project focuses on the 'new patients' or consumers and the digital divide in Europe, as the Internet is becoming an increasing source of health information. The focus on patients and health consumers ensure the focus on public health issues in the e-health area, and gives an opportunity to monitor to what degree e-health practices are becoming important in the everyday lives of European citizens.

The development and advances of ICTs has contributed to a shift in the way people use health care services. While the traditional user of health care services has been the "patient", fulfilling his or her role as a relatively passive recipient of health services, today's user is more active, better informed, more demanding and less deferential to health professionals and authorities. Delivery of health care services is widening from being delivered to the person being ill to approaching the general population. The concept of health consumer therefore includes patients, patients' friends and relatives and citizens in general. 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.

The aim of the project was to investigate European health consumer's use of, their attitudes to and their desires with regards to Information and Communication Technologies (ICT) for health purposes, eHealth. The project has established a European-level survey on eHealth consumer trends as a natural expansion of previous surveys conducted nationally by the Norwegian Centre for Telemedicine in 2000, 2001 and 2002. In 2001, 31% of the Norwegian population reported using the Internet for health purposes and 45 % would like the opportunity to communicate electronically with their primary doctor (Andreassen et al., 2002). Similar results were found by Wroclaw Medical University, Poland in 2002 although a different methodology was used (Bujnowska et al., 2002). The study has been based on the Eurobarometer 58.0 Survey on European Union citizens and sources for information about health.

The project was based on the Action Plans for a European eHealth Area. It was prepared and conducted in line with the communications from the previous European eHealth annual conferences. The eHealth consumer trends survey has been supporting the work of the EU Public health programme with its source for knowledge on citizens' actual use of and expectations towards channels for health information and eHealth service provision.

2 SCIENTIFIC OBJECTIVES

A survey on eHealth consumer trends was developed and implemented in seven countries, in order to reply to the following scientific objectives. In each of the seven countries, the objective was to:

- Assess peoples' current use of Internet-based services for health purposes
- Assess peoples' attitudes to the use of Internet-based services for health purposes
- Assess peoples' needs with regard to Internet-based services for health purposes
- Examine if there is a difference in the population's use of, their attitudes and needs with regard to Internet-based services for health purposes between the different participating countries.
- Examine if and to what degree the findings change through the study period.
Relate the findings concerning the above mentioned objectives to peoples' degree of Internet access.

3 METHODS

Seven European countries were selected to run a population survey on the use of the Internet for health purposes. The countries were Norway, Denmark and Germany in northern and central Europe, Latvia and Poland in eastern Europe and Greece and Portugal in southern Europe. A representative randomised sample was made in each country, pre-stratified by age and gender. The survey was conducted twice in each country, in October-November 2005 and in April-May 2007. The survey questionnaire was developed in June 2005 by a research team representing all countries. The questionnaire was translated to the national languages using a dual focus approach (Erkut, Alarcón, Coll, Tropp, & Garcia, 1999). Interviews were conducted by telephone (CATI) by professional poll-agencies. The telephone penetration was estimated to be close to 100 % in Norway, Denmark, and Germany. In Poland it was estimated to be 64%, in Latvia 92%, in Greece 82 %, and in Portugal 54%⁵. Mobile phone numbers were included in Norway, Denmark, and Latvia.

The respondents were asked how frequently they used the Internet, and how frequently they used it for health purposes. The variables were recoded into Internet-users versus non Internet-users, and Internet health-users versus non Internet health-users.

For all analysis the SPSS 12.0 Data program was used. The joint results were presented and analysed in two project workshops and via chat-and telephone meetings.

The questionnaire will be published with the paper of the joint results of the trends 2005-2007 which is under revision by the Intl Journal of Medical Internet Research. Upon publication, it will be released at the 'eHealth Trends' website.

⁵ Source: E-communications Household survey Eurobarometer 274, Fieldwork: November-December 2006, Publication April 2007

4 RESULTS

A total of 7,934 interviews were conducted in 2005, and 7,022 interviews in 2007.⁶ In the total sample, the number of Internet health users increased from 42 % in 2005 to 52 % in 2007 (from 71 % to 83 % of the Internet-users). The growth in the use of Internet for health purposes was found in all seven countries participating in the survey. The largest relative growth of Internet health users was found in eastern and southern Europe.

The Internet seems to become a *more important channel for health information* although communicating with health carers was still rated the most important channel. For health care providers, it is worth noting that more than a third of the interviewed rated the provision of eHealth services important if they were to find a new doctor.



Iveta, Catherine and Iben discussing the results of the second survey in Aveiro.

Health-related use of the Internet does affect patients' use of other health services: One in four of the respondents used the Internet to prepare for or follow up doctor appointments. Also, 29 % had used information from the Internet to decide whether they needed to see a doctor. In general, we see that eHealth and Internet-based health information are rated as a *supplement rather than a substitute* for other health care services. More users feel *reassured* than worried after having visited health information sites. Therefore, there was no clear indication that more health literate citizens will become more heavy users of health services. On the contrary, there are indications that eHealth can prevent unnecessary visits to health care services. It is important to note that what we see are the eHealth *trends*, and trends which are at a rather early stage in many countries. Therefore, the area should be critically investigated in the years to come with multiple studies targeting eHealth consumers and eHealth providers, as eHealth use will depend on the variety and quality of the content of the services available.

The results from the surveys are published in a total of 21 scientific papers, some of them in English.⁷

5 PROJECT WORK-PLAN

5.1 Introduction

The kick-off of the project was organised in Tromsø, 15-16 June 2005. However, most of the group had already met in Barcelona the year before at a workshop hosted by the World Health Organisation (WHO) in order to prepare the questionnaire for the survey. WHO has been following the project since, and a representative was appointed to the project's Advisory board. The advisory board has contributed with broad competence in the health sector, in statistics and in international (health issues) co-ordination. The



Some of the kick-off workshop participants enjoying the view of Tromsø bathed in midnight sun from 'Fløya': Andrzej, Maria, Christine, Corina, Tove, Anaelina and Hennina.

⁶ Please refer to www.telemmed.no/ehealthtrends for an updated list of publications

⁷ See Annex for a list of abstracts of the scientific papers

members of the board have been: Ms Christine Kotarakos, project manager for Eurobarometer 58.0., Prof Maurice B Mittelmark, University of Bergen, HEMIL and Mr Somnath Chatterji, WHO.

5.2 Project objectives

The structure of the work-plan and the overall methodology used to achieve the project objectives are to:

1. Develop a survey on European health consumer trends
2. Conduct the survey in all participating countries twice
3. Deliver the project successfully and timely within 36 months
4. Disseminate results in International scientific journals
5. Disseminate results in National scientific journals
6. Disseminate results through WHO, national and European public health channels
7. Plan for continuance of the survey
8. Initiate a European network on eHealth consumer trends

The duration of eHealth Trends was 36 months, starting 1 June 2005 and ending 31 May 2008.

5.3 Develop a survey on European health consumer trends

The survey questionnaire was designed by all partners in the first project workshop in Tromsø in June 2005. The questionnaire was piloted with 100 individuals to ensure the comprehensibility of the wording and internal validity. It was designed in English and translated into the eight national languages by means of the dual focus approach with focus groups in August-September 2005. One member from the lead partner participated in the national translation workshops to ensure content and methodological consistency.

Based on the experience with the first survey, the questionnaire was discussed and slightly revised in a project workshop in Wroclaw, Poland in January 2007. As a rule, no major changes were made in order to measure the trends from 2005 to 2007 and if applicable, additional and country-specific questions were put in the end. The research team decided to remove one question as the information it provided (Internet penetration and use) could be found elsewhere. One question was added to the survey; asking which areas of health information people are looking for on the Internet, e.g. life-style related or information on specific illnesses.

For the 2005 survey, all countries except Latvia and Norway had additional country-specific questions in the end of the questionnaire. For the 2007 survey, all countries except Portugal and Latvia had additional country-specific questions in the end of the questionnaire.



The Polish project participants Andrzej and Maria interacting with participants during the translation workshop in Wroclaw.



A dedicated working group participating in the translation workshop in Crete, Greece.

5.4 Description of the workpackages

The project has been organised through a total of nine work-packages (WP). All partners have been involved in all WPs. All partners have been WP-leader for one WP, namely to survey, analyse and disseminate the population in the respective country. The NST as the lead partner, has been WP-leader for three WPs, Management, International publication and the Survey of the Norwegian population. A summary of the dissemination activities are listed elsewhere.



The German team Ulli, Corina and Christine with the translation focus group.

5.4.1 WP1 Management

WP 1	MANAGEMENT		
Start month	M1	Completion	M13
Current status	Ended		
Partner responsible	NST	Partners involved	All

The management work-package co-ordinated the three major project activities:

- 1) the development of the eHealth consumer trends survey;
- 2) the follow-up of each partner's conduction of the survey in their respective country;
- 3) the analyses and dissemination of the results.

Based on the results and experience of the two surveys, a plan for continuation has been developed by establishing a European network on eHealth consumer trends.

Tools for the project management have been four project work-shops, a dedicated project web-site (internal and external information) and regular partner-meetings.

Progress during the first reporting period, 1 June 2005 - 31 May 2006

The consortium was consolidated in June 2005 and a consortium agreement signed by all partners in autumn the same year.

Project management issues were discussed in connection with the translation workshops where the project-manager (for Portugal one of the NST project member) visited all partners.

A project website was realized with one part for everyone seeking information about the project, and one part restricted to the project participants. Two project workshops were organised in the first part of the project, in Tromso in June and Luxemburg in December 2005. Monthly project-meetings were conducted via a chat-room and telephone-conference.

Progress during the second reporting period, 1 June 2006 - 31 May 2007

A poster describing the project was developed for the TTeC 2006, see AnnexX.

A leaflet with the major results from the first survey and general project information was realized. One international workshop was organised in the course of the second period of the project in addition to monthly project-meetings via a chat-room.

The experiences from the first eHealth consumer trends survey was discussed and reported. Based on this, the second survey was planned, and contracts established with sub-contracting agencies.

Progress during the third project period, 1 June 2007 - 31 May 2008

A project workshop was conducted in Aveiro in July 2007 where the findings from the second survey was analysed and the outline of the international and national papers were agreed on.

A report and a leaflet on the major findings of the eHealth trends 2005-2007 were published⁸.

The project results were disseminated, during the EC eHealth 2008 conference in Portoroz, Slovenia, 6-7 May 2008⁹.

The continuation of the eHealth Trends survey was discussed in workshops during the MIE-conference 26-28 May 2008¹⁰ and The Tromso Telemedicine and eHealth Conference 9-11 June 2008.¹¹

Deliverables

D1: European level article on eHealth Consumer Trends, published 10 April 2006 BMC Jour of Public Health⁴. The second scientific paper on the eHealth Trends 2005-2007, is under revision by the Journal of Medical Internet Research.

