Citizens and ICT for Health in 14 European Countries: Results from an Online Panel

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SUMMARY

Background

The Citizen Panel Survey carried out in SIMPHS2 to better assess users and patients’ needs and expectations with regard to ICT for health, directly supports the objectives of the Digital Agenda in the area of eHealth which are to both cope with societal challenges and create opportunities for innovation and economic growth by reducing health inequalities, promoting active and healthy ageing and increasing empowerment. It also contributes to the goals of the European Innovation Partnership on Active and Healthy Aging which addresses the societal challenge of an ageing population focusing on the main areas of life events (Prevention, Care and cure and Independent living) with the following expected results:

- An improvement of the health status and quality of life of Europeans, especially older people;
- An improvement of the sustainability and efficiency of health and social care systems;
- Boosted EU competitiveness through an improved business environment for innovation.

In this policy context the analysis of users’ demand undertaken through the SIMPHS2 Citizen panel survey aims to:

- develop typologies of digital healthcare users and measure the impact of ICT and the Internet on health status, health care demand and health management.
- identify factors that can enhance or inhibit the role and use of Personal Health Systems from a citizen’s perspective with special emphasis on mHealth, RMT, disease management, Telecare, Telemedicine and Wellness.

To reach these objectives, we started by defining a theoretical framework for policy-making, which was used to design and gather relevant information. A multivariate statistical analysis was subsequently carried out to identify the underlying conceptual dimensions emerging from the data collected. Key relationships between concepts (underlying dimensions) were identified to understand ICT for Health as a complex ecosystem. We concluded with some lessons learned.

Conceptual framework: Towards social determinants of ICT for Health

Two frameworks are at the root of our own conceptual framework "Towards social determinants of ICT for Health". One is the WHO Commission on Social Determinants of Health Framework which summarises how "social, economic and political mechanisms give rise to a set of socioeconomic positions, whereby populations are stratified according to income, education, occupation, gender, race/ethnicity and other factors; these socioeconomic positions in turn shape specific determinants of health status (intermediary determinants) reflective of people’s place within social hierarchies; based on their respective social status, individuals experience differences in exposure and vulnerability to health-compromising conditions". While this framework does not relate directly to ICT for Health, the structural determinants perfectly overlap the core argument of personal and positional categories of and distribution of resources in van Dijk’s "Causal and Sequential Model of Digital Technology Access by individuals in Contemporary Societies" which is the second framework in which our approach is rooted.

As a result and as illustrated in the next we defined "Towards social determinants of ICT for Health" as follows:

- Social determinants of health and health inequalities, therefore structural and intermediary determinants produce different levels of ICT access (motivation, material, skills and usage).
- Unequal access to ICT will generate different levels of ICT for Health access as well as different levels of willingness to use ICT for Health.
- ICT for Health access depends on the properties of ICT and the relationship among Motivation; ICT for Health readiness and Internet Health information.
Motivation includes Triggers, Empowerment and Barriers

ICT for Health readiness includes Awareness, Material access; Skills and Usage

ICT for Health Assessment includes how individuals use and evaluate this type of technologies for themselves or for others (social life of information) as well as their perception about usefulness and learning.

ICT for Health Access gives rise to different level of Participatory Health through the utilisation (individually and socially) of ICT for Health in daily life and behavioural changes due to the ICT for Health impact on: Health management; Health care demand and Health care quality

These impacts could modify both structural and intermediary determinants and distribution of health and well-being.

Social Determinants of Health and ICT for Health conceptual framework

Source: Authors’ elaboration based on WHO and van Dijk.

Online panel survey technical information

Based on the above framework, we gathered data through a questionnaire which we designed and structured around five main blocks:

- Block A: Health status and health care and social care services use
- Block B: ICT for Health Motivation and Health Information sources
- Block C: ICT Access

1 Questionnaire items are listed in supplementary materials at Annex 1. Questionnaire and coding manual.
To reach our target population, we have used the Internet as a methodological tool. Survey research is becoming a frequently used methodology due to the advancement of computer hardware, software and increasing access to the Internet. Furthermore, online surveys offer a valid alternative to the postal, telephone or face-to-face surveys as long as technical, methodological, ethical and legal considerations are taken into account. Table 1 resumes the technical characteristics of the study.

**Technical information**

| Population                          | Citizens aged from 16 to 74 years old who have used the Internet in the last three months. |
|-------------------------------------|--------------------------------------------------------------------------------------------|
| Scope of countries                  | Austria, Belgium, Germany, Denmark, Estonia, Finland, France, Italy, Netherlands, Sweden, Slovenia, Slovakia, Spain, United Kingdom |
| Type of survey                      | Online                                                                                     |
| Sample size                         | 1,000 interviews per country. 14,000 interviews in total.                                    |
| Quotas                              | Country  
Gender (Female/Male)  
Age Group (16-24/ 25-54/ 55-74) |
| Sampling error                      | ±0.85% for overall data and ±3.16% for country-specific data. In all cases, a maximum indeterminate probability (p=q=50), for a confidence level of 95.5% is applicable for each one of the reference populations |
| Weighting                           | Proportional allocation for each country.  
Weighting by country to be able to interpret the overall data. |
| Sampling                            | Individuals have been sampled in a completely random manner.                               |
| Fieldwork period                    | 20 July 2011 to 20 August 2011                                                             |

*Source: Authors' elaboration.*

It should be noted that the data analysed in this report relates to an Internet user population which also forms part of online panels. Accordingly, it can be deduced that the respondents’ profile in terms ICT uses is slightly more advanced than that of the general population of the surveyed countries. However the underlying dimensions identified and their relationship remain valid.

**ICT access**

With respect to Internet based activities, the sampled population mainly uses it to search for information (68% every day), sending e-mails with attachments (41%), online banking (20%), social networks (39%) and instant messaging (23%). Internet activities are linked with the male gender, the youngest age groups, a university education, self-employment and entrepreneurs, students, population density and a good state of health.

The factor analysis helped identify the main underlying dimensions of Internet activities. Four factors have emerged:

- Basic uses,
- Individual uses,
- Social – Web 2.0 uses,
• Tech uses.

These factors represent a social gradient of Internet activities from the easiest use of the Internet (basic uses) to the most sophisticated activities (tech uses).

**ICT for Health Motivation**

Individuals were asked about the **triggers** to utilise ICT for Health. More than a third of the sampled European population indicates a significant use of ICTs in health to better understand a health problem or disease (39%), to find additional sources of information (36%) and to develop knowledge and personal satisfaction (35%). A little further behind, but still with a relevant frequency, there is the perception that ICTs in health are very useful to help a family member or a friend who is ill (31%), to prevent illnesses or to adopt a more healthy lifestyle (28%), to find a solution to or a treatment for a health problem (28%), to obtain different points of view about an issue (22%), and to access an online health service (21%). Finally, and as a counterpoint, only 11% of European citizens give much importance to the use of ICTs in health for participating in online discussions.

With respect to the socio-demographic characteristics of the population, the perception of the importance of ICT in health as triggers is much more positive for women, young people, the middle aged, those with a tertiary education, the employed, students, and people in a bad state of health or with long standing illnesses.

From these items two factors have emerged:

- social and services oriented, and
- individual oriented uses.

**Empowerment**, broadly understood as the development of personal involvement and responsibility is one of the goals of prevention, promotion and protection in health. This definition assumes that responsibility is a more active form of **control** while **competence** refers to aptitudes or qualities that make it possible to be more autonomous and take a role in decision-making. Factor analysis identified these two dimensions of empowerment. Moreover, three different perspectives of personal empowerment seem to coexist with respect to Health:

- ability to comply with expert advice (professional perspective),
- Self-reliance through individual choice (consumer perspective),
- Social inclusion through the development of collective support (community perspective).

Overall, this greater digital empowerment for the European citizens when it comes to their health and the healthcare professionals is linked with higher education levels, the worst states of health and the existence of long-standing illnesses.

Finally, individuals were asked about the **barriers to utilise ICT for Health**. Lack of privacy (52%), security (51%), reliability (47%) and trust (46%) were the four main barriers for ICT uses for health indicated by the sampled European population to be very important. Other justifications were the lack of liability (38%), health literacy (36%), knowledge (33%), access to ICTs for health (29%), motivation and interest (28%), and the lack of digital skills (24%).

Firstly, women are much more sensitive to barriers to the ICT use for health than men, particularly in terms of a lack of confidence. Similarly, the perception of barriers to ICT use for health is also much more evident in older people, those with lower levels of education and the inactive. Lastly, it is also worth highlighting that the presence of long standing illnesses is also very sensitive to lack of confidence.

The underlying dimensions of these items are:

- Lack of confidence, and
- Lack of readiness.
**ICT for Health usage**

When it comes to specifically using the Internet for health and wellness, the research has provided interesting information, with notable relative differences. The main use of the Internet for health is for individual information searches, rather than sharing information, communicating or interacting about health and more particularly information searches about physical illnesses or conditions.

Over half of the sampled European citizens have never used the Internet to buy medicine or vitamins online (56% of the total); participated in online support groups for people with the same health issue (60%), used social networking sites for health and wellness issues (58%); explained a medical issue online in order to make contact with an e-health medical service (61%) or with other users (58%); disclosed medical information on social networking sites (67%); or disclosed medical information on websites to share pictures, videos, or movies (67%).

The specific use of ICTs in the health sector is still quite limited among the sampled European citizens. Around three-quarters of the sampled population have never experienced any of the specified ICTs for health uses: 79% of individuals have never made an online consultation through videoconference with healthcare professionals. 75% have not received medical or clinical tests online either. 77% have not accessed or uploaded medical results via a specialist provider, such as Google Health or Microsoft Vault. 76% have not accessed or uploaded medical results via an Internet application provided by a health organisation. 76.6% have not used health or wellness applications on mobile telephones either. And 73.6% of the sampled population has not used ICT applications to transmit vital signs and other clinical information anytime or anywhere.

With respect to the remaining socio-demographic factors, the analysis shows homogeneity in terms of the overall use of ICT for health, which is more frequent in the young population, those with a tertiary education, students and the employed, those in densely populated urban areas, people in a bad state of health and those with long standing illnesses.

The factor analysis of ICT for health activities reveals two underlying dimensions:

- ICT for Health oriented towards Information and Communication, and
- ICT for Health oriented towards services and devices.

Finally, these items allow us to analyse individuals’ level of awareness, skills and willingness. First of all, individuals were directly asked about their level of awareness. Second, the number of activities carried out by individuals was considered as a proxy for skilled individuals. Third, individuals who stated they never carry out these activities or were not aware of them were asked about their willingness to carry out these activities. The factor analysis of willingness reveals three underlying dimensions:

- Willingness to use Internet Health information,
- Willingness to use Web 2.0,
- Willingness to use services and devices.

