

► The attitudes, expectations and needs of elderly people in relation to e-health applications: results from a European survey

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Summary

We have carried out a survey of elderly people in Europe relating to e-health and telemedicine issues. Telephone-based interview techniques were used in 13 countries and face-to-face interviews were used in Ireland and Portugal, where there are significant numbers of houses without telephones. Altogether 9661 interviews were performed. Most respondents (65%) lived in rural areas or small towns; the remainder lived in suburban areas or large towns. Virtually all respondents (98%) had access to a television set. About 30% received cable television and 13% had access to digital television. Almost half (48%) had access to mobile phones (with 42% actually using them), 36% had access to PCs (with 27% being active users) and 22% had access to the Internet (with 17% being active users). The respondents showed interest in various e-health applications, although this declined considerably with age. The survey showed that the older people get, the more they depend on medical and social care, and the more they tend to live alone, without a family member to look after them. Policy measures relating to infrastructure as well as training, education and awareness activities will be required to avoid a 'medical divide' between those senior citizens who have access to advanced medical advice and services and those who do not.

Introduction

All industrial societies are ageing. We have carried out a survey of elderly people in Europe relating to e-health and telemedicine issues. Attitudes to email communications with the general practitioner, health advice via video-telephony, or electronic access to patients' own health record data were surveyed. Chronic diseases and disabilities prevalence data were gathered, as was information on functional disabilities and problems in handling information technology and services.

Methods

As is known from earlier research, the market environment for information technology applications relevant to older people and those with a disability is quite complex¹. Fieldwork in this area was therefore carried out by national organizations in all European Union member states. Telephone-based interview techniques were used in 13 countries and face-to-face interviews were used in Ireland and Portugal, where significant numbers of houses are without telephones. Geographically

and sociodemographically stratified random sampling was used, with computer-assisted telephone interviews.

The interviews were conducted in June and July 2001. In France, Germany, Italy, Spain and the UK, 1000 interviews were carried out, in Luxembourg 100, and in all other countries 500. Altogether 9661 interviews were performed. The interviews lasted 16–29 min.

The numbers of interviewees were weighted by age according to the age distribution of the population in each country.

Results

Sixty-five per cent of respondents lived in rural areas or small towns; the remainder lived in suburban areas or large towns. Table 1 shows their age distribution. Although only 22% lived in one-person households, this figure varied between about 10% for those aged 50–59 years and 50% those aged over 80.

Table 1 Age of respondents (*n*=9661)

Age (years)	Proportion (%)
50–59	36
60–69	31
70–79	25
80+	8

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Table 2 Proportions of respondents (%) expressing an interest in various e-health applications, by age

Age (years)	Information about health issues on the Internet	Information about on-going medical treatment displayed on computer or television screen	Getting a doctor's advice on a health problem by email	Getting a doctor's advice on a health problem by video-telephone
50-59	52	39	33	27
60-69	38	31	28	23
70-79	25	20	19	16
80+	15	18	14	13
All respondents	38	30	27	22

Table 3 Proportions of respondents (%) using conventional devices to determine blood pressure and weight, by age

Measurement	Frequency	Age (years)				All respondents
		50-59	60-69	70-79	80+	
Blood pressure	Regularly	13	15	19	15	15
	Sometimes	23	22	19	19	21
Weight	Regularly	39	38	37	28	37
	Sometimes	37	37	39	36	37

Table 4 Prevalence of impairments (%), by age

Degree of impairment of vision, hearing or dexterity	Age (years)				All respondents
	50-59	60-69	70-79	80+	
At least one: somewhat difficult/a little trouble	41	44	45	40	43
At least one: very difficult/a lot of trouble	17	19	25	39	21
Total	58	63	70	79	64

Virtually all respondents (98%) had access to a television set. About 30% received cable television and 13% had access to digital television. Almost half (48%) had access to mobile phones (with 42% actually using them), 36% had access to PCs (with 27% being active users) and 22% had access to the Internet (with 17% being active users).

The respondents showed interest in various e-health applications (Table 2), although this declined considerably with age. General health information met with the most interest, although with increasing age (and morbidity) interest became more focused on individual, currently relevant health issues and electronic communications with doctors about these. In spite of its wide application in telemedicine, video-telephony received the lowest level of interest—older people were simply not familiar with this concept.

The interest in information technology applications in general and in e-health information and services in particular was correlated with various sociodemographic variables, including age (mostly reflecting experience gained in the workplace), gender, socio-economic status, level of education and income. However, the strongest relationship was with experience with and interest in information technology applications.

Telemonitoring of vital data is a promising new application field. As the data in Table 3 show, already 36% of all elderly

people measure their blood pressure and 74% measure their weight.

User-friendly interfaces and design-for-all features are key considerations when developing e-health applications. Table 4 shows the prevalence of three impairments which need to be considered in this context:

- (1) vision—reading small print;
- (2) hearing;
- (3) dexterity—using a touch screen, a smart card or a keyboard.

In total, 43% of elderly people said that they had at least some difficulties and 21% had considerable difficulties. Data not shown here also indicate that these disabilities influenced preferences for using or not using a PC, a mobile phone or the Internet.

Older people need more health-care than the average person. Our data indicated that of those aged over 50 years in Europe, 62% suffer from at least one chronic disease (high blood pressure 34%, joint/bone/muscle disease 26%, heart disease 17%, diabetes 9%, chronic respiratory disease 8%, other long-term condition 19%). Nine per cent saw their doctor at least once a week, 27% at least once a month, 53% less often, but only 11% 'not at all'.

Discussion

The survey showed that the older people get, the more they depend on medical and social care, and the more they tend to live alone, without a family member to look after them. Telemedicine and e-health applications hold the promise of providing better care and, at the same time, providing a better quality of life and independent living^{2,3}. The costs of such services per individual can be expected to decrease⁴. Whether this will also hold for overall costs is unclear because of increases in both the number of older people and the prevalence of more costly diseases, such as diabetes, heart insufficiency or renal failure. Also, as health services and medical outcomes improve, and older people become wealthier, demand will increase.

As recent research has shown, the European market for telemedicine and home telecare/telemonitoring — particularly when targeting the citizen and patient — is still in its infancy⁵. The present study showed that almost 40% of the European population aged over 50 years (49 million people) are computer users and 27% (33 million) have advanced skills and use a PC at least once a week. There is therefore a vast potential market for e-health applications and services. Furthermore, this potential market will grow substantially as those aged 50–60/65 years and presently still in work retire, and more and more older people acquire modern access devices and make use of Internet services. However, to capitalize on this potential, both equipment manufacturers and service providers will need to cater for the specific needs and expectations of the elderly population.

At the same time, specific policy measures need to be taken to avoid a 'medical divide'. A substantial proportion of the elderly population have neither computer skills nor any

interest in e-health applications or services. This will not change in the short term. But for e-health to succeed, it will be necessary for each patient to be connected to a telephone and to the Internet, and to acquire the relevant skills. Not having a telephone will become more of a disadvantage as telephone consultations and voice-based information services become a routine method of health-care delivery. Likewise, not having an Internet connection becomes a more important issue as the Internet and Web become the principal sources of much health-related information and services.

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