D17: Finalisation of the project-organisation

D18: Evaluation report 1st survey (Wroclaw workshop January 2007)

D20: Project workshops: 15-16 June 2005 (Tromso, Norway), 5-6 December 2005 (Luxemburg) and 29-30 January 2007 (Wroclaw, Poland), 5-6 July 2007 (Aveiro, Portugal)

D21: Project website, www.telemmed.no/ehealthtrends

5.4.2 WP2 International publications

WP 2	INTERNATIONAL PUBLICATIONS		
Start month	M1	Completion	M36
Current status	2 nd publication under review	1 st publication published 10 April 2006.	
Partner responsible	NST	Partners involved	All

Progress during the first reporting period, 1 June 2005 - 31 May 2006

The questionnaire was produced, translated and piloted in June-September 2005. The first survey was conducted in October-November 2005 and the results analysed in a project workshop in December the same year.

⁸ Andreassen, HK, Sørensen T & Kummervold P (2007). Ehealth Trends across Europe 2005-2007. Project report, <http://www.telemmed.no/ehealth-trends-across-europe-2005-2007.536783-41025.html>

⁹ <http://www.telemmed.no/ehealth-2008-conference-ehealth-without-frontiers.4469928-41025.html>

¹⁰ <http://www.telemmed.no/towards-a-european-network-on-eHealth-consumer-trends.4475874-41025.html>

¹¹ <http://www.telemmed.no/towards-a-european-network-on-eHealth-consumer-trends-ii.4493518-41025.html>

Progress during the second reporting period, 1 June 2006 - 31 May 2007

The paper was finalised and submitted in July 2006, and finally published on 10 April 2007. The paper was presented at the Med-e-Tel conference in April 2007.

Progress during the second reporting period, 1 June 2007 - 31 May 2008

The paper was analysed during the workshop in Aveiro in July 2007. It was submitted to the Journal of Medical Internet Research in January 2008 and is under revision by the time of writing. The preliminary (unpublished) results were presented during the EC eHealth 2008 conference in Portoroz, Slovenia, 6-7 May 2008 and two international workshops (Gothenburg and Tromso) in May – June 2008

Progress during the third project period, 1 June 2007 - 31 May 2008

A project workshop was conducted in Aveiro in July 2007 where the findings from the second survey was analysed and the outline of the international and national papers were agreed on.

The paper was finalised and submitted to the Journal of Medical Internet Research in January 2008 and is under revision.

The project results were disseminated, during the EC eHealth 2008 conference in Portoroz, Slovenia, 6-7 May 2008 .

The continuation of the eHealth Trends survey was discussed in workshops during the MIE-conference 26-28 May 2008 and The Tromso Telemedicine and eHealth Conference 9-11 June 2008.

Deliverables¹²

D1: European level article on eHealth Consumer Trends, published 10 April 2006 BMC Jour of Public Health¹³. The second scientific paper on the eHealth Trends 2005-2007, is under revision by the Journal of Medical Internet Research. The project will be presented by a poster during the European Health Forum in Gastein, Austria, 1-4 October 2008¹⁴.

5.4.3 WP3 Survey Norwegian population

WP 3			
SURVEY NORWEGIAN POPULATION			
Start month	M1	Completion	M36
Current status	2 nd publication has been accepted for publication by <i>The Scandinavian Journal of Caring Sciences</i>	1 st publication published October 2006	
Partner responsible	NST	Partners involved	

¹² The deliverables are referring to the project description, D1-D21

¹³ Andreassen HK, Bujnowska-Fedak MM, Chronaki CE, Dumitru RC, Pudule I, Santana S, Voss H, Wynn R (2007). European citizens' use of EHealth services: A study of seven countries [Electronic Version]. BioMed Central Public health

¹⁴ <http://www.ehfg.org/index.php>

The aim was to survey, analyse and disseminate the country result. This meant to oversee the survey-production in the country, with translating the questionnaire and guidelines to the interviewers and follow up with sub-contracting of the poll-agencies. Further, the WP ensured dissemination of the results, with the means of scientific papers, communication with policy makers and information to the public.

Progress during the first reporting period, 1 June 2005-31 May 2006

The questionnaire was translated and piloted in July-October 2005. Contract was made with a national poll-agency which conducted the field-work. The results were analysed and reported. The first scientific paper was submitted in February 2006.

Progress during the second reporting period, 1 June 2006 - 31 May 2007

The first scientific paper¹⁵ was published in October 2006 with good media coverage.

The Norwegian results were presented at the Tromsø Telemedicine and eHealth Conference 2006 (TTeC) in Tromsø 12-14 June 2006. At the same venue a joint Danish-Norwegian workshop was organized for policy makers and researchers to present the first survey results and discuss other research areas.

Together with other studies from the NST, the results have been presented as a poster for the ISfTeH-conference in Cape Town, in November 2006.

The second survey was conducted in spring 2007.

Progress during the third project period, 1 June 2007 – 31 May 2008

The scientific paper on the Norwegian trends has been accepted for publication by *The Scandinavian Journal of Caring Sciences*. An abstract based on the paper results has been accepted for the IUHPE European Conference on Health Promotion and Education, Torino, Italy 9-13 September 2008.

Deliverables

D1: Results for international publication

D3: Norwegian publication and conference presentation: Andreassen, H. K., Wangberg, S. C., Wynn, R., Sørensen, T., & Hjortdahl, P. (2006). Helsereelatert Internettbruk i den norske befolkningen. *Tidsskrift for den norske legeforening*, 126 2950-2952. http://www.tidsskriftet.no/index.php?seks_id=1453294

5.4.4 WP4 Survey Latvian population

WP 4	SURVEY LATVIAN POPULATION		
Start month	M1	Completion	M36
Current status	1 st publication accepted for publication. 2 nd publication in progress		
Partner responsible	HPSA	Partners involved	

The aim was to survey, analyse and disseminate the country result. This meant to oversee the survey-production in the country, with translating the questionnaire and guidelines to the interviewers and follow

¹⁵ Andreassen, H. K., Wangberg, S. C., Wynn, R., Sørensen, T., & Hjortdahl, P. (2006). Helsereelatert Internettbruk i den norske befolkningen. *Tidsskrift for den norske legeforening*, 126 2950-2952.

up with sub-contracting of the poll-agencies. Further, the WP ensured dissemination of the results, with the means of scientific papers, communication with policy makers and information to the public.

Progress during the first reporting period, 1 June 2005-31 May 2006

The questionnaire was translated into Latvian and Russian in August 2005. Contract was made with a national poll-agency which conducted the field-work. The results were analysed and reported. The first scientific paper has been accepted for publication.

Progress during the second reporting period, 1 June 2006 - 31 May 2007

The second survey was planned and conducted.

Progress during the third project period, 1 June 2007 - 31 May 2008

A paper of the second survey has been submitted for publication.

Deliverables

D1: Results for international publication

D13: Latvian publication: Pudule, I., Grinberga, D., Velika, B., Gobina, I., & Villerusa, A. (2007). Interneta izmantošana veselības informācijas iegūšanai - pirmās starptautiskās ap-taujas rezultāti Latvijā. *Rīgas Stradiņa universitāte, Zinātniskie raksti in press*

Pudule I., Velika B., Grinberga D., Gobina I., Villerusa A. E-veselības patērētāju aptaujas Latvijā 2005. un 2007.gadā – pakalpojumu izmantošanas tendences. (EHealth consumer trends in Latvia 2005-2007.) Proceedings of the Latvian Academy of Sciences. Section A: Human and Social Sciences. (in press).

Conference presentation at the Yearly medical research conference in Riga Stradins university, 3 March 2006.

Conference presentation at the 14th European Conference on Public Health, Montreux, Switzerland 16-18 November 2006.

5.4.5 WP5 Survey Polish population

WP 5	SURVEY POLISH POPULATION		
Start month	M1	Completion	M36
Current status	2 nd publication in progress	1 st paper published	
Partner responsible	WMU	Partners involved	

The aim was to survey, analyse and disseminate the country result. This meant to oversee the survey-production in the country, with translating the questionnaire and guidelines to the interviewers and follow up with sub-contracting of the poll-agencies. Further, the WP ensured dissemination of the results, with the means of scientific papers, communication with policy makers and information to the public.

Progress during the first reporting period, 1 June 2005 - 31 May 2006

The questionnaire was translated into Polish in September 2005. Contract was made with a national poll-agency which conducted the field-work. The results were analysed and reported. The first scientific paper was prepared and submitted in May 2006.

Progress during the second reporting period, 1 June 2006 - 31 May 2007

Hosts of the third project workshop in Wrocław, 29-30 January 2007. The second survey was planned and conducted.

Progress during the third reporting period, 1 June 2007 - 31 May 2008

A paper of the 2nd survey has been submitted for publication. A joint Greek-Polish paper has been accepted for presentation at the eChallenges 2008 Conference, which will be held in Stockholm (Sweden) in October 2008.

Deliverables

D1: Results for international publication

D7: Polish publications and presentations

Andrzej Staniszewski, Maria Magdalena Bujnowska-Fedak, Andrzej Steciwko: *Korzystanie z Internetu medycznego przez mieszkańców Polski w 2005 roku – badania sondażowe (Medical Internet Usage by the Residents of Poland – A National 2005 Survey Research)*. [In:] Wróbel Z. (ed.). Management and Information Technologies. Vol. 3. Information Technologies in Medicine. Katowice: Silesian University Press; 2008 (in press).

Maria Magdalena Bujnowska-Fedak, Andrzej Staniszewski, Andrzej Steciwko: *A survey of Internet use for health purposes in Poland*. Journal of Telemedicine and Telecare, 2007; 13 (Suppl. 1): S1: 16-19.

Bujnowska-Fedak MM, Staniszewski A. *The needs of the Polish society concerning the use of medical Internet and eHealth services in the context of other European countries*. In: Steciwko A (ed). Wybrane zagadnienia z praktyki lekarza rodzinnego. Vol. 12. Wrocław: Wydawnictwo Continuo; 2008: 39-45, 127-133 [bi-lingual paper: in Polish and English].

Staniszewski A, Bujnowska-Fedak MM. *The use of the medical Internet and eHealth services in Polish public opinion in 2007*. Przewodnik Lekarza 2008; Feb 1(103): 287-289 [in Polish].