These factors are consistent with the underlying dimensions of ICT readiness mentioned before.

**ICT for Health Impact**

The study has also provided evidence about the consequences of ICT for Health utilisation. It has to be said that the perceptions are positive overall. 58% of the sampled European population state they agree that ICT use for health allows savings in terms of cost of travel and time. 56% state that they would be willing to share personal health information with their doctor despite the privacy issue. 55% state that ICTs for health can improve the possibilities for caring for themselves and monitoring their state of health. 55% agree with the fact that ICT use for health leads to greater patient satisfaction. 54% agree that e-health can improve the quality of the medical services.
received. 50% of the European citizens consider that ICT use for health can change their behaviour towards a healthy lifestyle.

Slightly under half of the sample of European citizens, 43%, agrees that ICT use for health can improve their state of health. 42% consider that they would feel more comfortable and safe if they used a remote monitoring system for their health condition. 42% consider that ICT use for health increases ICT use in other fields of daily life. 32% agree that the use of health services through the Internet substitutes face-to-face consultations with doctors. 32% agree that online health services and face-to-face services are of equal quality. And lastly, 23% of European citizens would be willing to pay for access to Internet health services to improve their state of health or that of their relatives.

Positive attitudes about the impact of ICT for health are more prominent among the youngest population, those with a tertiary education, and those that live in densely populated areas. The only notable difference between individuals with bad state of health and those with good state of health is the perception by the former that ICT uses for health can improve the quality of health services received (57%). Meanwhile, citizens with long standing illnesses clearly state their favourable perceptions of ICT use for health, as opposed to citizens that do not have long standing illnesses. In particular, they state that ICT use can improve patient satisfaction (56%), improve caring and health condition monitoring skills (57%), save travelling costs and time (60%), and that they are willing to share personal information through the Internet with doctors and health organisations despite privacy issues (60%).

Finally the factor analysis reveals two underlying dimensions:

- Impact on quality of healthcare and healthy behaviour,
- Impact on healthcare access.
Social determinants of ICT for Health: key dimensions

All items gathered were grouped into underlying dimensions through multivariate statistics following our conceptual framework. This exercise allows us to transform items into concepts and therefore understand the complexity of the ICT for Health ecosystem.

Underlying dimensions of Social determinants of ICT for Health

![Diagram showing underlying dimensions of Social determinants of ICT for Health]

Source: Authors’ elaboration.

All above mentioned unveiled the complexity of ICT for Health. To tackle this complexity, correlation analyses of all dimensions have been performed. The main results of these analyses are summarised in the following figure:
Key relationships of Social determinants of ICT for Health

Social determinants of ICT for Health

Source: Authors’ elaboration.

- Social determinants of Health (structural and intermediary), especially education and age, produces different levels of ICT readiness. Advance uses of the Internet such as Tech and Web 2.0 uses are more likely to be carried out by the young, the healthy and the well-educated population while basic uses are mostly performed by the elderly, therefore individuals with worse health status (chronic patients and individuals having reported higher numbers of health problems).

- Unequal ICT readiness generates different levels of motivation. Individuals making more advance uses are triggered by the potential of ICT to facilitate social interaction and services related to health while individuals whose uses are basic or individual are triggered mainly by Internet health information for personal proposes. Furthermore, individuals with the lowest level of readiness (basic uses) and having reported more health problems lack confidence in the use of ICT for Health. Nevertheless, this lack of confidence is counterbalanced by a higher level of empowerment (competence oriented).

- Both ICT for Health usages (Services and Devices and Information and Communication) are specially driven by social and services triggers while individual triggers are only slightly correlated with Information and Communication usages, therefore less advanced uses.

- Both dimensions of Empowerment push ICT for Health usage. Individuals who are more competence-oriented are more inclined to Information and Communication usage while individuals who are more control-oriented are more likely to use Services and Devices. Thus individuals who feel more responsible for their health status are more likely to use Services and Devices while individuals who want to be more autonomous (competence refers to aptitudes or qualities that make it possible to be more autonomous) are more likely to utilise Information and Communication. If we consider individuals’ education, age and health status it looks like Services and Devices are related with well-being and wellness practice, therefore with health prevention and promotion while Information and Communication are more related with illness, therefore with cure and independent living.
• All individuals using ICT for Health faced the same barriers; therefore lack of confidence and lack of readiness are not correlated significantly with ICT for Health usages. Nevertheless, lack of confidence is negatively correlated with the ICT for Health impact on the access dimension. Individuals need a certain level of confidence in ICT for Health to go beyond information and communication and engage with services such as RMT, Personal Health Records or videoconference consultation.

• The utilisation of Services and devices is strongly correlated with the perception that ICT would have an impact on both healthcare access and quality and healthy behaviours while the utilisation of Information and Communication is slightly correlated with Quality and healthy behaviours only.

• The number of health problems reported by individuals is only slightly correlated with Information and Communication Usage and it is unrelated to Services and devices utilisation. Therefore, individuals who could take more advantage of Services and devices, due to their health status, are more likely to be oriented towards information and communication usage only.

**Lessons learned**

The study reported here reveals the potential of ICT for Health to promote active and healthy individuals and increase empowerment. Even though our findings relate to Internet users, it is worth pointing out that new health inequalities are emerging due to the impact of the "traditional determinants of health" on ICT readiness.

Therefore, eInclusion policies related to ICT for Health are needed to ensure that individuals with low socio-economic status and more health problems are able to benefit from these types of technologies. These ICT for Health divides specially impact on the elderly. However, there is an opportunity for them to engage with the Information Society through ICT for Health due to the importance of health issues in their daily life.

The relationship between the different typologies of ICT readiness and ICT for Health Motivation and Impact reveal that:

• Young individuals are already using this type of technologies mostly in relation with wellness and healthy life style. These uses enable an entire world of possibilities related with health promotion and prevention, especially considering that young individuals are heavy Web 2.0 users.

• Middle age individuals are also active users of ICT for Health acting as gatekeepers of this type of technologies within the household. Therefore these individuals could act as enablers for others i.e. both for the elderly and the young within households.

• The elderly are basically using ICT for Health for information and communication purposes. There is a gap between this type of use and services and devices uses which could be more effective in relation with cure and chronic conditions.

Individuals between 16-54 with chronic conditions, going under long-term treatment and with more than one health problems are more likely to use ICT for Health than individuals without these types of health problems. Individuals between 55-74 who are healthy are more likely to use ICT for Health, especially for Information and Communication, than individuals with worse health status. Therefore, in the short term, this group of individuals will be pushing for health systems to provide them with new solutions (services and devices) when they need to tackle a health problem. This pressure will increase during the next decade when middle age individuals become elderly. Therefore health systems are facing the challenge of having to promote further ICT innovation to answer these new demands. While this is an opportunity to improve both sustainability and efficiency of healthcare system, it is associated with a number of challenges linked to eHealth deployment.
Further, during this transition, health systems cannot leave out the elderly who are not active and healthy: this group of individuals cannot be omitted as they are the current intensive users of healthcare systems. There is an opportunity to include them in the Information Society by improving ICT readiness and ICT for Health willingness and awareness.
1 INTRODUCTION

1.1 Background and rationale of SIMPHS2

SIMPHS 2, the Strategic Intelligence Mapping on Personal Health Systems phase 2 (SIMPHS2), is a project carried out by the IPTS in cooperation with DG INFSO. Taking a demand side approach, SIMPHS 2 aims to further expand the fact findings from SIMPHS 1.

The conclusions drawn upon completion of SIMPHS phase 1 in May 2010 identified the following set of areas that deserve further research and analysis:

- to enlarge the scope of our focus from PHS to IPHS (Integrated Personal Health/Care Services) as a result of emerging trends of convergence between health and social care also in the provision of ICT enabled services
- to adopt a demand driven research design as opposed to the supply-driven one that characterised SIMPHS Phase 1;
- to include a fact finding component, beyond RMT, focusing on Telecare (and its more sophisticated versions such as Ambient Assisted Living AAL, or Independent Living, IL), Mobile Health, and Wellness; and
- to produce empirical and prospective analysis of potential impacts which can support the Impact Assessment for relevant INFSO policy activities (such as European Large Scale Actions (ELSAs) or European Research and Innovation Partnerships (ERIPs)), and also with the purpose of raising awareness and creating consensus among the different stakeholders through the sharing of the knowledge base.

In light of the above, DG INSFO/H1 requested JRC-IPTS to expand the scope of the research developed during SIMPHS Phase 1 to new areas of interest (Telecare, Mobile Health, and Wellness) and study the integration between disease management and RMT as well as health and social care in order to extract strategic intelligence and quantitative evidence to support the policy process. SIMPHS 2 investigates the use of Personal Health Systems (PHS), starting with the Remote Patient Monitoring and Treatment (RMT) segment for chronic disease management. The specific diseases of SIMPHS 2 focus are diabetes, Cardio Vascular Disease (CVD) and Chronic Obstructive Pulmonary Diseases (COPD). Expected results aim at supporting policy making by providing evidence on the current development and use of RMT from the perspective of the demand side (policy makers, hospitals, health care professionals and end-users) identifying drivers and barriers to its large-scale take up in Europe using three axes: diffusion of innovation, governance and health impact assessment. Thus, impact on quality of life and treatment costs will be at the core of the study. In addition, it will also look at current reimbursement systems for RMT and coordination between health and social care services for the use of these applications.

Within this background to gain more insights from the perspective of the demand supply an online panel survey to Internet users has been carrying out on 14 EU countries about Health and ICT.

1.2 Policy context

1.2.1 From eEurope to Digital Agenda for Europe

The European Commission eHealth Action Plan defines eHealth as ‘the application of information and communications technologies across the whole range of functions that affect the health sector’ and including ‘products, systems and services that go beyond simply Internet-based applications’ [1]. This definition has been expanded by the eHealth task force in support of the Lead Market Initiative [2] to encompass four categories of applications:

1. Clinical information systems (specialized tools for health professionals within care institutions, tools for primary care and/or for outside the care institutions);
2. Telemedicine and homecare systems and services;
3. Integrated regional/national health information networks and distributed electronic health record systems and associated services;

4. Secondary usage non-clinical systems (systems for health education and health promotion of patients/citizens; specialised systems for researchers and public health data collection and analysis; support systems for clinical processes not used directly by patients or health care professionals.

eHealth has figured high in the European Commission Information Society policy agenda for a decade: starting with the eEurope framework,² continuing into i2010 strategy [6], and today as part of Pillar 7 (ICT for Societal Challenges) the new Digital Agenda for Europe (DAE) for the period 2010-2015 [7:29-30]. Actually, Commission support to what we call eHealth today (and earlier went under different names such as health telematics) predates its systematisation into general information society policy as it started in the early 1990s through co-funded research in the framework programmes and has continued since 2007 both through FP7 and through the Competitiveness and Innovation Programme (CIP) deployment instruments. eHealth in 2007 was part of the Lead Market Initiatives and as of 2011 is one of the first DAE Flagship initiatives with the European Innovation Partnership on Active and Healthy Ageing. It must also be stressed that the healthcare challenges and the potential of innovation through ICT to tackle them are expressly grounded in the ‘smart pillar’ of the overall EU2020 Strategy [8:10].

