

# German healthcare consumer's use and perception of the internet and related technologies to communicate with healthcare professionals

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**Introduction** The internet is likely to play a key role in future health care - related communication.

The barriers and challenges that the healthcare providers and their organizations must face in order to support email communication with their patients have been addressed in several studies [1-7], most frequently mentioned being: change of the traditional patient-physician relationship [2], challenges for physicians' reimbursements [3], [5], physicians resistance [4], patient's lack of awareness and education in respect to the advantages of such communication [6], as well their concerns about confidentiality [7]. Other studies have also investigated patient and physicians' use of, and satisfaction with, systems enabling them to communicate with each other via the Internet and related technologies [8-10]. Nevertheless large scale surveys of patients and physicians assessing their access, use, attitudes and concerns in relation to their communication with each other via the internet and related technologies are sparse [11-13], and in Germany they are notably lacking, despite that they should constitute the basis for any focus policy discussions or design of appropriate policy activities. In this study we report on the results of the first national survey tackling healthcare consumers' use of, and their wishes in respect to, the communication with their physicians via the internet and related technologies.

**Methods and instruments** A survey of 1000 healthcare consumers, 15-80 years of age, was conducted by a national poll agency (Field Facts Germany GmbH) via computer-assisted telephone interviews (CATIs), in October 2005. To generate phone numbers for the interviews a national random digit dial telephone sample was identified using an equal probability selection method. The average time length of an interview was 13 minutes. The instrument of the survey was a questionnaire which included items related to the individual profile of the participants (e.g., gender, age, education, employment, children in the household, current health status, chronic illness or disability, urbanisation), which are here referred to as "demographics", and several themes related to ehealth: importance of various sources of health related information, importance of certain factors in consumer's assessment of a website, importance of certain factors (some related to ehealth some not) in consumer's choice of a new physician, general use of the internet and for obtaining information on health and illness. The use of the internet and related technology to communicate with healthcare professionals, as well as the reasons for not use, was also explored and it is the focus of this study. The data collected from the 934 respondents retained in the dataset was compared to the most recent German national micro-census data [14] to ensure that the sample was representative in terms of gender, age, geographical distribution and educational attainment. To correct for minor discrepancies between the sample data and the census data, statistical weighting was employed.

**Results 1. Consumers willingness to communicate with healthcare professionals through the internet or related technologies.** All the participants in the survey, regardless of whether they used the internet or not, were asked how likely it was that they would undertake certain ehealth related activities, should they had the opportunity to. When asked how likely it was that, if given the possibility, they would have *online consultations with health professionals* during the next year, 429 (45.9%) of the participants said that this was "unlikely", 135 (14.5%) "rather unlikely", 164 (17.5%) said that there was a "fifty, fifty" likelihood, 127 (13.7%), "rather likely", and 35 (3.7%) "very likely" that they will do so. When asked how likely it was that, if given the possibility, they would *make, cancel or change an appointment with their family doctor, specialist or other health professionals online* during the next year, 449 (48.1%) of the participants said that it was "unlikely", 97 (10.4%) "rather unlikely", 86 (9.2%) said that there was a "fifty, fifty" likelihood, 151 (16.2%), "rather likely", and 104 (11.1%) "very likely" that they will do so.

**2. Consumers' use of the internet.** As many as 676 respondents (72.1% of the entire sample) have used the internet. Of these, 394 (42.2% of the entire sample) reported going online every day, 198 (21.2%) every week, 54 (5.5%) every month, 28 (3%) less than once a month. As many as 303 (32.5% of the entire sample) of the online population reported that they "used the internet last month" at work, school or educational institution, 550 (59.0%) at home, 54 (5.8%) at a friend, acquaintance or family member's house, 46 (4.9%) in an Internet café, public library and other, 6 (0.6%) elsewhere and 4 (0.5%) they had "not used the internet" last month. Of the 258 respondents who did not use the internet at all, 40 (4.3% of the entire sample) said that they had asked someone else to use it on their behalf. Of the 676 respondents who reportedly used the internet, 497 (53.2% of all participants) have used it for health related purposes as well.