The results of the Polish eHealth survey have been presented at seven medical conferences (national and international) and meetings:

- 3rd International Conference on Telemedicine and Multimedia Communication, Kajetany (Poland), 21-22 Oct 2005
- Congress 'Telemedicine 2006': Medicine within reach of telephone and Internet, Warsaw (Poland), 22 Jun 2006
- Telemedicine and eHealth Forum '06: Transforming the patient experience, Royal Society of Medicine, London (UK), 20-21 Nov 2006
- 3rd eHealth Trends Workshop, 29-30 Jan 2007, Wrocław (Poland) [open public session on 29 Jan]
- 4th eHealth Trends Workshop, 5-6 Jul 2007, Aveiro (Portugal) [press conference]
- International Scientific Symposium: Reducing diagnosis and treatment risks by leveraging knowledge and practices of health care professionals, Kliczków Castle, Kliczków (Poland), 13-14 Dec 2007
- 2nd Congress 'Top Medical Trends 2008', Poznań (Poland), 7-9 March 2008

5.4.6 WP6 Survey Portuguese population

WP 6	SURVEY PORTUGUESE POPULATION		
Start month	M1	Completion	M36
Current status	2 nd publication under review to Acta Médica Portuguesa	1 st publication published January 2007	
Partner responsible	UAVR	Partners involved	

The aim was to survey, analyse and disseminate the country result. This meant to oversee the survey-production in the country, with translating the questionnaire and guidelines to the interviewers and follow up with sub-contracting of the poll-agencies. Further, the WP ensured dissemination of the results, with the means of scientific papers, communication with policy makers and information to the public.

Progress during the first reporting period, 1 June 2005-31 May 2006

The questionnaire was translated into Portuguese in September 2005. Contract was made with a national poll-agency which conducted the field-work. The results were analysed and reported. The first scientific paper was submitted in May 2006.

A paper was presented and published in the Proceedings of eChallenges 2006 (Barcelona).

One book chapter has been published.

Progress during the second reporting period, 1 June 2006 - 31 May 2007

The second survey was planned and conducted in May 2007.

An additional paper on patient empowerment based on the survey results has been submitted for publication.

A paper was presented and published in the Proceedings of eChallenges 2007 (The Hague).

Two book chapters have been published.

Progress during the third reporting period, 1 June 2007 - 31 May 2008

The 2nd national paper has been submitted to Acta Médica Portugal, the scientific journal of the Portuguese physicians' association (Ordem dos Médicos Portugueses).

A paper has been accepted for the eChallenges 2008, which will take place at Stockholm in October 2008.

Deliverables

D1: Results for international publication

D9: Portuguese publications:

Santana, S., & Pereira, A. S. Da utilização da Internet para questões de saúde e doença em Portugal e possíveis repercussões na relação médico-doente (On the use of the Internet for health and illness matters in Portugal and possible repercussions on the doctor-patient relationship). Acta Médica Portuguesa, Janeiro/Fevereiro 2007;II Série,20(1):47-58.

<http://www.actamedicaportuguesa.com/pdf/2007-20/1/47-58.pdf>

Silvina Santana, A. Sousa Pereira. How the Portuguese are using the Internet for health purposes, in *Exploiting the Knowledge Economy: issues, applications and case studys*, Volume 3, Part 2, P. Cunningham, M. Cunningham (Ed.), IOS Press, 2006, 1021-1026.

Silvina Santana, Catherine E. Chronaki, Nina Szczygiel, Ulli Prokosch, Tove Sorensen, Access to electronic patient record: is that important when choosing a new doctor? in *Expanding the Knowledge Economy: Issues, Applications, Case Studies* Paul Cunningham and Miriam Cunningham (Eds) IOS Press, 2007, 686-694, Amsterdam ISBN 978-1-58603-801-4.

Silvina Santana, Nina Szczygiel, António Sousa Pereira, Perceptions on Importance of Online eHealth Services in Portugal, in *Expanding the Knowledge Economy: Issues, Applications, Case Studies* Paul Cunningham and Miriam Cunningham (Eds) IOS Press, 2007, 679-685, Amsterdam ISBN 978-1-58603-801-4.

The national part of the project has been presented at eChallenges 2006. National and international results have been presented at eChallenges 2007.

5.4.7 WP7 Survey Danish population

WP 7	SURVEY DANISH POPULATION		
Start month	M1	Completion	M36
Current status	2 nd publication submitted and under revision	1 st publication published	
Partner responsible	FUNEN	Partners involved	

The aim was to survey, analyse and disseminate the country result. This meant to oversee the survey-production in the country, with translating the questionnaire and guidelines to the interviewers and follow up with sub-contracting of the poll-agencies. Further, the WP ensured dissemination of the results, with the means of scientific papers, communication with policy makers and information to the public.

Progress during the first reporting period, 1 June 2005 - 31 May 2006

The questionnaire was translated into Danish in August 2005. Contract was made with a national poll-agency which conducted the field-work. The results were analysed and reported. The first scientific paper was submitted in February 2006.

Progress during the second reporting period, 1 June 2006 - 31 May 2007

Revising submitted article based on reviewers feedback and resubmitted it. Participated in project meeting and open session in Wroclaw, Poland The second survey was planned and conducted.

Progress during the third reporting period, 1 June 2007 - 31 May 2008

The first scientific paper was published in Ugeskrift for Læger (weekly scientific journal of the Danish Medical Association) on 11 June 2007.

The dataset from the second Danish survey was analysed and the results were used to write a comparative article on the development in the Danes use of Internet for health purposes based on the 2005 and 2007 results. The article has been submitted to Ugeskrift for Læger (weekly scientific journal of the Danish Medical Association) and is awaiting their decision on publication. The data contributed to the joint international article.

Two representatives from Denmark participated in the project meeting in Aveiro, Portugal in July 2007. Was unable to attend the project workshop at MIE2008 in Göteborg, May 2008, but provided project co-ordinator with information on Danish results and Danish eHealth policy to include in the workshop. The workshop at TTeC2008 in Tromsø, June 2008, Funen did participate and made a presentation. Representative from sundhed.dk, the Danish national eHealth portal, also participated and presented the portal and how results from the survey are relevant to their work.

Deliverables

D1: Results for international publication

D5: Danish publication and presentation: Voss, H., & Ravn, B. L. (2007). Danskernes brug af sundhedsydelse på internettet. *Ugeskr Læger* 169(24), 2318.

List of press coverage to 1st Danish national article

- 'Danskernes brug af sundhedsydelse på internettet', Go'morgen Danmark
- 'Danskerne bruger nettet til at søge sundhedsinformation', cedi
- 'Danskerne checker sundhed på nettet', Altinget
- 'Ny sundhedsrekord i maj', Berlingske Tidende
- 'Sundhed på nettet', Ugeavisen Ærø
- 'Sundhed på nettet', Brædstrup Avis
- 'Søgning om sundhed sætter rekord', Vejle Amts Folkeblad
- 'Søgning om sundhed sætter rekord', Fredericia Dagblad

Conference presentation

TTeC2008 – Workshop: European network on eHealth Consumer Trends

5.4.8 WP8 Survey German population

WP 8	SURVEY GERMAN POPULATION		
Start month	M1	Completion	M36
Current status	2 nd publication under review in German Medical Science Medizinische Informatik, Biometrie und Epidemiologie	1 st publication published August 2007	
Partner responsible	LMI	Partners involved	

The aim was to survey, analyse and disseminate the country result. This meant to oversee the survey-production in the country, with translating the questionnaire and guidelines to the interviewers and follow up with sub-contracting of the poll-agencies. Further, the WP ensured dissemination of the results, with the means of scientific papers, communication with policy makers and information to the public.

Progress during the first reporting period, 1 June 2005 - 31 May 2006

The questionnaire was translated into German in September 2005. Contract was made with a national poll-agency which conducted the field-work. The results were analysed and reported. The first scientific paper was prepared.

Progress during the second reporting period, 1 June 2006 - 31 May 2007

The first scientific paper was submitted in July 2006. Reviews came back in December 2006 and a revised manuscript was resubmitted in February 2007. The paper was accepted after minor modifications in May 2007.

Further, the results of the first survey were presented to and discussed with policy makers and researchers at various other conferences/workshops. Among others results have been discussed with members of the German Gematik at the KIS-Tagung 2006 in Frankfurt.

Furthermore the results were presented to the scientific community world wide on the Annual Conference of the American Medical Informatics Association in Washington (November 2006), the European Medical Informatics Meeting in Maastricht (August 2006) and the German Medical Informatics Meeting in Leipzig (September 2006).

The second survey was planned and conducted.

Progress during the last project period, 1 June 2007 – 31 May 2008

The scientific paper on the German trends has been submitted to *Deutsches Ärzteblatt* in November 2007. Reviewer comments were received in February 2008 mentioning that the scientific content would not directly fit to audience of the journal and recommended a major revision. It was then decided to perform some smaller revisions and submit the manuscript to the *electronic journal German Medical Science Medical Informatics, Biometrics and Epidemiology (eMIBE; <http://www.egms.de/en/journals/mibe/index.shtml>)* where it is currently under revision.

A second paper focusing on the Germany specific questions is in preparation. The results of the German specific questions have been presented at the German Medical Informatics Meeting in Augsburg (September 2007). Furthermore, there have been numerous dissemination activities in the form of talks and discussions as well as phone and mail communication based on preliminary results from the second survey (based on the results presented at the Aveiro Workshop) with the governmental and health system authorities in Germany.

Deliverables

D1: Results for international publication

D11: German publication and presentation: Dumitru RC, Bürkle T, Potapov S, Lausen B, Wiese B, Prokosch HU. *Use and Perception of Internet for health related purposes in Germany: results of a national survey*. Intl Journal of Public Health 52 (2007) 1-11.

Conference presentations at the

- Medical Informatics Europe Conference, Maastricht, Netherlands, August 2007-07-13
- Annual German Medical Informatics Conference, Leipzig, September 2006
- Annual Conference of the American Medical Informatics Association, Washington, USA, November 2006.
- Rhein-Main-Zukunftskongress, Offenbach, February 2007.
- Annual German Medical Informatics Conference, Augsburg, September 2007.
- BWCON Fachforum Gesundheits- und Patientenakten, Stuttgart, June 2008.

5.4.9 WP9 Survey Greek population

WP 9	SURVEY GREEK POPULATION		
Start month	M1	Completion	M36
Current status	2 nd publication in progress	1 st publication accepted for publication	
Partner responsible	FORTH	Partners involved	

The aim was to survey, analyse and disseminate the country result. This meant to oversee the survey-production in the country, with translating the questionnaire and guidelines to the interviewers and follow up with sub-contracting of the poll-agencies. Further, the WP ensured dissemination of the results, with the means of scientific papers, communication with policy makers and information to the public.

Progress during the first reporting period, 1 June 2005-31 May 2006

The questionnaire was translated into Greek in September 2005. Contract was made with a national poll-agency which conducted the field-work. The results were analysed and reported. The first scientific paper was submitted in May 2006. A technical report on the 2005 survey was produced.

Progress during the second reporting period, 1 June 2006 - 31 May 2007

The second survey was planned and conducted. Several additional papers were prepared.