Stated in very compact form the objective pursued by eHealth policy is to ‘improve the quality of care and reduce medical costs’ [7:29]. This objective summarises the various promises of eHealth that have been heralded for more than a decade (and very effectively reviewed in Lapointe [9]), which include amongst others:

- Reducing medical errors, drugs adverse events and associated costs (i.e. through adverse events computerised reporting systems, ePrescription of diagnostic procedures, electronic health records, etc);
- Improving adherence to prescriptions (through reminders and telemonitoring);
- Reducing in-patient costs while improving health outcomes (telemonitoring);
- Supporting and improving the work of professionals in various ways (Picture Archiving and Communication Systems, tele-radiology, Computerised Physicians Order Entry, online transmission of clinical tests results);
- Streamlining and making the administration of hospitals more efficient (Integrated computerised systems for billing, order entry, discharging, etc.);
- Increasing access and convenience for users (eBooking, access to their electronic health records, portability of their information across the system, etc.).

1.2.2 Healthcare and ageing in the new policy context toward 2020

Toward the end of 2009 the first report of the European Research Area Board (ERAB) placed ageing and healthcare among the grand challenges on the road toward Europe’s Renaissance.³ Ageing and health figure prominently in the new EU2020 Strategy,⁴ and the implications from the perspective

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² This framework, whose open volley was the 1999 joint European Council and Commission initiative [3], saw first in 2000 the launch of eEurope 2002 [4] and then in 2002 that of eEurope 2005 [5].
³ European Commission, Preparing Europe for a New Renaissance: A Strategic View of the European Research Area, First Report of the European Research Area Board, Brussels, European Commission, DG Research, EUR 23905, 2009, p. 7.
⁴ European Commission, Europe 2020. A European Strategy for smart, sustainable and inclusive growth, Brussels. COM (2010) 2020, 2010.
of ICT (i.e. eHealth) are clearly underlined in the Spanish Presidency Granada declaration\(^5\) and the new European Digital Agenda.\(^6\)

EU2020 includes as sources of structural weaknesses in Europe,\(^7\) the acceleration of demographic ageing and the low workforce participation of older workers and considers ageing among the long-term global challenges that the European social market model is facing.\(^8\) In the ‘smart pillar’ of the strategy, ageing is among the objectives of the flagship initiative “Innovation Union” \(^9\) (i.e. ‘technologies to allow older people to live independently and be active in society’ will be one of the first “European Innovation Partnerships” to be funded), whereas within the ‘inclusive growth pillar’ an important reference is made to the need for reducing health inequalities and for promoting active and healthy ageing, thus, contributing to social cohesion and higher productivity.\(^10\) Last but not least, EU2020 stresses the strategic importance of leveraging the full potential of ICT in pursuing smart, sustainable and inclusive growth.\(^11\) In sum, the new EU strategy provides full policy support, and actually calls for, the kind of two-fold approach that ICT can enable in the domain of health and social care: coping with societal challenges while creating new inclusive market opportunities.

Such an approach is further reinforced in the new Digital Agenda for Europe (see footnote 6). The Digital Agenda stresses how “by harnessing the full potential of ICT, Europe could much better address some of its most acute societal challenges: climate change and other pressures on our environment, an ageing population and rising health costs”.\(^12\) The Digital Agenda devotes also an entire paragraph to “Sustainable healthcare and ICT-based support for dignified and independent living”.\(^13\) where it underlines how the action in this area will contribute to the earlier mentioned European Innovation Partnership foreseen by EU2020 and also stresses that previously launched policy actions such as the Lead Market Initiative\(^14\) will play a key role in further catalysing the deployment of eHealth with an explicit mention of those services and applications addressing the needs of chronic patients (telemedicine, Telemonitoring, mobile health) and of the elderly (Independent Living and Ambient Assisted Living).

As such, the contents devoted by the Digital Agenda to eHealth fully support the two-fold view of the potential of ICT in health and social care which is to both cope with societal challenges and create opportunities for innovation and economic growth. Hence, the new policy context confirms and reinforces the support to ICT enabled innovation in the domain of health and social care that were already present in the previous policy antecedents, such as the eHealth Action Plan, the Lead Market Initiative, the Ambient Assisted Leaving Joint Programme and various other communications, studies and research projects. Considering that one of the key pillar of the new Digital Agenda is the deployment and adoption of Next Generation Access \(^{10}\) networks throughout Europe, ICT enabled health and social care services can be among the added-value ‘contents’ to be conveyed through these new fast and very fast “pipes” valorising the investments in infrastructure. As illustrated in the outer part of Figure 1 below, a virtuous cycle of the digital economy could be unleashed between increase demand for digital services, roll out of NGA networks, and creation of content and borderless services. Personalised digital health and care services could very well be among the key contributor to such a cycle. Mobile health, for instance, is one of the potential sources of spill over

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\(^5\) We refer here to the contents of the Granada Ministerial Declaration, adopted by the Council on April 19, 2010. See also Spanish Presidency of the EU, Spanish Proposal for a Digital Europe: The Granada Strategy, February 24th 2010 (http://www.eu2010.es/es/documentosnoticias/noticias/abr19telec.html ).

\(^6\) European Commission, A Digital Agenda for Europe, Brussels. COM (2010)245, 2010.

\(^7\) European Commission, Europe 2020, op. cit., p. 5.

\(^8\) European Commission, Europe 2020, op. cit., p. 6.

\(^9\) European Commission, Europe 2020, op. cit., p. 10.

\(^10\) European Commission, Europe 2020, op. cit., p. 16.

\(^11\) European Commission, Europe 2020, op. cit., pp. 9-10.

\(^12\) A Digital Agenda for Europe, op. cit., p. 6.

\(^13\) Ibid., pp. 29-30.

\(^14\) http://ec.europa.eu/enterprise/leadmarket/doc/com_07_en.pdf
benefits from faster and very fast networks that can justify the public investments needed to build this new infrastructure. Yet, the inner part of the figure also highlight the vicious cycle that has blocked so far the realisation of the full potential for a European digital economy and society.

**Figure 1: The Virtuous Cycle of the digital economy**

![Virtuous Cycle Diagram](image)

*Source: A Digital Agenda for Europe, p. 4.*

The main eHealth related target of the DAE (and the corresponding actions described in the scoreboard are the following (the first two are split into separate targets):

**Action 75a: Give Europeans secure online access to their medical health data**

**Objectives:** increase empowerment and quality of life for citizens while contributing to healthcare system sustainability, contribute to EIPAHA

**Target:** undertake pilot actions to equip Europeans with secure online access to their medical health data by 2015

**Action 75a: achieve widespread telemedicine deployment**

**Objectives:** increase empowerment and quality of life for citizens while contributing to healthcare system sustainability, contribute to EIPAHA

**Target:** achieve by 2020 widespread deployment of telemedicine services

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15 As clearly described in the EFII White paper, the European Future Internet PPP will seek commonality across application sectors to facilitate achieving critical mass in the creation of new European-scale markets for smart infrastructures, with integrated advanced, secure and trusted communications functionalities. One such sector is eHealth and Ambient Assisted Living (AAL) where developing and demonstrating large scale infrastructure of eHealth and mHealth services, by connecting the whole set of involved actors in the healthcare provision chain, is needed. The main challenges of the EFII PPP related to eHealth is to specify, design, prototype and test an eHealth Service Platform that will give doctors patients and applications unified, standard access to medical information and support service features such as tele-rehabilitation, vital signs monitoring (automatic monitoring with established thresholds that trigger alarms), alerts, tele-presence of health care professionals, remote medical administration monitoring, medication reminders, appointment reminders, location tracking, context information processing, etc. (see [http://www.future-internet.eu/fileadmin/initiative_documents/Publications/White_Paper/EFII_White_Paper_2010_Public.pdf](http://www.future-internet.eu/fileadmin/initiative_documents/Publications/White_Paper/EFII_White_Paper_2010_Public.pdf)).

16 [http://ec.europa.eu/information_society/newsroom/cf/fiche-dae.cfm?action_id=233&pillar_id=49&action=Action%2075%3A%20Give%20Europeans%20secure%20online%20access%20to%20their%20medical%20health%20data](http://ec.europa.eu/information_society/newsroom/cf/fiche-dae.cfm?action_id=233&pillar_id=49&action=Action%2075%3A%20Give%20Europeans%20secure%20online%20access%20to%20their%20medical%20health%20data)

17 Ibid.
Action 76: Propose a recommendation to define a minimum common set of patient data

Objectives: establish minimum set of criteria to achieve inter-operability of patient records for cross-border access and/or exchange. Contribute to action 77
Target: to be achieved by 2012.

Action 77: Foster EU-wide standards, interoperability testing and certification of eHealth

Objectives: unleash an EU eHealth market by overcoming local and market fragmentation;
Target: achieve the above by 2015 through stakeholder dialogue.

1.2.3 European Innovation Partnership on Active and Healthy Ageing

On 7 November 2011 the Steering Group of the pilot European Innovation Partnership on Active and Healthy Aging agreed on joint actions in response to the societal challenge of an ageing population. The overarching objective is to ensure that the average European citizen has two more active and healthy years to live by 2020, focusing on the three main areas of life events:

- Prevention,
- Care and cure,
- Independent living.

and on five specific actions:

- Innovative ways to ensure patients follow their prescriptions – a concerted action in at least 30 European regions;
- Innovative solutions to prevent falls and support early diagnosis for older people;
- Co-operation to help prevent functional decline and frailty, with a particular focus on malnutrition;
- Spread and promote successful innovative integrated care models for chronic diseases amongst older patients, such as through remote monitoring. Action should be taken in a number of the EU’s regions;
- Improve the uptake of interoperable ICT independent living solutions through global standards to help older people stay independent, mobile and active for longer.

Furthermore, the expected results would be threefold:

- An improvement of the health status and quality of life of Europeans, especially older people;
- An improvement of the sustainability and efficiency of health and social care systems;
- Boosted EU competitiveness through an improved business environment for innovation.