**3. Consumers' use of the internet to communicate with their healthcare professionals.** Of the 497 people who have used the internet for health related purposes, only 54 (5.8% of all participants in the survey) said that they have approached their family doctor, specialist, or other healthcare professional(s) over the internet (web or e-mail), of which 22 (2.3% of all participants) have done so *to request or renew a prescription*, 16 (1.7%) *to schedule an appointment*, 36 (3.8%) *to read their website* and 2 (0.2%) *to access to read their record*. Of the 443 people (47.4% of all participants in the survey) using the internet for health related purposes, who did not approach their family doctor, specialist, or other healthcare professional(s) over the internet (web or e-mail), 362 (38.7%) said that the reason for not doing so was that they worried about confidentiality, 154 (16.5%) that they preferred face to face communication, 202 (21.7%) said that their family doctor or specialist did not offer such services and 14 (1.5%) said that they did not need to contact their physician(s).

The use of the internet and related technologies by the German healthcare consumer are summarised in figure 1.

**Discussion.** The current national survey showed a significant increase in the use of the internet especially over the last two years in Germany, considering that a 2004 publication reported 52.7% internet users (age 14+) in this country [15]. The age group considered in that survey may also play a role in the difference from the finding of the current survey which excluded people over 80 years of age (most of whom are not using the internet). The only German published survey exploring the use of the internet for health related purposes (although not communication between patients and physicians through internet and related technologies) was conducted in 2001 [16]. That survey showed that, at that time, only about half (51.5 %) of the respondents (age 16+) used the internet, with a little over half (53%) of the users, that is reporting seeking online health related information. This means that since 2001 when only 27.3% of the Germans used the Internet to inform themselves about health the percentage of consumers using the internet for this purpose has almost doubled. The results of this survey show that the general use of the internet in Germany has significantly increased in the last few years and has already levelled that reported in the US while the internet use for health related information is already greater in Germany [17]

Nevertheless despite the fast growing increase in the use of the internet for health relate purposes, and with all the explosion of the communication via the internet (www, email) in the community, this sort of communication is seldom encountered between patients and their healthcare providers in Germany, and so it is the desire of the healthcare consumers for it. The low use of the internet and related technologies is in line with findings of surveys conducted in other countries (e.g., US where a recent survey showed that only 6 % of the respondents with internet reported to had use e-mail to contact a physician or a healthcare professional [13]) whereas the low willingness on the part of the German consumers to communicate with their physicians is in contrast to that in other countries, like Norway for example, where reportedly nearly half of the population claim that they would like to use the internet to communicate with their general practitioner [8].

This may be explained by the fact that in Germany there is no specific legislation in place for email communication between doctors and patients and no reimbursement for doctors for the time spent to communicate with their patients via email. Renewal of prescription via email is currently not allowed in the German healthcare system. Therefore there are little incentives for physicians to favour email communication with their patients and presumably physicians do little to encourage their patients' use the internet (www, email) to communicate to them.

Furthermore, as the current survey shows, healthcare consumers feel that this kind of communication is not trustworthy, as far the confidentiality concerns.

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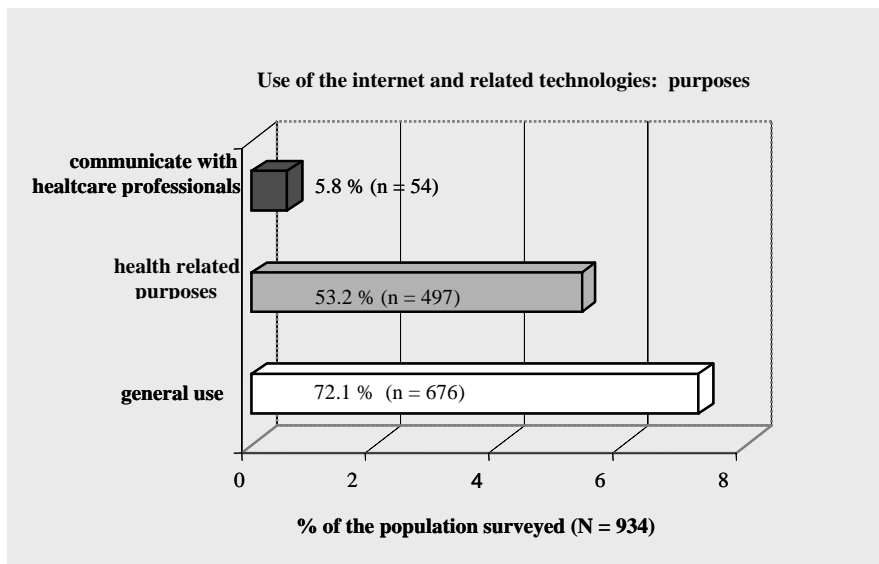


Fig. 1. The use of the internet by the German healthcare consumers

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