There were numerous dissemination activities in the form of talks, presentations and discussions with the local and public authorities. The main instrument was the technical report from the first survey. There have been presentations of the project from visitors at FORTH. There was a Newspaper article on the project: eWorking, 26 Feb 2007.¹⁶

Progress during the t reporting period, 1 June 2007- 31 May 2008

The second paper was written and submitted. The Greek project manager participated in the Averio workshop and the MIE conference workshop.

Deliverables

D1: Results for international publication

D15: Greek publication accepted for publication: Chronaki, C., Kouroubali, A., Stathopoulou, A., Roumeliotaki, T., Orphanoudaki, E., Esterle, L., et al. "Internet Use for Health and Illness in Greece: Preliminary Results of a European Study on eHealth Consumer Trends". Archives of Hellenic Medicine Magazine 24:5, pp. 440-457, 2007

FORTH/ICS Technical Report 365: C.E. Chronaki, A. Kouroubali, L. Esterle, E. Orphanoudaki, T. Roumeliotaki, A. Stathopoulou, M. Tsiknakis, eHealth Consumer Trends Survey in Greece: Results of the 1st phase, Technical Report 365, ICS-FORTH, Heraklion, Crete, Greece, July 2006¹⁷

¹⁶ http://www.ics.forth.gr/bmi/In_the_News/2007/eworking.pdf

¹⁷ http://www.ics.forth.gr/ftp/tech-reports/2006/2006.TR365_eHealth_Consumer_Trends_Survey.pdf

T. Roumeliotaki MPH, C. E. Chronaki MSc, Attitude and perceptions of young Greeks on using the Internet for health related issues. Submitted to Archives of Hellenic Medicine (in Greek)

Conference presentation of project results:

- “Consumer Attitudes towards eHealth in Greece” Med-e-tel 2007, Luxemburg April 20, 2007
- CE Chronaki, K. Varreli, Th. Roumeliotaki, Consumer Attitudes towards eHealth in Greece – an 2007 update, Luxemburg, 18 Medetel, April 2008.
- Χρήση Διαδικτύου για Θέματα Υγείας στην Ελλάδα: ηλεκτρονικές υπηρεσίες υγείας και προοπτικές, Παγκρήτιο Ιατρικό Συνέδριο, 9 Νοεμβρίου, 2006
- CE Chronaki, Theano Roumeliotaki, Maria Magdalena Bujnowska-Fedak, Andrzej Stanizewski, “eHealth Consumer Attitudes in Poland and Greece: a Comparison, submitted to eChallenges 2008

6 PARTICIPANTS

The role of each partner has been to take the national responsibility to prepare and co-ordinate the survey in their respective countries. In addition, all partners have contributed in the preparation of the study and in the dissemination of the joint results in Europe and internationally. The NST has co-ordinated the survey and been responsible for the papers on joint results. The NST has had the role as project manager in the project.

The project participants have been:

Norwegian Centre for Telemedicine, University Hospital of North Norway, Norway (NST)

Ms Tove Sørensen, project manager

Ms Hege Andreassen, researcher

Ms Silje Wangberg, researcher

Mr Per-Egil Kummervold, researcher

Prof Rolf Wynn, researcher

Prof Per Hjortdal, senior adviser

Ms Deede Gammon, senior adviser

Ms Ellen Christiansen, legal adviser

Mr Ernst Kloosterman, financial officer

Ms Berit-Stine Farstad, financial officer

University of Aveiro, Portugal (UAVR)

Dr Silvina Santana, researcher, project manager (from 2007)

Dr António Soussa Pereira, project manager

Ms Maria Teresa CG Roberto, translator

Ms Nina Szczygiel, researcher

Ms Mariana Topete Oliveira Pita, researcher

Fyns Amt, Danish Centre for Health Telematics, Denmark (Funen)

Mr Henning Voss, project manager (2005-2006)

Ms Janne Rasmussen, project manager (2006-2008)

Mr Claus Duedal Pedersen, international manager

Mr Lars Hulbæk, senior adviser

Ms Jennie Søderberg, project assistant

Friedrich-Alexander-Universität Erlangen-Nürnberg, Lehrstuhl für Medizinische Informatik, Germany (IMI)

Prof Hans-Ulrich Prokosch, project manager
Dr Roxana Corina Dumitru, researcher
Dr Berthold Lausen, researcher
Dr Sergej Potapov, researcher
Mr Martin Ross, administrative support

Foundation for Research and Technology - Hellas, Greece (FORTH)

Dr Catherine Chronaki, project manager
Dr Angelina Kouroubali, researcher
Dr Laurance Esterle, researcher
Mr N Aggourakis, junior scientist
Mr Theano Roumeliotaki, public health specialist

Health Promotion State Agency, Latvia (HPSA)

Dr Iveta Pudule (project manager)
Ms Biruta Velika, research assistant
Ms Daiga Grinberga, researcher
Ms Inese Gobina, secretary
Ms Nikola Tilgale, research assistant

Wroclaw Medical University, Poland (Wroclaw)

Dr Andrzej Staniszewski, project manager
Dr Maria Magdalena Bujnowska-Fedak, researcher

7 PROJECT MANAGEMENT AND COORDINATION

WHO/European eHealth Consumer Trends Survey

This project focuses on the "new patients or consumers" and the digital divide in Europe. The aim of the project is to investigate European health consumer's use of, their attitudes to and their desires with regards to Information and Communication Technologies (ICT) for health purposes, eHealth.

The project has established a European-level survey on eHealth consumer trends. The survey has been conducted twice in seven European countries. NST is the co-ordinator of the project which is supported by the [European Commission, DG Sanco](#)

The project periode was 1 June 2005 through 31 May 2008.

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Research article

The article "European citizen's use of E-health services: A study of seven countries" (Hege Andreassen et al) was published in the BMC Public Health Journal in April 2007. The article covers the results of the first survey, conducted in 2005. You can read the article on [the BioMed Central web pages](#).

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eHealth Trends website editor: [Tove Sørensen](#).

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The project has been managed by a total of 26 project meetings and four workshops. In addition, the lead partner visited all participants and attended the national workshops to translate the survey questionnaire during August-September 2005. The meetings have been conducted on a regular base every last Tuesday in the month when needed. The project meetings have been conducted with the use of a chat-room in the designated project website. Minutes and other project-information have been uploaded at the same web-site accessible to the project participants.

The workshops have been organised as follows:

15-16 June 2005: Tromsø, Norway	Kick-off – design of questionnaire
1-2 December 2005: DG Sanco, Luxemburg	Analysing 1 st survey results
29-30 January 2007: Wroclaw, Poland	Evaluation of the 1 st survey. Revising survey questionnaire. First part open to all interested in the 1 st survey results
5-6 July 2008: Aveiro, Portugal	Analysing 2 nd survey results. First part open to all interested in the survey results

In addition, a workshop was organised during the Medical Informatics Europe conference in Gothenburg, 26-28 May to initiate the establishment of a European Forum for eHealth Consumer Trends. Five of the seven partners attended the workshop together with around 20 other participants. Another workshop with the same aim was organised during the Tromsø Telemicine and eHealth Conference in Norway, 9-11 June 2008, with the Danish and Norwegian partners present together with around 23 other conference participants.

7.1 Changes in the consortium

There have been some changes in personnel during the project period:

- Denmark (Funen): Janne Rasmussen has replaced Henning Voss.
- Germany (IMI): Roxana Corina Dumitru has left. Berthold Lausen and Sergej Potapov have joined the project.
- Portugal (UAVR): Silvina Santana has replaced Antonio Sousa Pereira as the project manager
- Greece (FORTH): Catherine Chronaki has replaced Manolis Tsiknaki as the project manager.
- Norway (NST): Per-Egil Kummervold has replaced Rolf Wynn in the research team. Hege Andreassen has been replaced by Silje Wangberg during her maternity leave.
- Latvia: The Health Promotion State Agency merged in 2007 into the Public Health Agency. Inese Gobina left the team in 2007.

7.2 Survey implementation and sub-contracting

The eHealth Trends project has conducted a two-wave survey of the citizens use of the Internet for health information. The actual field-work has been conducted by professional poll-agencies, with one agency taking the co-ordinating role. Each partner has undertaken a work-package for conducting the survey in their country with sub-contracting poll-agencies. For the 2005 survey, each partner chose their agency, and the Norwegian agency was contracted to co-ordinate the template and results. The consortium encountered several problems with the countries' data-files, delaying the delivery of the joint data-set with four months.

Therefore, during the third project workshop in Wroclaw, Poland on 29-30 January 2007, the partners agreed to improve the data quality procedures for the 2nd survey. The consortium decided to choose a more centralized model, e.g. more co-ordination from the poll agencies for the 2nd survey in terms of templates, data quality procedures and reporting the raw data, in order to avoid problems with quality assurance which we encountered in the first round.

The NST requested tenders from three poll-agency groups. Requirements for the 2007 survey were adjusted, but in principal based on the experiences from the survey of 2005. TNS Gallup was selected as they offered extended procedures for ensuring data quality. Besides, TNS Gallup has experience with large international surveys as they are in charge of Eurobarometer. All partners chose to follow this model, except Greece that had entered a two year contract with their agency.

8 DISSEMINATION ACTIVITIES

The survey results have shown that the Internet is gaining ground as a channel for health information in Europe. However, there is still a digital divide across Europe, and that this divide matters also when it comes to eHealth. These results have been disseminated to policy makers, researchers and the general public through scientific papers, conferences, meetings, the Internet, television, newspapers and magazines. So far, the project has resulted in a total of 21 scientific papers in peer-reviewed journals, some still in the process of being published and several newspaper articles¹⁸.

8.1 Publication list

Andreassen, H., Bujnowska-Fedak, M. M., Chronaki, C. E., Dumitru, R. C., Pudule, I., Santana, S., Voss, H., Wynn, R. (2007). European citizens' use of eHealth services: A study of seven countries [Electronic Version]. BioMed Central Public health, <http://www.biomedcentral.com/1471-2458/7/53>

¹⁸ See Annex X for abstracts

Andreassen, H. K., Wangberg, S. C., Wynn, R., Sørensen, T., & Hjortdahl, P. (2006). Helsereletert Internettbruk i den norske befolkningen (Health-related use of the Internet in the Norwegian population). *Tidsskrift for den norske legeforening*, 126 2950-2952.

Andreassen, H. K., Sørensen, T., & Kummervold, P. (2007). Ehealth Trends across Europe 2005-2007. Project report, <http://www.telemet.no/ehealth-trends-across-europe-2005-2007.536783-41025.html>

Bujnowska-Fedak M., Staniszewski, A., Steciwko, A.: *A survey of Internet use for health purposes in Poland*. *Journal of Telemedicine and Telecare*, 2007; 13 (Suppl. 1): S1: 16-19.