1.3 Conceptual framework: towards a social determinants of ICT for Health

The roots of a social approach to health are grounded in the recognition that social and environmental factors decisively influence people’s health. This approach is ancient and has received the support from WHO since 1950. The definition of Social Determinants of Health (SDH) encompasses the full set of social conditions in which people live and work; however, within the

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18 [http://ec.europa.eu/information_society/newsroom/cf/fiche-dae.cfm?action_id=234&pillar_id=49&action=Action%2076%3A%20Propose%20a%20recommendation%20to%20define%20a%20minimum%20set%20of%20patient%20data](http://ec.europa.eu/information_society/newsroom/cf/fiche-dae.cfm?action_id=234&pillar_id=49&action=Action%2076%3A%20Propose%20a%20recommendation%20to%20define%20a%20minimum%20set%20of%20patient%20data)

19 Ibid.

20 European Innovation Partnership agrees on actions to turn ageing into an opportunity [http://europa.eu/rapid/pressReleasesAction.do?reference=IP/11/1309&format=HTML&aged=0&language=EN&guiLanguage=en](http://europa.eu/rapid/pressReleasesAction.do?reference=IP/11/1309&format=HTML&aged=0&language=EN&guiLanguage=en)

21 Irwin A, Scali E. Action on the Social Determinants of Health: learning from previous experiences. Social Determinants of Health Discussion Paper 1 (Debates).
field encompassed by this concept, not all factors have equal importance. Bringing different theoretical traditions the Commission on Social Determinants of Health has summarised in Figure 2 how “social, economic and political mechanisms give rise to a set of socioeconomic positions, whereby populations are stratified according to income, education, occupation, gender, race/ethnicity and other factors; these socioeconomic positions in turn shape specific determinants of health status (intermediary determinants) reflective of people’s place within social hierarchies; based on their respective social status, individuals experience differences in exposure and vulnerability to health-compromising conditions”.

**Figure 2: Final form of the Commission on Social Determinants of Health conceptual framework**

Source: WHO 2010 [11] (p.6).

Socioeconomic and political context is broadly defined to include all social and political mechanisms that generate, configure and maintains social hierarchies, including: the labour market, the educational system, political institutions and other cultural and societal values.

Context, structural mechanisms and the resulting socio-economic position of individuals (the most important structural stratifiers and their proxy indicators include Income, Education, Occupation, Social Class, Gender, Race/ethnicity) taken together make up “structural determinants” and in effect it is these determinants we refer to as the “social determinants of health inequities.”

The underlying social determinants of health inequities operate through a set of intermediary determinants of health to shape health outcomes. The main categories of intermediary determinants of health are: material circumstances; psychosocial circumstances; behavioural and/or biological factors; and the health system itself as a social determinant.

The role of the health system becomes particularly relevant through the issue of access, which incorporates differences in exposure and vulnerability, and through intersectoral action led from within the health sector. The health system plays an important role in mediating the differential consequences of illness on people’s lives.

This framework does not relate directly to ICT for Health, nevertheless the structural determinants perfectly overlap the core argument of personal and positional categories of and distribution of

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22 Solar O, Irwin A. A conceptual framework for action on the social determinants of health. Social Determinants of Health Discussion Paper 2 (Policy and Practice).
resources in van Dijk’s “Causal and Sequential Model of Digital Technology Access by individuals in Contemporary Societies” (Figure 3).

**Figure 3: A Causal and Sequential Model of Digital Technology Access by Individuals in Contemporary Societies**

This framework has been summarised by van Dijk as follow:

- Categorical inequalities in society produce an unequal distribution of resources.
- An unequal distribution of resources causes unequal access to digital technologies.
- Unequal access to digital technologies also depends on the characteristics of these technologies.
- Unequal access to digital technologies brings about unequal participation in society.
- Unequal participation in society reinforces categorical inequalities and unequal distribution of resources.

However the term access goes beyond broadband connectivity and refers to four stages:

- Motivation access (motivation to use digital technologies),
- Material or physical access (possession of computers and Internet connections or permission to use them and their contents),
- Skills access (possession of digital skills: operational, informational and strategic),
- Usage access (number and diversity of applications, usage time).

These two frameworks summarised in Figure 2 and Figure 3 are the roots of our conceptual framework *Towards social determinants of ICT for Health* (Figure 4):
• Social determinants of health and health inequalities, therefore structural and intermediary
determinants produce different levels of ICT access (motivation, material, skills and usage).
• Unequal access to ICT will generate different levels of ICT for Health access as well as
different levels of willingness to use ICT for Health.
• ICT for Health access depends on the properties of ICT and the relationship among Motivation; ICT for Health readiness and Internet Health information.
  o Motivation includes Triggers, Empowerment and Barriers,
  o ICT for Health readiness includes Awareness, Material access; Skills and Usage,
  o Internet Health information includes how individuals use and evaluate this type of
    information for themselves or for others (social life of information) as well as their
    perception about usefulness and learning.
• ICT for Health Access gives rise to different level of Participatory Health through the
  utilisation of health information (individual and social uses) and behavioural changes due to
  the ICT for Health impact on:
  o Health management,
  o Health care demand,
  o Health care quality.
• These impacts could modify both structural and intermediary determinants and distribution
  of health and well-being.

Figure 4: Social Determinants of Health and ICT for Health conceptual framework

Source: Based on WHO [11] and van Dijk [12].
1.4 Outline of the report

This report is structured as follows:

- Chapter 1 provides a brief observation of the political context and the analytical framework around the main issue tackled by this study.

- Chapter 2 contains a description of the design methodology on which the research is based. This includes information about the scope of the population being researched, the sampling strategy and the sample used as well as the description of the survey design and field work process.

- Chapter 3 refers to the socio-demographic description of the population being researched. Beyond the sample quotas of gender and age, which are pre-defined, we obtained information about the characteristics of the individuals such as their level of education, employment situation or, type of household. Furthermore, a socio-demographics comparison between our sample and European population was carried out.

- Chapter 4 mainly refers to the general state of health of the European population surveyed and how they use health and social care services.

- Chapter 5 tackles Internet access, frequency of use and general activities carried out by individuals.

- Chapter 6 contains individuals’ utilization of health information sources and perception of trust.

- Chapter 7 focuses on individuals’ motivations to use ICT for Health (triggers and empowerment) as well as the barriers perceived.

- Chapter 8 refers with ICT for Health access, utilization, awareness and willingness to use these technologies in relation with Health.

- Chapter 9 provides insights on Internet health information and factors to evaluate Internet sites.

- Chapter 10 tackles individuals’ perception of ICT for Health impact and behavioural change. Furthermore, this chapter analyses how individuals evaluate ICT for Health sites.

- Chapter 11 presents the results of the multivariate analysis carried out and how we move from questionnaire items to conceptual dimensions of the conceptual framework.

- Chapter 12 concludes with some lessons learned and policy recommendations.
2. METHODOLOGY

2.1 Questionnaire design

To reach our target population, we have used the Internet as a methodological tool. As argued elsewhere, survey research[13] is becoming a frequently used methodology due to the advancement of computer hardware, software and increasing access to the Internet. Furthermore, online surveys offer a valid alternative to the postal, telephone or face-to-face surveys as long as technical, methodological, ethical and legal considerations are taken into account.[14, 15, 16, 17].

The questionnaire was designed considering our framework in Figure 4 as well as the policy context. The full questionnaire and the coding manual are available in Annex 1. Questionnaire and coding manual while Annex 2. Online panel provider describes the companies which carried out the fieldwork.

The questionnaire was structured in 5 blocks:
- Block A: Health status and health care and social care services use,
- Block B: Health attitude and Health information sources,
- Block C: Internet and Information and Communication Technologies uses,
- Block D: Health related use of Information and Communication Technologies and the Internet,
- Block E: Socio demographic profile of participants.

2.2 Survey design and sampling

It is appropriate at this point to explain the methodological design of the research. To obtain the objectives therefore, an ad-hoc research study has been designed to collect first hand information. Table 1 resumes the technical information about the study.

| Table 1: Technical information |
|--------------------------------|
| **Population** | Citizens aged from 16 to 74 years old who have used the Internet in the last three months. |
| **Scope of countries** | Austria, Belgium, Germany, Denmark, Estonia, Finland, France, Italy, Netherlands, Sweden, Slovenia, Slovakia, Spain, United Kingdom |
| **Type of survey** | Online |
| **Sample size** | 1,000 interviews per country. 14,000 interviews in total. |
| **Quotas** | Country  Gender (Female/Male)  Age Group (16-24/25-54/55-74) |
| **Sampling error** | ±0.85% for overall data and ±3.16% for country-specific data. In all cases, a maximum indeterminate probability (p=q=50), for a confidence level of 95.5% is applicable for each one of the reference populations |
| **Weighting** | Proportional allocation for each country. Weighting by country to be able to interpret the overall data. |
| **Sampling** | Individuals have been sampled in a completely random manner. |

Source: Authors’ elaboration.
The demographic groups are organised by the cross-referenced quotas of gender and age group, as follows:

- Women aged between 16 and 24 years old,
- Women aged between 25 and 54 years old,
- Women aged between 55 and 74 years old,
- Men aged between 16 and 24 years old,
- Men aged between 25 and 54 years old,
- Men aged between 55 and 74 years old.

| TARGET POPULATION | FEMALE | MALE | TOTAL |
|-------------------|--------|------|-------|
|                   | 16-24  | 25-54| 55-74 |
|                   |        |      |       |
| Austria (AT)      | 483,635| 1,500,590| 297,082| 1,612,517| 428,987| 4,812,634|
| Belgium (BE)      | 617,834| 1,873,936| 500,564| 654,433| 1,991,401| 651,916| 6,290,084|
| Germany (DE)      | 4,439,469| 15,355,444| 4,518,734| 4,607,687| 16,265,798| 5,720,867| 50,907,999|
| Denmark (DK)      | 325,791| 1,059,924| 425,239| 339,448| 1,058,849| 444,122| 3,653,373|
| Estonia (EE)      | 91,240| 255,389| 65,405| 93,244| 224,916| 39,519| 769,713|
| Finland (FI)      | 320,602| 1,003,259| 404,913| 334,552| 1,021,691| 396,595| 3,481,612|
| France (FR)       | 3,949,487| 11,593,680| 3,317,140| 3,983,537| 10,815,483| 3,787,759| 37,447,086|
| Italy (IT)        | 2,405,553| 7,384,182| 1,076,659| 2,558,069| 8,477,798| 1,938,877| 23,841,139|
| Netherlands (NL)  | 978,150| 3,329,750| 1,182,191| 1,031,238| 3,408,239| 1,387,366| 11,316,934|
| Sweden SE)        | 606,470| 1,765,839| 756,070| 632,416| 1,799,699| 803,811| 6,364,306|
| Slovenia (SI)     | 112,182| 350,394| 58,017| 119,649| 386,012| 67,563| 1,093,816|
| Slovakia (SK)     | 372,586| 1,043,328| 182,542| 395,907| 1,090,145| 191,577| 3,276,086|
| Spain (ES)        | 2,260,103| 7,634,024| 933,149| 2,312,050| 8,242,066| 1,290,044| 22,671,436|
| United Kingdom (UK)| 3,938,640| 11,404,155| 3,751,330| 4,074,594| 11,315,916| 3,900,419| 38,385,055|
| TOTAL             | 20,901,742| 65,553,894| 13,402,176| 21,626,645| 67,710,531| 21,049,423| 210,244,411|

Source: Eurostat, ICT Households Survey 2010.