Bujnowska-Fedak MM, Staniszewski A. *The needs of the Polish society concerning the use of medical Internet and eHealth services in the context of other European countries*. In: Steciwko A (ed). *Wybrane zagadnienia z praktyki lekarza rodzinnego*. Vol. 12. Wrocław: Wydawnictwo Continuo; 2008: 39-45, 127-133 [bi-lingual paper: in Polish and English].

Chronaki, C., Kouroubali, A., Stathopoulou, A., Roumeliotaki, T., Orphanoudaki, E., Esterle, L., et al. (in press). "Internet Use for Health and Illness in Greece: Preliminary Results of a European Study on eHealth Consumer Trends". *Archives of Hellenic Medicine Magazine*.

Dumitru, R., Bürkle, T., Potapov, S., Lausen, B., Wiese, B. & Prokosch, H.U. Use and Perception of Internet for health related purposes in Germany: results of a national survey. *International Journal of Public Health*, Vol 52, number 5, October 2007

Pudule, I., Grinberga, D., Velika, B., Gobina, I., & Villerusa, A. Interneta izmantošana veselības informācijas iegūšanai - pirmās starptautiskās aptaujas rezultāti Latvijā. (The first national survey on eHealth consumer trends in Latvia) Rīgas Stradiņa universitāte, Zinātniskie raksti. (in press).

Pudule I., Velika B., Grinberga D., Gobina I., Villerusa A. E-veselības patērētāju aptaujas Latvijā 2005. un 2007.gadā – pakalpojumu izmantošanas tendences. (EHealth consumer trends in Latvia 2005-2007.) *Proceedings of the Latvian Academy of Sciences. Section A: Human and Social Sciences*. (in press).

Santana S, Sousa Pereira A. Da utilização da Internet para questões de saúde e doença em Portugal. Possíveis repercussões médico-doente? (On the use of the Internet for health and illness matters in Portugal and possible repercussions on the doctor-patient relationship) *Acta Médica Portuguesa*, Janeiro/Fevereiro 2007;II Série,20(1):47-58.

Santana, S., Chronaki, C.S., Szczygiel, N., Prokosch, U., Sorensen, T.: Access to electronic patient record: is that important when choosing a new doctor? in *Expanding the Knowledge Economy: Issues, Applications, Case Studies* Paul Cunningham and Miriam Cunningham (Eds) IOS Press, 2007, 686-694, Amsterdam ISBN 978-1-58603-801-4.

Santana, S., Szczygiel, N., Sousa Pereira, A. Perceptions on Importance of Online eHealth Services in Portugal, in *Expanding the Knowledge Economy: Issues, Applications, Case Studies* Paul Cunningham and Miriam Cunningham (Eds) IOS Press, 2007, 679-685, Amsterdam ISBN 978-1-58603-801-4.

Santana, S., Sousa Pereira, A. How the Portuguese are using the Internet for health purposes, in *Expanding the Knowledge Economy: issues, applications and case studies*, Volume 3, Part 2, P. Cunningham, M. Cunningham (Ed.), IOS Press, 2006, 1021-1026.

Voss, H., & Ravn, B. L. (2007). Danskernes brug af sundhedsydelser på internettet. (Danes and their use of Internet health services) *Ugeskr Læger* 169(24), 2318.

Wangberg SC, Andreassen HK, Prokosch H-U, Santana SMV, Sørensen T, & Chronaki CE (2007) Relations between internet use, socio-economic status (SES), social support and subjective health in Europe. [Health Promotion International, dam039](#).

Wangberg SC, Andreassen HK, Wynn R, Kummervold PE & Sørensen T (2008). Health Online: Trends in Norway 2000-2010. *Scandinavian Journal of Caring Sciences* (in press)

Staniszewski, A., Bujnowska-Fedak M.M. *The use of the medical Internet and eHealth services in Polish public opinion in 2007*. *Przewodnik Lekarza* 2008; Feb 1(103): 287-289 [in Polish].

Staniszewski, A., Bujnowska-Fedak, M.M., Steciwko, A.: *Korzystanie z Internetu medycznego przez mieszkańców Polski w 2005 roku – badania sondażowe (Medical Internet Usage by the Residents of Poland – A National 2005 Survey Research)*. [In:] Wróbel Z. (ed.). *Management and Information Technologies*. Vol. 3. *Information Technologies in Medicine*. Katowice: Silesian University Press; 2008 (in press).

8.2 Newspapers, Newsletters and other media coverage

There has been keen interest in the project results followed by good media coverage, especially in each country upon release of the papers and during the project workshops. For example, during the workshop in Aveiro in 2007, two TV-channels reported from the event and the findings, along with several newspaper stories.¹⁹ As most of the media coverage is in the national languages, we have not compiled a full list of these publications. In connection with the eHealth 2008 conference, the 'Parliament Magazine' had an article on 'Empowering patients'²⁰. Various newsletters and project fact-sheet have been produced, like the HIMSS-emea newsletter²¹. A summary of the results from the first joint paper was published in the IMIA Yearbook 2008 under 'best paper selection'.

¹⁹ <http://uaonline.ua.pt/detail.asp?lg=pt&c=9558>

²⁰ Parliament Magazine, 12 May 2008

²¹ www.emea.himss.org/eNewsletter February 2008

8.3 Conference presentations

The table below gives a summary of the major conferences where the project has been presented by eHealth trends participants.

Event	Location	Date	eHealth Trends participants
3 rd International Conference on Telemedicine and Multimedia Communication	Kajetany-Warsaw, Poland	21-22 October 2005	Andrzej Staniszewski
Yearly medical research conference in Riga Stradins university <ul style="list-style-type: none"> • Oral presentation • Latvian 2005 results 	Riga, Latvia	3 March, 2006	Iveta Pudule
TTeC <ul style="list-style-type: none"> • Poster presentation • Norwegian 2005 results • Danish-Norwegian workshop for policymakers 	Tromsø, Norway	12-14 June 2006	Henning Voss Claus Duedal-Pedersen Birgitte Lolan Ravn Ernst Kloosterman Hege Andreassen Silje C Wangberg Tove Sørensen
Congress on Telemedicine 2006 – “Medicine within the range of telephone and the Internet”	Warsaw, Poland	22 June 2006	Andrzej Staniszewski
Project-meeting: Next steps in developing Information Society Services in the New Member States	Budapest	22-23 June 2006	Tove Sørensen
20 th International Conference of the European Federation for Medical Informatics (MIE)	Maastricht, The Netherlands	27-30 August 2006	Corina Dumitru Hans-Ulrich Prokosch
NCeHT 2006	Helsinki, Finland	1 September 2006	Henning Voss
GMDS 2006	Leipzig, Germany	10-14 September 2006	Corina Dumitru Hans-Ulrich Prokosch

eChallenges 2006	Barcelona, Spain	25-27 October 2006	Silvina Santana
AMIA2006	Washington DC, USA	11-15 November 2006	Corina Dumitru Hans-Ulrich Prokosch
14 th European Conference on Public Health	Montreux, Switzerland	16-18 November 2006	Iveta Pudule
TeleMed & eHealth '06 Conference: Transforming the patient experience	London, UK	20-21 November 2006	Maria Magdalena Bujnowska-Fedak
World of Health IT <ul style="list-style-type: none"> • Danish results • Greek results 	Geneva, Switzerland	10-13 October 2006	Henning Voss Laurence Esterle Angelina Kouroballi
ISfTeH 2006 conference	Cape Town, South Africa	27-29 November 2006	Hege Andreassen Tove Sørensen
eHealth Trends Workshop public session	Wroclaw, Poland	29-30 January 2007	All partners
Med-e-Tel Greek results: Consumer Attitude towards eHealth in Greece	Luxemburg	17-20 April 2007	Catherine Chronaki
Med-e-tel International results eHealth Trends survey 2005	Luxemburg	17-20 April 2007	Tove Sørensen
Rhein-Main-Zukunftskongress Krankenhaus 2007	Offenbach, Germany	23 February 2007	Hans-Ulrich Prokosch
GMDS 2007	Augsburg, Germany	15-19 September 2007	Hans-Ulrich Prokosch
International Scientific Symposium "Reducing Diagnosis and Treatment Risks by	Kliczków Castle, Kliczków, Poland	13-14 December 2007	Maria Magdalena Bujnowska-Fedak
2 nd Congress on "Top Medical Trends 2008"	Poznań, Poland	7-9 March 2008	Maria Magdalena Bujnowska-Fedak, Andrzej Staniszewski
eHealth without Frontiers	Portoroz, Slovenia	6-7 May 2008	Tove Sørensen

Medical Informatics Europe Conference	Gothenburg, Sweden	26-28 May 2008	Tove Sørensen Per-Egil Kummervold, Catherine Chronaki, Hans-Ulrich Prokosch Andrzej Staniszewski Maria Magdalena Bujnowska Fedak Silvina Santana
TTeC 2008	Tromsø, Norway	9-11 June 2008	Tove Sørensen Per-Egil Kummervold Janne Rasmussen Birgitte Lolan Ravn
BWCON Fachforum "Gesundheits- und Patientenakten,,	Stuttgart, Germany	13 June 2008	Hans-Ulrich Prokosch

9 DISSEMINATION AND COMMUNICATION WITH STAKEHOLDERS: STATUS AND PLANS

Target information to the health care authorities and stakeholders are crucial for the project. This has been an agenda item in all project management meetings and project workshops where ideas and lessons learnt are presented and discussed. For international dissemination, the project manager has presented the project at various occasions, during the EC Ministerial conferences in Malaga 2006²² and Portoroz 2008²³. The project relation to other projects and surveys has been discussed with DG Sanco, DG Infsco (with regards to the European Household survey and the eUser project²⁴). Also, the survey results have been discussed with the World Health Organisation, The Standing Committee of European Doctors (CPME) as well as the advisory board members of the project.

All partners have approached national health authorities throughout the project period. Special efforts have been made in the last months of the project to explore whether there is an interest to follow-up the survey in the countries – and if so, to identify potential collaborating partners. This has been done jointly during the workshops in Gothenburg and Tromsø, as well as separate by country.

Below is a summary of dissemination and communication with stakeholders per country:

Denmark

Several Danish newspapers picked up the scientific paper when it was published and it therefore got significant attention nationally. The paper was also the background for the editorial of the journal in which the paper was published on the theme 'The conscious consumer'. The contacts with health care authorities and other stakeholders are good because of the close collaboration with the Danish health portal, 'Sundhed.dk'. 'Sundhed.dk' works closely with the Association of Danish Regions and the Ministry of Health and Prevention as the site is the official health portal in Denmark. Internet is now considered as the 2nd most important source of health information, which is also being acknowledged by the politicians. It is partly based on this knowledge that Danish Regions has launched and will test six online patient networks on sundhed.dk in collaboration with healthcare providers and patient organisations.

We plan joint actions with Norway on the differences between the two Nordic countries after the 2007 results have been published. Further, we plan to write a 'Letter to the editor' or other communications and topic for a separate meeting with the two ministries of health.

Norway

Norway had good media attention upon the publishing of the paper on the 2005 survey from radio and newspapers. A joint Danish-Norwegian workshop was organised back in June 2006 and has been followed up by the respective partners and ministries of health. There have been several meetings with Norwegian health authorities to disseminate the results and discuss joint actions. The project has given feedback into the national eHealth strategy, 'Samspill 2.0' (2008-2013). Efforts have been made to present the project during the national health conference in May 2008 hosted by the Ministry of Health, but so far without success. There is interest to continue the survey in Norway with follow up actions on the most interesting areas, e.g. what people actually are using the Internet for health for and to identify the barriers of use. However, so far no funding has been secured for these activities.

Greece

Greece has sent the Ministry of Health the technical report from 2005. The project has been presented in several national and international conferences. There are plans for further dissemination activities upon the publishing of the last paper.

²²

http://www.ehealthconference2006.org/index.php?option=com_content&task=view&id=65&Itemid=128&lang=EN

²³ http://www.albatros-bled.com/ehealth2008/presentations/S2.3/S2.3_Sorensen.pdf

²⁴ 'Benchmarking ICT use among general practitioners in Europe, <http://www.euractiv.com/en/health/survey-eu-doctors-slow-adopt-ehealth-practices/article-171978>.

Latvia

The dissemination of the project has been good although the papers have not yet been published. The Latvian project manager takes part in a national advisory group established by the Ministry of Health for the implementation of eHealth programmes which has regular monthly meetings. The Ministry has received technical reports from both surveys. The project has been presented in national and international conference. There are plans for further dissemination activities upon the publishing of the paper.

Poland

Contacts have been made with national and regional health authorities, including permanent contacts (several meetings 2006-2008) with the Centre for Healthcare Information Systems (CHIS) in Warsaw, affiliated to the Polish Ministry of Health. The data resulting from the Polish survey were supplied to the Ministry of Health in order to cooperate with CHIS in creating a governmental health-related websites and portals. These portals are to provide basic information for citizens and administration, e.g. a register of healthcare institutions; a central database of pharmacies and medical warehouses; a system based on electronic maps, which will show deployment of all health-care institutions in Poland; a list of patients' rights; a medical dictionary; answers to the most frequent asked questions (FAQs); information about immunizations, transplants, etc. Agreement as to further cooperation and possible financial support in continuing the eHealth consumer trends surveys has been achieved.

The Internet usage in Poland has been continuously surveyed by the Central Office of Statistics (GUS) and several poll agencies and other institutions. Our idea is to establish contacts with them and to propose the creation of a joint platform of cooperation aimed at monitoring eHealth consumer trends and needs in Poland. The cooperation with these institutions as well as the Polish health portals could provide an important data on real needs of Internet users as for health information and online health services (e.g. teleconsultations, e-prescribing, online registration, EHR access), including citizens' demands, attitudes to and perception of eHealth.

Germany

In Germany there has been excellent contacts and continuous communication of survey results with the German Society for Medical Informatics, the German Telematics Platform for Medical Research Networks and the Barmer Health Insurance Company. Communication of few preliminary trends results after the second survey to the Bavarian Ministry of Research and Education, German health care authorities and the national doctor association. Communication of more detailed trends results and a press release have been postponed until the second paper has been published. Efforts have been made to present the project results during the European eHealth Conference in Berlin (April 2007) hosted by the German Ministry of Health, but without success.

Portugal

Portugal has received good media coverage although waiting to launch the results until the last paper has been published. There is good contact with the health authorities through the Faculty of health. Due to the health reform process, there is high interest on eHealth issues which the good media coverage during the workshop showed. The University of Aveiro will contact the Ministry of Health when the 2007 results are due.

ANNEX Abstracts

WP2 Joint publication

BMC Public Health 2007, 7:53. doi:10.1186/1471-2458-7-53

European citizens' use of EHealth services: A study of seven countries

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Background

European citizens are increasingly being offered Internet health services. This study investigated patterns of health-related Internet use, its consequences, and citizens' expectations about their doctors' provision of eHealth services.

Methods

Representative samples were obtained from the general populations in Norway, Denmark, Germany, Greece, Poland, Portugal and Latvia. The total sample consisted of 7934 respondents. Interviews were conducted by telephone.

Results

44 % of the total sample, 71 % of the Internet users, had used the Internet for health purposes. Factors that positively affected the use of Internet for health purposes were youth, higher education, white-collar or no paid job, visits to the GP during the past year, long-term illness or disabilities, and a subjective assessment of one's own health as good. Women were the most active health users among those who were online. One in four of the respondents used the Internet to prepare for or follow up doctors' appointments. Feeling reassured after using the Internet for health purposes was twice as common as experiencing anxieties. When choosing a new doctor, more than a third of the sample rated the provision of eHealth services as important.

Conclusion

The users of Internet health services differ from the general population when it comes to health and demographic variables. The most common way to use the Internet in health matters is to read information, second comes using the net to decide whether to see a doctor and to prepare for and follow up on doctors' appointments. Hence, health-related use of the Internet does affect patients' use of other health services, but it would appear to supplement rather than to replace other health services.

WP3 Norway

*Tidsskrift for den norske legeforening, No 22, 2006*²⁵

Health-related use of the Internet in the Norwegian population.

Hege K. Andreassen, Silje C. Wangberg, Rolf Wynn, Tove Sørensen, Per Hjortdahl

Background

The use of the Internet for health purposes increases in the Norwegian population, more in some demographic groups than in others. In this questionnaire-based study, we explore the use of the Internet for such purposes. Material and Method. 1007 Norwegians aged 15 years and older were interviewed by telephone in October 2005.

Results

58 % of the respondents in 2005 had used the Internet for health purposes, compared to 31 % in 2001. Having visited the GP last year, being female, being young, living in a urban area, and having a white-collar occupation were positively related to the use of the Internet for health purposes. 37 % of the respondents considered the Internet to be an important or very important source of health information. 72 % considered face-to-face communication with health care personnel to be important or very important. Nearly a quarter of the users (23 %) reported that they had felt reassured by health information found on the net, whereas 10 % experienced increased anxiety from the same type of information.

Conclusions

Norwegians' use of the Internet for health purposes continues to grow, but doctors and other health care personnel remain the most important sources of health information in the Norwegian population

Scandinavian Journal of Caring Sciences (in press)

Health Online: Trends in Norway 2000-2010

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Objective

The study presents ten year trends in the use of Internet for health purposes in Norway. This includes more detailed analyses of changes, current uses, valuation as source of health information, reported effects and projected developments.

Design

Repeated surveys by poll agencies using telephone (CATI).

Setting

Norway in the years 2000, 2001, 2003, 2005 and 2007.

Subjects

Representative samples of about 1000 each year.

Main outcome measures

Internet use for health was measured with the question: "How often do you use the Internet to get information about health or illness?" Further the participants were asked what specific activities they had undertaken and which effects these had.

²⁵ http://www.tidsskriftet.no/pls/lts/pa_lt.visSummary?vp_SEKS_ID=1453351

Results

Internet use for health in the Norwegian population has increased from 19 % in 2000 to 67 % in 2007. We estimate that 84 % of Norwegians will be using Internet for health purposes in 2010. Reading about health or illness is the most common activity, and the rated importance of the Internet as a source of health information is increasing. The Internet is also used more for ordering medicines and other health related products. 40 % of those having used the Internet for health reported having felt inspired to change health behaviour.

Conclusion

The Internet is being used for health purposes by a majority of Norwegians, and is rated as an important source of health information. This study underlines the Internet's potential for empowering patients, but also points out new challenges for the GP.

Keywords

Internet, Consumer Health Information, Survey, Trends

WP4 Latvia

Rīgas Stradiņa universitāte, Zinātniskie raksti (in press)

The first national survey on eHealth consumer trends in Latvia

Authors Pudule I, Gobina I, Velika B, Grinberga D

Affiliation Health Promotion State Agency, Latvia

Background

The data reported in this abstract is part of the project, "WHO/ European survey on eHealth consumer trends", funded by the European Commission. The aim of the project is to investigate European health consumer's use of, their attitudes to and their desires with regards to Information and Communication Technologies (ICT) for health purposes, eHealth.

Methods

The survey was carried out in October-November 2005. 1000 respondents were randomly selected from the population (15-80 years old) in Latvia. Respondents were interviewed by telephone. Main outcome measures were self-reported rates of Internet and e-mail use to obtain information related to health, contact health care professionals, perceived effects of Internet and e-mail use on health care use, respondents attitudes to the Internet use for health purposes.

Results

34.6% of the general population had used the Internet for health purposes, while the corresponding figure for Internet users was 53.4%. Women, urban population, highly educated and people with long term illness or disabilities use the Internet more for health purposes than other demographic groups. In the total sample, 30.6% had used the Internet to read about health or illness. 30% had used this information to decide whether they should see a doctor, and 7.5% had used it to participate in self help activities. 50.9% claimed their use of Internet for health purposes had made them more willing to change their diet and other life style habits. Health related use of the Internet has provoked feelings of anxiety amongst 30.6% of the Internet users, whilst 55.8% had experienced feelings of reassurance or relief.

Conclusions

One third of Latvian population uses the Internet for health purposes. The use of Internet for health purposes does affect health behaviour as well as the way that patients relate to their primary physicians. Primary physicians will meet expectations from patients to offer eHealth services.

WP5 Poland

Journal of Telemedicine and Telecare 2007; 13 (Suppl 1): 16-19

A survey of Internet use for health purposes in Poland

Maria Magdalena Bujnowska-Fedak , Andrzej Staniszewski, Andrzej Steciwko

Abstract

We investigated the use of the Internet for health-related purposes in Poland. A telephone survey was performed of 1027 people between 15 and 80 years old who were selected from the Polish population by random sampling. The study showed that the Internet was used by 47% of the respondents (n = 483) and 37% of the respondents (n = 376) had used it at least once a week. Almost 80% of responders used the Internet to obtain information about health or illness (n = 383) and 43% of them did it at least once a month. The respondents used the Internet for health purposes mainly to read about health or illness (95%). Only 3% of them approached the family physician, specialist or other health professional over the Internet. However, when choosing a new doctor, 45% of respondents stated that the doctor's provision of Internet-based services was of importance. At present the Internet is not used as a health communications channel but it is clear that many Polish people are interested in Internet-based health services.

Korzystanie z Internetu medycznego i usług z zakresu e-zdrowia w opinii publicznej Polaków w 2007 roku
The use of the medical Internet and eHealth services in Polish public opinion in 2007
Andrzej Staniszewski, Maria Magdalena Bujnowska-Fedak
Przewodnik Lekarza 2008; Feb 1(103): 287-289 [in Polish].