Finally, having defined the object population of the study, the sample is displayed in Table 3. The sample has two essential characteristics:

- Firstly, an equal size sample has been chosen for each one of the countries being studied. This leads to an equal level of reliability in the results obtained in each of the countries.
- Secondly, the choice was made to use a fully representative sample for the distribution of the target population, according to gender and age group, which means that there is no need for any weighting to be applied to interpret the data.
Table 3: Sample by country, gender and age

| SAMPLE         | FEMALE       |         |         | MALE       |         |         | TOTAL  |
|----------------|--------------|---------|---------|------------|---------|---------|--------|
|                | 16-24        | 25-54   | 55-74   | 16-24      | 25-54   | 55-74   |        |
| Austria (AT)   | 100          | 312     | 62      | 102        | 335     | 89      | 1,000  |
| Belgium (BE)   | 98           | 298     | 79      | 104        | 317     | 104     | 1,000  |
| Germany (DE)   | 87           | 301     | 89      | 91         | 320     | 112     | 1,000  |
| Denmark (DK)   | 89           | 290     | 116     | 93         | 290     | 122     | 1,000  |
| Estonia (EE)   | 119          | 332     | 85      | 121        | 292     | 51      | 1,000  |
| Finland (FI)   | 92           | 288     | 116     | 96         | 294     | 114     | 1,000  |
| France (FR)    | 105          | 310     | 89      | 106        | 289     | 101     | 1,000  |
| Italy (IT)     | 101          | 310     | 45      | 107        | 356     | 81      | 1,000  |
| Netherlands (NL)| 86           | 294     | 105     | 91         | 301     | 123     | 1,000  |
| Sweden SE)     | 95           | 278     | 119     | 99         | 283     | 126     | 1,000  |
| Slovenia (SI)  | 103          | 320     | 53      | 109        | 353     | 62      | 1,000  |
| Slovakia (SK)  | 114          | 318     | 56      | 121        | 333     | 58      | 1,000  |
| Spain (ES)     | 100          | 337     | 41      | 102        | 363     | 57      | 1,000  |
| United Kingdom (UK) | 103 | 297 | 98 | 106 | 295 | 101 | 1,000 |
| TOTAL          | 1,392        | 4,285   | 1,153   | 1,448      | 4,421   | 1,301   | 14,000 |

Source: Authors’ elaboration.

Table 4 shows the study sampling errors (overall and by quotas). They are calculated for a probability no greater than 95.5%, and for the least desired context, i.e. a maximum indeterminate probability (p = q = 50%), for the reference population.

The sampling error is the error caused by observing a sample instead of the whole population. The sampling error can be found by subtracting the value of a parameter from the value of a statistic and is calculated with the formula given below:

\[
e = \sqrt{\frac{Z^2 \times p \times q}{N-1}}
\]

Where:
- e = Sampling error
- Z= Confidence level. The value for selected alpha level of .0225 in each tail = 2. The value of Z is set to 2, representing a confidence level of 95.5%. We want the highest accuracy possible, with the smallest sample size. This confidence level gives us the best trade-off between these two goals.
- p= the conversion rate we expect (estimate of the true conversion rate in the population)
- q= The conversion rate we don’t expect
- N= Total population (GP’s)
- n= Proposed sample (GP’s)
These sampling errors, in fact, determine the statistical reliability of the sample and, consequently, it is necessary to take them into consideration. The overall error margin, therefore, is ± 0.85%, with a country specific error margin of ± 3.16%. These errors are in line with the statistical criteria that validate the sample design and, the sample being representative and reliable, it is possible to extrapolate the study results to the target population group in the selected countries.

Table 4: Sampling error, by country, gender and age

| SAMPLE            | FEMALE | MALE     | TOTAL  |
|-------------------|--------|----------|--------|
|                   | 16-24  | 25-54    | 55-74  |
|                   | 16-24  | 25-54    | 55-74  |
|                   | 16-24  | 25-54    | 55-74  |
| Austria (AT)      | +10.00 | ±5.66    | ±12.70 |
| Belgium (BE)      | +10.10 | ±5.79    | ±11.25 |
| Germany (DE)      | +10.72 | ±5.76    | ±10.60 |
| Denmark (DK)      | +10.60 | ±5.87    | ±9.28  |
| Estonia (EE)      | ±9.17  | ±5.49    | ±10.85 |
| Finland (FI)      | ±10.43 | ±5.89    | ±9.28  |
| France (FR)       | ±9.76  | ±5.68    | ±10.60 |
| Italy (IT)        | ±9.95  | ±5.68    | ±14.91 |
| Netherlands (NL)  | ±10.78 | ±5.83    | ±9.76  |
| Sweden SE)        | ±10.26 | ±6.00    | ±9.17  |
| Slovenia (SI)     | ±9.85  | ±5.59    | ±13.74 |
| Slovakia (SK)     | +9.37  | ±5.61    | ±13.36 |
| Spain (ES)        | ±10.00 | ±5.45    | ±15.62 |
| United Kingdom (UK)| ±9.85 | ±5.80    | ±10.10 |
| TOTAL             | ±2.68  | ±1.53    | ±2.95  |

Source: Authors' elaboration.

As has been previously explained, the sample distribution is proportional and representative in each country, according to the proportion of individuals that have used the Internet in the last three months by gender and age group. This means it is not necessary to weight the sample to interpret the country-specific data.

However, as each country’s population is clearly different, in spite of being sampled in equal measure, weighting has been applied to ensure a representative sample for interpretation of the overall data, i.e. for all the selected countries.

In this report, we analyse the results on three levels: the average for the 14 Member States, the differences according to the socio-demographic characteristics of the respondents and issues with respect to state of health and the national average. The overall analysis and the socio-demographic and the state of health analyses are based on the 14 Member States, i.e. the average of the results for the 14 Member States. This average is weighted to reflect the actual population of each of the Member States, as was previously explained.

Each country’s weighting factor has been calculated by dividing the proportion of the country’s population to the total population (210,244,411) by the proportion of individuals in each country’s sample (1,000) to the total sample (14,000).
It is worth specifying at this point that a regional quota has been introduced in Spain to interpret the data for 3 Autonomous Regions in Spain with sufficient sample size. The Autonomous Regions are: Andalusia, Basque Country and Catalonia. Table 6 shows the sample from these Autonomous Regions:

| COUNTRY (AT) | Population | Population (Proportion) | Sample | Sample (proportion) | WEIGHT FACTOR |
|--------------|------------|--------------------------|--------|---------------------|--------------|
| Austria (AT) | 4,812,634  | 0,022891                 | 1.000  | 0,07143             | 0,32047      |
| Belgium (BE) | 6,290,084  | 0,029918                 | 1.000  | 0,07143             | 0,41885      |
| Germany (DE)| 50,907,999 | 0,242137                 | 1.000  | 0,07143             | 3,38992      |
| Denmark (DK)| 3,653,373  | 0,017377                 | 1.000  | 0,07143             | 0,24328      |
| Estonia (EE)| 769,713    | 0,003661                 | 1.000  | 0,07143             | 0,05125      |
| Finland (FI)| 3,481,612  | 0,016560                 | 1.000  | 0,07143             | 0,23184      |
| France (FR) | 37,447,086 | 0,178112                 | 1.000  | 0,07143             | 2,49357      |
| Italy (IT)  | 23,841,139 | 0,113397                 | 1.000  | 0,07143             | 1,58756      |
| Netherlands (NL)| 11,316,934 | 0,053828 | 1.000  | 0,07143             | 0,75359      |
| Sweden SE)  | 6,364,306  | 0,030271                 | 1.000  | 0,07143             | 0,42379      |
| Slovenia (SI)| 1,093,816  | 0,005203                 | 1.000  | 0,07143             | 0,07284      |
| Slovakia (SK)| 3,276,086  | 0,015582                 | 1.000  | 0,07143             | 0,21815      |
| Spain (ES)  | 22,671,436 | 0,107834                 | 1.000  | 0,07143             | 1,50967      |
| United Kingdom (UK)| 38,385,055 | 0,182573 | 1.000  | 0,07143             | 2,55603      |
| TOTAL       | 210,244,411| 1                       | 14.000 | 1                   |              |

Source: Authors’ elaboration.

Table 7 shows the sampling errors for Andalusia, the Basque Country and Catalonia. The gender / age quota sampling errors are not shown as the sample size only allows for interpretation of the overall data for each one of the regions.
They are calculated for a probability no greater than 95.5%, and for the least desired context, i.e. a maximum indeterminate probability \((p = q = 50\%)\), for the reference population.

**Table 7: Sampling errors by region**

| SAMPLING ERRORS | TOTAL |
|-----------------|-------|
| Andalusia       | ±7.05 |
| Basque Country  | ±8.74 |
| Catalonia       | ±7.04 |
| TOTAL Spain (ES)| ±3.16 |

*Source: Authors’ elaboration.*

As gender or age quotas for the different Autonomous Regions were not established from the outset, each resulting sample must be weighted to allow for the interpretation of the specific data for Andalusia, the Basque Country and Catalonia. For this purpose, the population distribution in Spain, according to gender and age quotas, was used as a benchmark. Table 8 shows the weighting coefficients:

**Table 8: Weighting factors by region**

| WEIGHTING FACTORS | FEMALE | MALE |
|-------------------|--------|------|
|                   | 16-24  | 25-54| 55-74| 16-24 | 25-54 | 55-74 |
| Andalusia         | 0,9136 | 0,9961| 2,7470| 0,5257| 1,1055| 3,8190|
| Basque Country    | 1,1882 | 0,8841| 0,8282| 0,7359| 1,2021| 1,2793|
| Catalonia         | 2,1833 | 0,8490| 1,0742| 2,2270| 0,8806| 0,9334|

*Source: Authors’ elaboration.*

It should be noted that throughout the document, a (*) next to the data in the tables has been used to indicate statistically significant associations. These associations are positively indicated in the tables through analysis of the corrected standardised residuals. A statistically significant association is indicated in the cell when the statistical value is outside \(+1.96\).