Abstract

The results of an opinion poll conducted in April 2007 among a representative sample of 1000 Polish citizens (in the age range 15-80) were presented. The aim of this study was to assess the proportion of Poles who use the medical Internet and eHealth services. There were 66.7% of Poles using the Internet, of which 41.4% were everyday users. For 48.2% of all respondents, the WWW was an important source of health information. More than half (55.3%) of Internet users browsed the Web for such information at least once a month. The percentage of Internet users in Poland has increased by 13.9% over the past two years, and the percentage of those using the Internet for health purposes increased by 11.8%. These changes have been in line with the general European trend observed at the same time.

Korzystanie z Internetu medycznego przez mieszkańców Polski w 2005 roku – badania sondażowe
Medical Internet Usage by the Residents of Poland – A National 2005 Survey Research
Andrzej Staniszewski, Maria Magdalena Bujnowska-Fedak, Andrzej Steciwko
[In:] Wróbel Z. (ed.). Management and Information Technologies. Vol. 3. Information Technologies in Medicine. Katowice: Silesian University Press; 2008 (in press).

WP6 Portugal

Acta Médica Portuguesa, Janeiro/Fevereiro 2007;II Série,20(1):47-58

On the use of the Internet for health and illness issues in Portugal and possible repercussions in the physician-patient relationship²⁶

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Abstract

This paper analyzes and discusses the way the Portuguese citizens are using the Internet for health or illness, the users' profiles and the effects they report from its use, namely, in what concerns the relationship with the health professionals, an under investigated subject.

The research involved telephone interviews answered by 2001 individuals between 15 and 80 years old in households with fixed telephone, during three weeks of October and November of 2005. The interviewees were randomly selected and they are part of a stratified representative sample of the Portuguese population. The results show that 30% of the Portuguese had already used the Internet to seek health related information, while in the sub-group of the Internet users the percentage is quite higher, reaching 62%. Considering the general population, the variables that predict the search behavior are sex, age, level of education, number of persons under eighteen years old in the household and the place of residence. Restricting the analysis to those that use the Internet, important changes have to be reported, namely, the exclusion of sex, the inclusion of number of visits to the doctor and the decrease of the significance level for all the other variables included in the model. About 12,5% of the Portuguese between 15 and 80 years old use the Internet to get information that may help them deciding whether to consult a health professional or to get health information before or after an appointment. The health information from the Internet reassures twice more Portuguese than those that it torments. Among the Internet users for health issues, two out of five affirm that the information lead them to make suggestions or queries on diagnosis or treatment to their health professionals, what equals about thirteen Portuguese in each hundred. The most valued health eService is the possibility to request or renew prescriptions via e-mail or web, pointed by 36% of the Portuguese, followed by the access to read the electronic patient record (34%). Even if not threatening the importance of the health professional as a source of health information, the Internet is becoming an important source of health information for the Portuguese. The demand for health services on the Internet is likely to increase, what will probably have implications in the patient-doctor relationship.

Keyword

citizens, patients, physicians, Internet, eHealth, Portugal, survey

WP7 Denmark

Ugeskr Læger 2007;169(24):2318-2321

Henning Voss (MedCom) & Birgitte Lolan Ravn (Sundhed.dk)

Danes and their use of the Internet for health-related purposes

Introduction

We wanted to examine how Danes use the Internet for health-related purposes. How much are the existing possibilities used? Who are the users? What are the consequences of this use?

Materials and methods: In October 2005 - as part of a large EU supported study - a telephone survey was carried out among 1,000 randomly selected Danes between the age of 15 and 80.

Results: 60% of the Danish population use the Internet to seek health-related information. The Internet is especially used for health purposes by people with a high education, by women, by people with poor health and by people with children. Every fourth Dane experiences feelings of reassurance or relief after having read about illness on the Internet and this number is 3 times higher than the number of people that experience concern and anxiety. 3% state that they have changed their medication after having read information on the Internet and this is done without prior contact to their doctor. 8% of Danes have at some point consulted their doctor over the Internet, and if given the opportunity, 58% would read their own patient record online.

Conclusions

For many Danes it is common practice to use the Internet for health-related purposes. However, the position of the general practitioner as the primary source of health-related information is not threatened. Danes use the Internet as a supplement to their doctor and many - especially women - use the Internet information in their dialogue with their doctor. Danes increasingly seek solutions to enable them to get online contact with the different players in the health care sector.

WP8 Germany

Intl Journal of Public Health 52 (2007) 1-11

Use and Perception of Internet for health related purposes in Germany: results of a national survey

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Abstract

Objectives

Patient empowerment by means of the Internet is seen as a chance to improve patient-physician communication and help patients being better informed partners in a new patient-physician-relationship. Nevertheless it is still not good documented how prevalent Internet use for health related purposes really is and how patients perceive those new technologies. Without such numbers however, it is difficult to focus policy discussions and to establish appropriate functionalities to be used by patients. Thus, our study aimed on determining trends in the use and perception of the Internet and related technologies for health purposes.

Methods

As part of a large European survey, 1.000 individuals between 15 and 80 were interviewed in Germany using a computer-based telephone interview (CATI) in October 2005. Sampling was based on the Gabler-Häder-Design with random-digit-dialing and selection of the respective household member based on the last birthday method. Descriptive statistics were used to analyse the data collected from the survey. Logistic regression models were calculated in order to elaborate characteristics of the health Internet users.

Results

Even though Internet use in general (72.3%) and for health related purposes (53.1%) is already quite high, its importance, relative to other sources of health related information, was rated rather low. Additive logistic regression indicates, that younger citizens and people with paid work used the Internet more often for health related purposes, compared with their counterparts. In contrast to this however, this subgroup assessed the Internet as less important for health related purposes than their counterparts.

Conclusion

Despite booming of Internet use in Germany, consumers continue to value and use more the traditional sources of health information and ways of communication with their healthcare professionals. It will be interesting to follow-up on those results with a subsequent survey to be pursued in 2007.

GMS Ger Med Sci (2008; under review)

Gesundheitsbezogene Internetnutzung in Deutschland 2007

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Abstract

The European eHealth Trends project analyses the attitudes towards and usage of eHealth applications of European citizens in the time frame 2005-2007. In April/May 2007 the second series of representative stratified surveys with computer-based telephone interviews (CATI) (in Germany based on the German ADM Master Sample) were performed by a poll agency in seven European countries. Here we report the major results for the German population, where 1000 participants with an age between 15 and 80 years were interviewed. For the general use of the Internet for health purposes as well as the established eHealth Internet use (at least once a month) we report a significant increase (from 44.4 percent to 56.6 percent and from 22.5 percent to 32.0 percent). Further, the percentage of Germans who consider the Internet as an important medium for health purposes increased from 33.7 percent to 36.8 percent. In Bavaria, the percentage of established eHealth Internet users was lowest among the German states. The results of our eHealth Trends survey in Germany show a considerable increase of eHealth use within the last 18 months. German physicians need to be prepared for an increasing number of empowered patients, who have searched for information on their health problems in the Internet, but will also demand more enhanced services.

WP9 Greece

Archives of Hellenic Medicine Magazine (in press)

Internet Use for Health and Illness in Greece: Preliminary Results of a European Study on eHealth Consumer Trends

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Keywords: Internet survey, Medical Records, Telemedicine, Health Services Administration

ABSTRACT

Objective

The aim of this study is to investigate the perception and attitude 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.

Methods

1000 men and women between 15-80 years old expressed in telephone interviews their opinion on the use of the Internet for H&I. The sample has been stratified for age, occupation, and geographic location of residence. The questionnaire 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, 59.0% of the Internet users for H&I make their decision whether to consult a health professional partly based on information found on the Internet. 58.5% of the Internet users feel relief after consulting the Internet on H&I issues. Regarding eHealth, 26.0% of the respondents feel comfortable with medical visits via computer or video-phone. Furthermore, 46.0% 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.



Summary

The project focuses on the "new patients" or consumers and the digital divide in Europe. A total of 7,934 telephone interviews were conducted on a randomised stratified sample in 2005, and 7,022 interviews in 2007. In the total sample, the number of Internet health users increased from 42% in 2005 to 52% in 2007. The growth in the use of Internet for health purposes was found in all seven countries participating in the survey.

Project management

The project has ended as planned, on time and within budget. All WPs and deliverables have been met.

Objectives

The objective is to investigate European health consumer's use of, their attitudes to and their desires with regards to Information and Communication Technologies (ICT) for health purposes, eHealth.

Methodology

A representative stratified randomised sample was made in Denmark, Germany, Greece, Latvia, Norway, Poland and Portugal. A CATI-telephone survey was conducted twice in each country, in late 2005 and spring 2007. The questionnaire with 21 questions was developed jointly. The respondents were asked how frequently they used the Internet, and how frequently they used it for health purposes, and what for.

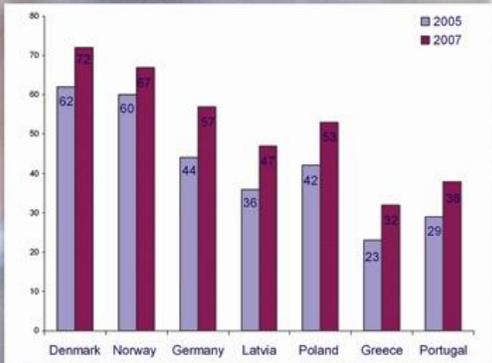


Figure 1. Internet health-use (total population).

Results

- In 2005: 42% of the general population and 70% of the Internet-users, had used the Internet for health purposes more than one time during the last year
- In 2007 the figure had risen to 54%, and nearly 80% of the Internet-users
- There is a digital divide in Europe: Internet use is more frequent in northern and central Europe, followed by eastern and southern Europe respectively
- Higher education, white collar jobs and age is associated with higher use of Internet for health purposes
- Feelings of relief are more common than feelings of anxiety
- Internet is still primarily used information, however there is a significant increase in the use of Internet for communication
- There are growing expectations towards health care providers to provide eHealth services and tools

Conclusions

The status of eHealth use is at a rather early stage in many countries. Therefore, we recommend that the topic should be critically investigated with multiple studies targeting eHealth consumers and eHealth providers, as eHealth use will depend on the variety and quality of the content of the services available.

Dissemination

More than 16 scientific papers have been published in the project in addition to a number of conference presentations, reports and newspaper articles, TV and radio reports. Please refer to www.telem.no/ehealthtrends for an updated list of publications. Ministries of health and communication are informed about the eHealth status in their countries.

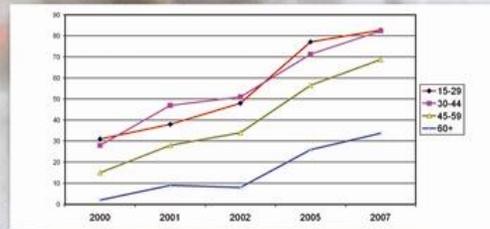


Figure 2. Increase in percentage of the Norwegian population who use of the Internet for health purposes per age group over the five survey years.

Project co-financed from the EU Public Health Programme 2003-2008.

Starting date and duration of the project: 1 June 2005; 36 months.
 Total cost: 733.713,63 euro
 Subsidy from the Commission: 440.228,17 euro

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ANNEX Leaflet

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Partners

- Norwegian Centre for Telemedicine, University Hospital of North Norway, Norway (NST), lead partner
- Fyns Amt, Danish Centre for Health Telematics, Denmark (Funen)
- Friedrich-Alexander-Universität Erlangen-Nürnberg, Lehrstuhl für Medizinische Informatik, Germany (IMI)
- Foundation for Research and Technology - Hellas, Greece (FORTH)
- Health Promotion State Agency, Latvia (HPSA)
- Wrocław Medical University, Poland (Wrocław)
- Universidade de Aveiro, Portugal (Aveiro)



2005-2007

The use of the Internet for health purposes is increasing in Europe, from 44 % in 2005 to 54 % in 2007. We observe a tendency that the digital divide across Europe might be slightly diminishing in the field of e-health.

The Internet seems to become a more important channel for health information

eHealth and Internet-based health information are seen as a supplement rather than a substitute for other health care services

More users feel reassured than worried after having visited health information sites.

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WHO/EUROPEAN eHEALTH CONSUMER TRENDS SURVEY

Rationale

This project focuses on the 'new patients', or consumers, and the digital divide in Europe, as the Internet is increasingly becoming a source of health information. The aim is to investigate European citizens' use of, their attitudes to and their desires with regards to Information and Communication Technologies (ICT) for health purposes – e-health.

There is little knowledge on how e-health will influence health care delivery. We assume there are potential benefits as well as dangers. The eHealth Consumer Trends survey is supporting the work of the European Commission and is based on the Action Plan for a European eHealth Area.



Results

- A total of 7,934 interviews were conducted in 2005, and 7,022 interviews in 2007. In the total sample the number of Internet health users increased from 44 % in 2005 to 54 % in 2007 (from 71 % to 83 % of the Internet-users). The growth in the use of Internet for health purposes is found in all seven countries participating in the survey.
- The largest relative growth of Internet health users is found in eastern and southern Europe.
- The Internet seems to become a more important channel for health information.
- More than a third of the sample rated provision of e-health services as important if they were to find a new doctor.
- While men were more likely to use the Internet for health purposes in the general population, women were the most active health users among those who were online.
- Health-related use of the Internet does affect patients' use of other health services: One in four of the respondents used the Internet to prepare for or follow up doctors' appointments. Also, 29 % had used information from the Internet to decide if they needed to see a doctor.

Take-home message

Uses of e-health in European populations is changing rapidly, and will have implications for health behavior and services. Policymakers and health care providers need to base their decisions on the most recent scientific knowledge.

Future policy concerns:

- How can we ensure that e-health services are implemented with care, in order not to consolidate or create new inequalities in health care?
- How can we ensure that e-health services support citizens and patients and thus contribute to better health outcomes for individual patients?
- How can we prevent e-health services from fueling unnecessary demand for health services?

Project Facts

The three-year project started on 1 June 2005, with the first survey conducted during the following October-November. The second survey is planned for April 2007. The project is co-funded by the Programme of Community action in the field of Public Health (2003-2008) of the Health and Consumer Protection Directorate-General of the European Commission.

ANNEX The Parliament

Empowering patients

Greater access to health information via the internet is empowering patients across the EU and giving unexpected support to European health services, says **Tove Sørensen**

There is fragmented knowledge on how e-health is influencing health care services and health users – the patients. The potential of using the internet and other electronic media in health promotion and health care seems promising, given the large group of people that can be reached,

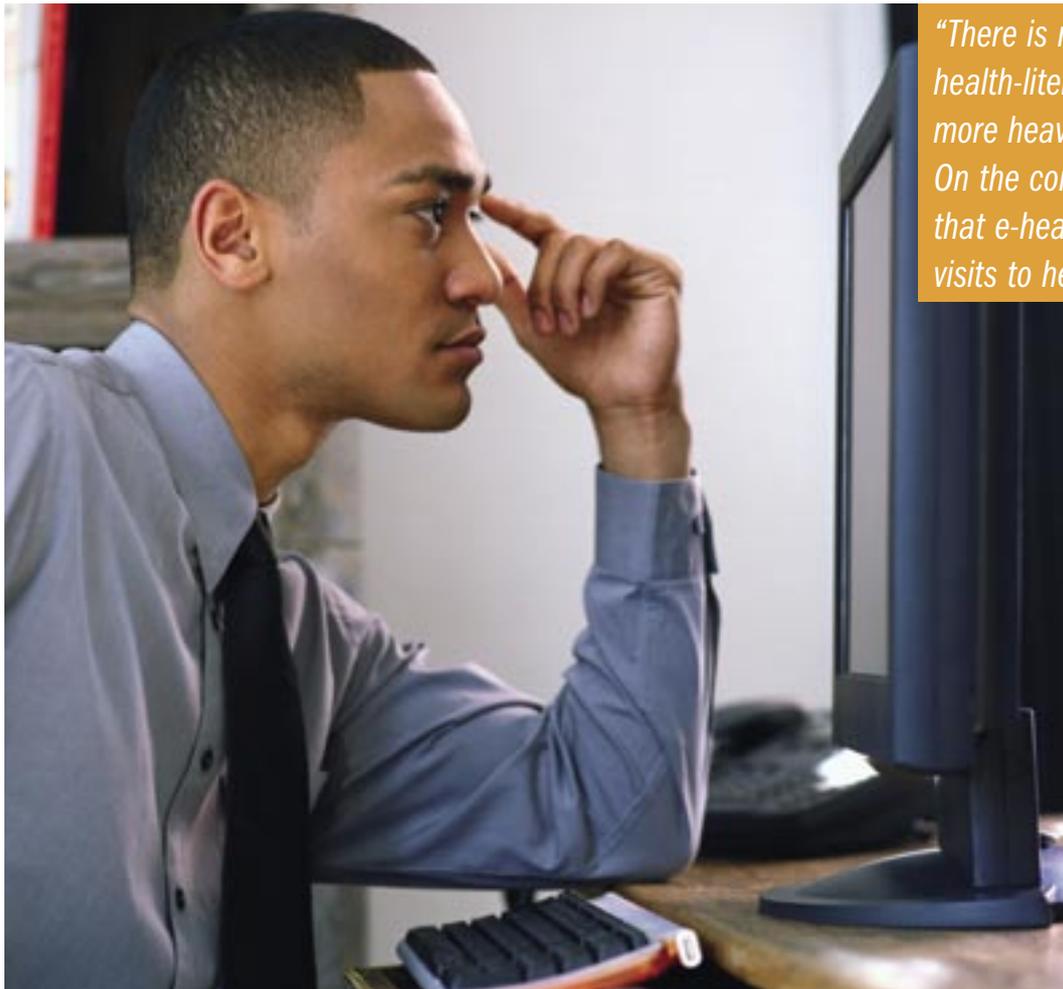
quickly and at low cost. However, there are important issues to take into consideration when this technology is adopted in the health sector. Will e-health increase or diminish social disparities in health? Will e-health increase or decrease the pressure on traditional health services? This is the focus of the project WHO/European eHealth Consumer Trends, ('eHealth Trends') a study on e-health use and uptake in seven European countries.

The project focuses on 'new patients' or consumers and the digital divide in Europe, as the internet is becoming an increasing source of health information. The focus on patients and health consumers gives an opportunity to monitor to what degree e-health practices are becoming important in the everyday lives of European citizens. Thus, the 'eHealth Trends' survey repeated over a number of years, will be a vital tool to support the work of the European commission, based on the action plans for a European e-health area.

A representative stratified randomised sample was taken in seven European

countries: Denmark, Germany, Greece, Latvia, Norway, Poland and Portugal. A CATI-telephone survey was conducted twice in each country, in late 2005 and spring 2007. The questionnaire with 21 questions was developed jointly, based on similar surveys. The respondents were asked how





“There is no clear indication that more health-literate citizens will become more heavy users of health services. On the contrary, there are indications that e-health can prevent unnecessary visits to health care services”

ments. Also, 29 per cent had used information from the internet to decide whether they needed to see a doctor. In general, we see that e-health and internet-based health information are rated as a supplement to, rather than a substitute for, other health care services. More users feel reassured than worried after having visited health information sites. Therefore, there is no clear indication that more health-literate citizens will become more heavy users of health services. On the contrary, there are indications that e-health can prevent unnecessary visits to health care services. It is important to note that what we see are the e-health trends, and trends which are at a rather early stage in many countries. Therefore, the area should be critically investigated

frequently they used the internet, and how frequently they used it for health purposes. A total of 7,934 interviews were conducted in 2005, and 7,022 interviews in 2007. In the total sample, the number of internet health users increased from 42 per cent in 2005 to 52 per cent in 2007 (from 71 per cent to 83 per cent of total internet-users). The growth in the use of the internet for health purposes was found in all seven countries participating in the survey. The largest relative growth of internet health users was found in eastern and southern Europe.

The internet seems to be becoming a more important channel for health information, although communicating with health carers is still rated the most important channel. For health care providers, it is worth noting that more than a third of the interviewees rated the provision of e-health services as important if they were to find a new doctor. Health-related use of the internet also affects patients' use of other health services: one in four of the respondents used the internet to prepare for or follow up doctors' appoint-

ments. Also, 29 per cent had used information from the internet to decide whether they needed to see a doctor. In general, we see that e-health and internet-based health information are rated as a supplement to, rather than a substitute for, other health care services. More users feel reassured than worried after having visited health information sites. Therefore, there is no clear indication that more health-literate citizens will become more heavy users of health services. On the contrary, there are indications that e-health can prevent unnecessary visits to health care services. It is important to note that what we see are the e-health trends, and trends which are at a rather early stage in many countries. Therefore, the area should be critically investigated in the years to come with multiple studies targeting e-health consumers and e-health providers, as e-health use will depend on the variety and quality of the content of the services available.

It is our aim that the survey will be conducted on a regular basis in all European countries, forming a forum for e-health citizens. The forum would be a platform for e-health trends research focusing on citizens' use of the internet for health purposes and its implications. The empowerment of patients, the digital divide within Europe and within population groups are areas of interest for future research. ★

Tove Sørensen is the eHealth Trends project manager at the Norwegian Centre for Telemedicine, University Hospital of North Norway, Tromsø

Project facts

The three-year project started on 1 June 2005. Seven countries are participating in the project: Denmark, Germany, Greece, Latvia, Norway, Poland and Portugal, led by the Norwegian Centre for Telemedicine. The project is co-funded by the programme of community action in the field of public health e-health (2003-2008) of the health and consumer protection directorate general, or directorate C, of the European commission.