Finally, a brief reminder about the current research project is required. The data in the report refers to an Internet user population, which also forms part of online panels. Accordingly, it can be deduced that the respondents’ profile as ICT users during the fieldwork process is more advanced than that the general population of the countries that were surveyed. In this sense, a new angle to the research project arises, which shouldn't be understated when indicating the future tendencies of the European population as a whole.

### 2.3 Field work process

The fieldwork period ran from 20 July 2011 to 20 August 2011. Three consecutive launches were established from the outset:

- The first launch took place in the United Kingdom (20.7.11) and Spain (21.7.11), which were the countries in which the pilot study took place.
- Secondly, and after having checked that no significant incidences existed, the launch went ahead in France and Italy on 26.7.11.
- Finally, a joint launch was to take place in the remaining countries on 29.7.11. Delays occurred in Finland (launched on 1.8.11), Slovenia (3.8.11) and Slovakia (4.8.11) due to issues with the optimisation of the questionnaire translations.
The fieldwork process included a pilot study to check the validity and reliability of the research design and the questionnaire (see Annex 3. Pilot study). The pilot study passed without notable incidences. The following table shows the data collection schedule for the different countries.

Table 9: Data collection schedule

| COUNTRY         | SAMPLE | COMPLETION | LAUNCH DATE | COMPLETION |
|-----------------|--------|------------|-------------|------------|
| Austria (AT)    | 1,000  | 100,0%     | 29.7.11     | 11.8.11    |
| Belgium (BE)    | 1,000  | 100,0%     | 29.7.11     | 11.8.11    |
| Germany (DE)    | 1,000  | 100,0%     | 29.7.11     | 4.8.11     |
| Denmark (DK)    | 1,000  | 100,0%     | 29.7.11     | 15.8.11    |
| Estonia (EE)    | 1,000  | 100,0%     | 29.7.11     | 10.8.11    |
| Finland (FI)    | 1,000  | 100,0%     | 1.8.11      | 4.8.11     |
| France (FR)     | 1,000  | 100,0%     | 26.7.11     | 8.8.11     |
| Italy (IT)      | 1,000  | 100,0%     | 26.7.11     | 9.8.11     |
| Netherlands (NL)| 1,000  | 100,0%     | 29.7.11     | 15.8.11    |
| Sweden SE)      | 1,000  | 100,0%     | 29.7.11     | 5.8.11     |
| Slovenia (SI)   | 1,000  | 100,0%     | 3.8.11      | 17.8.11    |
| Slovakia (SK)   | 1,000  | 100,0%     | 4.8.11      | 20.8.11    |
| Spain (ES)      | 1,000  | 100,0%     | 21.7.11     | 5.8.11     |
| United Kingdom (UK) | 1,000   | 100,0%     | 20.7.11     | 1.8.11     |
| TOTAL           | 14,000 | 100,0%     | 20.7.11     | 20.8.11    |

*Source: Authors’ elaboration.*

Table 10 summarises the interview distribution by overall data and country within the fieldwork process:

- To achieve 14,000 responses, it was necessary to send 72,417 invitations to the panel, to which, 22,141 responses were received.
- 8,141 of 22,141 received responses were discarded, mainly as they did not fall into the required quotas (7,556), but because they have been rejected (585). The reason for rejecting a response was incompleteness and/or poor consistency of responses.
The following graphs show the gross and net response rates respectively. Figure 5 shows the gross response rate. This corresponds to the proportion of received responses to the total number of invites. It can be observed that the average gross rate for all the countries is 30.6%, with relatively homogenous results, reaching a very high rate - 59.2% - in Germany.

![Figure 5: Gross response rates](image)

Source: Authors’ elaboration.

Figure 6 shows the net response rate. This is obtained from the quotient between the validated interviews (1,000 per country, 14,000 in total) and the total number of invitations sent out (in each country and overall). The net response rate analysis excluded responses for over quota samples, and rejected interviews.

| COUNTRY         | Invitation s | Non responses | Responses | Out of quota | Rejected | Sample |
|-----------------|--------------|---------------|-----------|--------------|----------|--------|
| Austria (AT)    | 7,270        | 5,901         | 1,369     | 347          | 22       | 1,000  |
| Belgium (BE)    | 7,158        | 5,901         | 1,251     | 221          | 30       | 1,000  |
| Germany (DE)    | 3,068        | 1,253         | 1,815     | 759          | 56       | 1,000  |
| Denmark (DK)    | 5,866        | 4,540         | 1,326     | 287          | 39       | 1,000  |
| Estonia (EE)    | 4,164        | 2,943         | 1,221     | 202          | 19       | 1,000  |
| Finland (FI)    | 3,898        | 2,448         | 1,450     | 399          | 51       | 1,000  |
| France (FR)     | 5,346        | 3,132         | 2,214     | 1,147        | 67       | 1,000  |
| Italy (IT)      | 5,095        | 3,116         | 1,979     | 924          | 55       | 1,000  |
| Netherlands (NL)| 5,125        | 3,471         | 1,654     | 621          | 33       | 1,000  |
| Sweden (SE)     | 3,013        | 1,701         | 1,312     | 283          | 29       | 1,000  |
| Slovenia (SI)   | 4,050        | 2,807         | 1,243     | 234          | 9        | 1,000  |
| Slovakia (SK)   | 4,264        | 2,895         | 1,369     | 357          | 12       | 1,000  |
| Spain (ES)      | 6,809        | 5,281         | 1,528     | 455          | 73       | 1,000  |
| United Kingdom (UK)| 7,291| 4,881 | 2,410 | 1,320 | 90 | 1,000 |
| TOTAL           | 72,417       | 50,276        | 22,141    | 7,556        | 585      | 14,000 |

Source: Authors’ elaboration.

Table 10: Indicators of the fieldwork process

The following graphs show the gross and net response rates respectively. Figure 5 shows the gross response rate. This corresponds to the proportion of received responses to the total number of invites. It can be observed that the average gross rate for all the countries is 30.6%, with relatively homogenous results, reaching a very high rate - 59.2% - in Germany.

Source: Authors’ elaboration.

Figure 6 shows the net response rate. This is obtained from the quotient between the validated interviews (1,000 per country, 14,000 in total) and the total number of invitations sent out (in each country and overall). The net response rate analysis excluded responses for over quota samples, and rejected interviews.

Source: Authors’ elaboration.
Lastly, the average interview length was 23.2 minutes, with considerably homogenous results per country, varying between 20.5 minutes in the UK to almost 28 minutes in Estonia. Figure 7 summarises the interview length data per country:

Figure 7: Interview length (minutes)

Source: Authors’ elaboration.

2.4 Data analysis

Statistical analyses were performed using SPSS version 19.0 following three steps.

Firstly, descriptive statistical analysis was undertaken. This analysis includes frequencies of all items and cross tabulation with socio-demographics and health status. To attribute statistical significance to the differences obtained an associated Chi-square test was carried out.

Secondly, following our conceptual framework, in order to confirm the several internal complementarities of grouped items, the means and their significant correlation were checked. Then, factor analysis was used to assess item correlations and identify common relationships between similar items, allowing the items to be categorized into various themes or factors (dimensions). An analysis of the correlation matrix (KMO and Bartlett’s test of sphericity) was carried out to check that the correlation matrices were factorable. Data reductions were undertaken by principal components analysis using the Varimax option to identify possible underlying
dimensions. Factors identified reveal a pattern of correlations within a set of observed variables related to the main blocks of our conceptual framework.

Thirdly, ANOVA test and correlations were carried out to identify the relationship among the dimensions previously identified and to characterise different typologies of users, behaviours, motivations. To attribute statistical significance to the differences obtained associated tests were carried out.
3. SOCIO-DEMOGRAPHIC PROFILE OF THE PARTICIPANTS

3.1 Gender

Now that the sample characteristics of the citizens taken from the 14 European countries forming part of the research have been discussed in detail, we will now approach the explanation of their socio-demographic characteristics.

The sample of the European citizens being researched is split nearly evenly by gender, with slightly more women taking part (51.5%).

![Figure 8: Gender (E1)](image)

No significant differences are observed by country in terms of the sample distribution by gender. It is only worth mentioning the relatively higher number of men in Italy (54.4%) and women in Estonia (53.6%).

![Figure 9: Gender (E1) by country](image)
3.2 Age

As for the age structure of the sample, some relevant differences are observed here. Almost two-thirds of the total number of persons sampled (62.2%) fall within the middle age group (between 25 and 54 years old). Additionally, young citizens (between 16 and 24 years old) make up 19.8% of the sample, with 18% of the sample consisting of older citizens (between 55 and 74 years old).

**Figure 10: Age (E2)**

![Bar chart showing age distribution](chart.png)

Base: Whole sample.

On a per-country basis, there are relatively more young citizens in the samples for Estonia (24.0%) and Slovakia (23.5%). It is also worth highlighting the presence of respondents from an older population (between 55 and 74 years old) in the Scandinavian countries: 23.8% in Denmark, 23.0% in Finland, and 24.5% in Sweden.

**Figure 11: Age (E2) by country**

![Bar chart showing age distribution by country](chart.png)

Base: Whole sample.


### 3.3 Country of citizenship

Virtually all the sampled European population are citizens of their country (95%), a percentage that rises to 98% for EU citizens. Therefore, only 2% of the sample relates to non-EU member state nationals.

*Figure 12: Country of citizenship (E3)*

| National | National of other EU member state | National of non-EU country |
|----------|----------------------------------|---------------------------|
| 95       | 3                                | 2                         |

Base: Whole sample.

### 3.4 Country of birth

As with nationality, the large majority of the participating citizens are native to the country (93%) or born in EU countries (96%). Therefore, only 4% of the sample was born outside of the EU.

*Figure 13: Country of birth (E4)*

| Native | Born in another EU member state | Born in non-EU country |
|--------|---------------------------------|------------------------|
| 93     | 4                               | 4                      |

Base: Whole sample.
3.5 Level of education

With respect to the level of education, around half of the sampled European population (46%) attained the secondary education level, slightly more than the 38.8% of citizens who attained university level education. 15% of the sampled population attained the primary or lower secondary education level.

**Figure 14: Level of education completed (E5)**

| E5. What is your highest level of education completed? |
|--------------------------------------------------------|
| Primary or lower secondary education [ISCED 0.1 or 2]  |
| Upper secondary education [ISCED 3 or 4]                |
| Tertiary education [ISCED 5 or 6]                       |
| 15                                                     |
| 46                                                     |
| 39                                                     |

Base: Whole sample.

On a per-country basis, the following scenarios can be highlighted, considering that the sample is composed of Internet users which means that the lower the diffusion of the Internet in a given country, the higher the education level among respondents in that country:

- Belgium (55.6%), Spain (53.7%), France (45%), Sweden (42%) and the United Kingdom (44%) stand out in terms of participating citizens with a university education;
- Austria (29%), Denmark (45%) and Finland (46%) stand out in terms of a greater relative presence of lower education levels, much higher than in their general population.
3.6 Labour position

With respect to entry into the workplace, more than half of the sampled population (58%) were employed or self-employed, 10% unemployed, 14% were students and 18% were not part of the labour force for different motives.

Base: Whole sample.
On a per-country basis, the high employment ratios in Estonia (73%), France (63%) and Sweden (62%) stand out. On the other hand, and in tune with the data for the country as a whole, 20% of the people sampled in Spain are unemployed. By job category, office clerks (19%), customer services clerks (10%), personal and social services (7%), associate professionals (6%) and small enterprise managers (6%) stand out.

**Figure 17: Labour position (E6) by country**

![Bar chart showing labour position by country](image)

Base: Whole sample.

### 3.7 Type of location

With respect to the urban density of the sampled population, the following distribution is worth indicating: 39% live in densely populated areas, 39% in intermediate size cities, and 22% in thinly populated areas.
The samples in Estonia (65%), Spain (59%), Italy (46%), Holland (44%) and Sweden (49%) stand out for the significant proportion of citizens who live in densely populated areas.

Base: Whole sample.

Figure 18: Type of locality (E9)

Base: Whole sample.

Figure 19: Type of locality (E9) by country

Base: Whole sample.
3.8 Members in the household

Around a third of the sampled population (31%) live in 2-member households, and 32% live in a household with 4 or more members. 16% of the citizens sampled live in single-parent households, and 22% in households with 3 members.

Figure 20: Members in the household (E19)

On a per-country basis, there are households with many members in Estonia (39%), Spain (45%), Italy (45%), Slovakia (50%) and Slovenia (47%). In turn, the Scandinavian countries, particularly Denmark and Finland, fewer member households are more prevalent than the sample average.

Figure 21: Members in the household (E19) by country

Base: Whole sample.
3.9 Socio-demographic comparison: Internet users (sample) and population

To be fully transparent a comparison of socio-demographic characteristics between our sample of Internet users and population has been carried out. As it was expected Internet users are more likely than the general population of 14 EU countries surveyed to be younger, have higher levels of education; and be employed.

Table 11: Socio-demographic comparison

|                     | Sample | Population |
|---------------------|--------|------------|
| **Gender**          |        |            |
| Male                | 52     | 50         |
| Female              | 48     | 50         |
| **Age group**       |        |            |
| 16-24               | 20     | 29         |
| 25-54               | 62     | 56         |
| 55-74               | 18     | 29         |
| **Country of birth**|        |            |
| Native              | 93     | 77         |
| Born in another EU member state | 4 | 7 |
| Born in non-EU country | 4 | 16 |
| **Level of education completed** |        |            |
| Primary or lower secondary education | 15 | 34 |
| Upper secondary education | 46 | 43 |
| Tertiary education | 39     | 23         |
| **Situation**       |        |            |
| Employed or self-employed | 58 | 58 |
| Unemployed          | 10     | 6          |
| Other               | 32     | 36         |
| **Type of locality**|        |            |
| Densely-populated area | 39 | 52 |
| Intermediate area   | 39     | 30         |
| Thinly-populated area | 22 | 18 |

Base: Whole sample  
Source: EUROSTAT population.

The same comparison has been also carried out by country. It is worth pointing out that the differences are even more accentuated: the lowest the level of Internet use, the highest the differences.
| Gender       | Sample | Population |
|--------------|--------|------------|
| Male         | 53     | 50         |
| Female       | 47     | 50         |
| Age group    |        |            |
| 16-24        | 20     | 16         |
| 25-54        | 65     | 57         |
| 55-74        | 15     | 27         |
| Level of education completed |       |            |
| Primary or lower secondary education | 29     | 25         |
| Upper secondary education | 48     | 59         |
| Tertiary education | 24     | 16         |
| Situation    |        |            |
| Employed or self-employed | 61     | 64         |
| Unemployed   | 7      | 3          |
| Other        | 32     | 33         |
| Type of locality |       |            |
| Densely-populated area | 42     | 36         |
| Intermediate area | 25     | 25         |
| Thinly-populated area | 33     | 39         |

Base: Whole sample  
Source: EUROSTAT population.
### Table 13: Socio-demographic comparison by country (II)

|                  | FR     | IT     | NL     | SE     | SL     | SK     | UK     |
|------------------|--------|--------|--------|--------|--------|--------|--------|
| **Gender**       | Sample | Population | Sample | Population | Sample | Population | Sample | Population | Sample | Population | Sample | Population | Sample | Population |
| Male             | 50     | 49     | 54     | 49     | 51     | 50     | 51     | 51     | 52     | 51     | 51     | 49     | 50     | 50     |
| Female           | 50     | 51     | 46     | 51     | 49     | 49     | 49     | 49     | 48     | 49     | 49     | 51     | 50     | 50     |
| **Age group**    | Sample | Population | Sample | Population | Sample | Population | Sample | Population | Sample | Population | Sample | Population | Sample | Population |
| 16-24            | 21     | 17     | 21     | 13     | 18     | 16     | 19     | 18     | 21     | 14     | 24     | 18     | 21     | 18     |
| 25-54            | 60     | 55     | 67     | 57     | 60     | 55     | 56     | 52     | 67     | 57     | 65     | 58     | 59     | 55     |
| 55-74            | 19     | 28     | 12     | 30     | 22     | 29     | 25     | 30     | 12     | 28     | 11     | 25     | 20     | 27     |
| **Level of education completed** | Sample | Population | Sample | Population | Sample | Population | Sample | Population | Sample | Population | Sample | Population | Sample | Population |
| Primary or lower secondary education | 14 | 35 | 11 | 51 | 19 | 34 | 10 | 27 | 17 | 23 | 15 | 18 | 12 | 25 |
| Upper secondary education | 42 | 41 | 55 | 37 | 51 | 39 | 48 | 45 | 49 | 58 | 51 | 68 | 44 | 44 |
| Tertiary education | 45 | 25 | 34 | 12 | 30 | 27 | 42 | 28 | 34 | 20 | 34 | 15 | 44 | 31 |
| **Situation**    | Sample | Population | Sample | Population | Sample | Population | Sample | Population | Sample | Population | Sample | Population | Sample | Population |
| Employed or self-employed | 62 | 57 | 58 | 50 | 45 | 67 | 63 | 66 | 56 | 58 | 59 | 55 | 57 | 63 |
| Unemployed       | 7      | 5      | 12     | 4      | 14     | 3      | 7      | 6      | 13     | 5      | 10     | 8      | 11     | 5      |
| Other            | 31     | 37     | 30     | 45     | 41     | 30     | 30     | 28     | 31     | 37     | 31     | 37     | 32     | 32     |
| **Type of locality** | Sample | Population | Sample | Population | Sample | Population | Sample | Population | Sample | Population | Sample | Population | Sample | Population |
| Densely-populated area | 28 | 47 | 46 | 44 | 44 | 65 | 49 | 21 | 30 | 19 | 38 | 27 | 33 | 80 |
| Intermediate area | 37 | 35 | 46 | 40 | 36 | 33 | 30 | 16 | 35 | 37 | 38 | 32 | 49 | 16 |
| Thinnely-populated area | 35 | 18 | 8 | 16 | 20 | 2 | 21 | 63 | 35 | 44 | 24 | 41 | 18 | 4 |

Base: Whole sample  
Source: EUROSTAT population.
Overall, the European population is in a favourable state of health. Around three-quarters of the sample (74%) state they are in a good state of health, 18% state that it is neither good nor bad, and 7% of the sample population state that they are in a poor state of health.

Poor state of health is associated with the older population (11%); the population with lower education levels (10.7%); the unemployed (9.5%) and inactive (17%); the population living in thinly populated areas (8.3%); single parent households (12%); and long-standing patients (17%). On the other hand, a positive state of health is related to men (76%); young people (88%); a university education (78%); entrepreneurs and the self-employed (78%), students (87%); the population living in densely populated areas (75%); households with several members; and the absence of long-standing illness (92%).
Table 14: Health status (A4) by socio-demographics

| A4. How is your health in general? | Bad | Neither good or bad | Good |
|-----------------------------------|-----|---------------------|------|
| **Gender**                        |     |                     |      |
| Male                              | 7   | 18                  | 76*  |
| Female                            | 8*  | 19*                 | 73   |
| **Age group**                     |     |                     |      |
| 16-24                             | 3   | 10                  | 88*  |
| 25-54                             | 8*  | 18                  | 74   |
| 55-74                             | 11* | 28*                 | 61   |
| **Level of education completed**  |     |                     |      |
| Primary or lower secondary education | 11* | 23*                 | 67   |
| Upper secondary education         | 7   | 19                  | 74   |
| Tertiary education                | 6   | 16                  | 78*  |
| **Situation**                     |     |                     |      |
| Employed or self-employed         | 5   | 17                  | 78*  |
| Unemployed                        | 10* | 23*                 | 68   |
| Student                           | 3   | 10                  | 87*  |
| Other not in the labour force     | 17* | 28*                 | 54   |
| **Type of locality**              |     |                     |      |
| Densely-populated area            | 7   | 18                  | 75*  |
| Intermediate area                 | 7   | 19                  | 74   |
| Thinly-populated area             | 8*  | 18                  | 73   |
| **Members in the household**      |     |                     |      |
| 1                                 | 12* | 22*                 | 66   |
| 2                                 | 8*  | 19                  | 73   |
| 3                                 | 7   | 19                  | 75*  |
| 4+                                | 5   | 16                  | 79*  |
| **Long standing illness**         |     |                     |      |
| Yes                               | 17* | 33*                 | 50   |
| No                                | 1   | 7                   | 92*  |

Base: Whole sample.

Among those countries sampled, Spain (82%), France (81%) and Slovakia (82%) stand out as having good states of health, whereas in Germany (11%), Denmark (12%) and Holland (10%), the worst states of health are clearly seen to be above the sample average.
However, more than half of the sampled population (56%) stated that they have (or have had) a long-standing illness or health problem.
Through an analysis of descriptive statistics, it is possible to link the long-standing illnesses or health problems to women (42% of the total); the older population (62% of citizens aged 55 to 74 years old); the lower level of education; unemployment (44%) and inactivity (64%); the poor state of health (92%); and households with few members. On the other hand, the absence of a long-standing illness or health problems are associated with men (58%), the young (71%), a university education (60%), self-employment and entrepreneurs (60%), a good state of health overall (70%), and larger households.

**Table 15: Long-standing illness of health problem (A5) by socio-demographics**

|                        | Yes  | No   | Don’t Know |
|------------------------|------|------|------------|
| **Gender**             |      |      |            |
| Male                   | 39   | 58*  | 3          |
| Female                 | 42*  | 55   | 3          |
| **Age group**          |      |      |            |
| 16-24                  | 23   | 71*  | 6          |
| 25-54                  | 40   | 57*  | 3          |
| 55-74                  | 62*  | 35   | 3          |
| **Level of education completed** |      |      |            |
| Primary or lower secondary education | 44* | 52  | 4          |
| Upper secondary education | 42* | 55  | 3          |
| Tertiary education     | 37   | 59*  | 4          |
| **Situation**          |      |      |            |
| Employed or self-employed | 37  | 60*  | 3          |
| Unemployed             | 44*  | 51   | 5          |
| Student                | 24   | 71*  | 5          |
| Other not in the labour force | 64* | 34  | 2          |
| **Health status**      |      |      |            |
| Bad                    | 93*  | 5    | 2          |
| Neither good or bad    | 73   | 22   | 5          |
| Good                   | 27   | 70*  | 3          |
| **Members in the household** |   |      |            |
| 1                      | 47*  | 49   | 4          |
| 2                      | 45*  | 52   | 3          |
| 3                      | 39   | 58*  | 3          |
| 4+                     | 34   | 62*  | 4          |

Base: Whole sample.

On a per-country basis, the existence of long-standing illness and health problems is more frequent in Germany (48%), Denmark (45%) and Finland (45%), whilst the absence of long-standing illness and health problems is more prevalent in Belgium (63%), France (65%), Italy (61%) and Slovakia (59%).
It is also worth highlighting that 65% of the sampled population state that they have undergone a long-term medical treatment.
Again, women, the older population, lower education levels, the inactive, those residing in thinly populated areas, households with few members, a poor state of health and the existence of long-standing illnesses are statistically linked with long term medical treatments.

Table 16: Long-term medical treatment (A6) by socio-demographics

|                          | Yes  | No   | Don’t Know |
|--------------------------|------|------|------------|
| **Gender**               |      |      |            |
| Male                     | 32   | 67*  | 1          |
| Female                   | 35*  | 64   | 1          |
| **Age group**            |      |      |            |
| 16-24                    | 16   | 82*  | 2          |
| 25-54                    | 32   | 67*  | 1          |
| 55-74                    | 59*  | 40   | 1          |
| **Level of education completed** |      |      |            |
| Primary or lower secondary education | 39* | 59   | 1          |
| Upper secondary education | 35* | 65   | 1          |
| Tertiary education        | 31   | 68*  | 1          |
| **Situation**            |      |      |            |
| Employed or self-employed| 30   | 69*  | 1          |
| Unemployed                | 35   | 63   | 1          |
| Student                   | 17   | 82*  | 2          |
| Other not in the labour force | 60* | 39   | 1          |
| **Type of locality**     |      |      |            |
| Densely-populated area   | 33   | 66*  | 1          |
| Intermediate area        | 34   | 65   | 1          |
| Thinly-populated area    | 36*  | 63   | 1          |
| **Members in the household** |    |      |            |
| 1                        | 39*  | 60   | 1          |
| 2                        | 39*  | 60   | 1          |
| 3                        | 32   | 68*  | 1          |
| 4+                       | 27   | 72*  | 1          |
| **Health status**        |      |      |            |
| Bad                      | 84*  | 15   | 1          |
| Neither good or bad      | 61*  | 38   | 2          |
| Good                     | 22   | 77*  | 1          |
| **Long standing illness**|      |      |            |
| Yes                      | 72*  | 27   | 1          |
| No                       | 7    | 93*  | 0          |

Base: Whole sample.
Germany (40% of the total), Spain (34%), Sweden (36%) and the United Kingdom (35%) stand out for having a greater relative population on long-term medical treatments.

Figure 27: Long-term medical treatment (A6) by country

In the same way, 36% of the sampled population state that their regular life has been severely restricted due to a health problem.

Figure 28: Limited in activities people normally do due to a health problem (A7)
This severe restriction to normal life as a result of a health problem is linked with the older population, lower education levels, unemployment and inactivity, thinly populated areas, households with few members, a poor state of health and the presence of long-standing illnesses.

**Table 17: Limited in activities people normally do, because of a health problem (A7)**

|                        | Severely limited | Somewhat limited | Not limited at all |
|------------------------|------------------|------------------|--------------------|
| **Gender**             |                  |                  |                    |
| Male                   | 8                | 35               | 57                 |
| Female                 | 8                | 37               | 55                 |
| **Age group**          |                  |                  |                    |
| 16-24                  | 4                | 34               | 62*                |
| 25-54                  | 9*               | 35               | 57*                |
| 55-74                  | 11*              | 42*              | 47                 |
| **Level of education completed** |                  |                  |                    |
| Primary or lower secondary education | 12*              | 40*              | 49                 |
| Upper secondary education | 9*               | 36               | 55                 |
| Tertiary education     | 6                | 34               | 60*                |
| **Situation**          |                  |                  |                    |
| Employed or self-employed | 6                | 34               | 60*                |
| Unemployed             | 10*              | 36               | 53                 |
| Student                | 4                | 35               | 61*                |
| Other not in the labour force | 18*              | 42*              | 40                 |
| **Type of locality**   |                  |                  |                    |
| Densely-populated area | 7                | 35               | 57*                |
| Intermediate area      | 8                | 36               | 56                 |
| Thinly-populated area  | 10*              | 36               | 54                 |
| **Members in the household** |                  |                  |                    |
| 1                      | 12*              | 38               | 50                 |
| 2                      | 9*               | 37               | 55                 |
| 3                      | 7                | 35               | 58*                |
| 4+                     | 6                | 35               | 59*                |
| **Health status**      |                  |                  |                    |
| Bad                    | 50*              | 46*              | 5                  |
| Neither good or bad    | 13*              | 60*              | 27                 |
| Good                   | 3                | 29               | 68*                |
| **Long standing illness** |                 |                  |                    |
| Yes                    | 17*              | 52*              | 31                 |
| No                     | 2                | 23               | 75*                |

Base: Whole sample.
The countries with the greatest limitations on normal life as a result of health problems are Austria (42%), Germany (46%) and Estonia (45%).

Figure 29: Limited in activities people normally do due to a health problem (A7) by country

A7. Over the past 6 months, to what extent, if at all, have you been limited in activities people normally do, because of a health problem. Would you say you have been...?,

- Severely limited
- Somewhat limited
- Not limited at all

Base: Whole sample.
Among the health issues most widely experienced by the sampled population, allergies (35.0% of the total), migraines and headaches (30%), muscle pains (24%), anxiety and depression (20%), hypertension (18%) and asthma (12%) stand out.

Figure 30: Health problems reported (A8)

In general, these health problems are statistically linked with the female population, the older population, low education levels, unemployment and inactivity, poor states of health and long-standing illnesses.
| Table 18: Health problems (A8) by socio-demographic | Allergy | Migraine or frequent headaches | Troubles muscles, bones, … | Chronic anxiety or depression | Hypertension | Asthma | Diabetes | Chronic bronchitis, … | Peptic ulcer | Cancer | Osteoporosis | Cataract | Stroke, cerebral haemorrhage |
|----------------------------------------------------|--------------|-------------------------------|---------------------------|-----------------------------|---------------|--------|-----------|-----------------------|--------------|--------|----------------|----------|-----------------------------|
| **Gender**                                        | Male         | 31                            | 22                        | 21                          | 16            | 20*    | 12        | 8*                    | 6            | 6*     | 3           | 2        | 2*                          |
|                                                   | Female       | 39*                           | 39*                       | 26*                         | 24*           | 15     | 13        | 5                    | 6            | 4      | 4*          | 4*       | 2*                          |
| **Age group**                                     | 16-24        | 44*                           | 34*                       | 11                          | 18            | 5      | 16*       | 2                    | 4            | 3      | 1           | 1        | 1*                          |
|                                                   | 25-54        | 36                            | 32*                       | 22                          | 21*           | 15     | 12        | 5                    | 6            | 5      | 3           | 2        | 1*                          |
|                                                   | 55-74        | 24                            | 20                        | 42                          | 18            | 41     | 9         | 16*                   | 8*           | 7*     | 9*          | 7*       | 8*                          |
| **Level of education completed**                  | Primary or lower secondary education | 30                            | 32                        | 29*                         | 23*           | 22*    | 11        | 9*                    | 7*           | 6*     | 5*          | 5*       | 3*                          |
|                                                   | Upper secondary education | 33                            | 31                        | 25*                         | 20            | 18*    | 12        | 6                    | 6*           | 5      | 4           | 3        | 3*                          |
|                                                   | Tertiary education | 39*                           | 29                        | 20                          | 19            | 15     | 13        | 6                    | 5            | 4      | 3           | 2        | 2*                          |
| **Situation**                                     | Employed or self-employed | 35                            | 29                        | 21                          | 17            | 16     | 11        | 5                    | 5            | 5      | 3           | 2        | 2*                          |
|                                                   | Unemployed Student | 36                            | 39*                       | 26*                         | 31*           | 18     | 14*       | 7                    | 8*           | 4      | 2           | 4*       | 3*                          |
|                                                   | Other not in the labour force | 28                            | 28                        | 43*                         | 28*           | 35*    | 11        | 14*                   | 9*           | 7*     | 9*          | 7*       | 6*                          |
| **Type of locality**                              | Densely-populated area | 38*                           | 31                        | 22                          | 21*           | 17     | 14        | 6                    | 7*           | 5*     | 4           | 3        | 2*                          |
|                                                   | Intermediate area | 34                            | 31                        | 23                          | 19            | 18     | 12        | 7                    | 5            | 4      | 4           | 2        | 2*                          |
|                                                   | Thinly-populated area | 32                            | 29                        | 27*                         | 19            | 20*    | 10        | 7                    | 4            | 5      | 4           | 4        | 2*                          |
| **Health status**                                 | Bad          | 39*                           | 46*                       | 59*                         | 50*           | 38*    | 22*       | 20*                   | 16*          | 11*    | 12*         | 12*      | 6*                          |
|                                                   | Neither good or bad | 35                            | 36*                       | 41*                         | 30*           | 30*    | 15*       | 13*                   | 10           | 7*     | 6           | 6*       | 3*                          |
|                                                   | Good         | 35                            | 27                        | 16                          | 15            | 13     | 10        | 4                    | 4            | 4      | 2           | 2        | 2*                          |
| **Long standing illness**                         | Yes          | 39*                           | 36*                       | 41*                         | 31*           | 31*    | 19*       | 14*                   | 9*           | 8*     | 7*          | 6*       | 4*                          |
|                                                   | No           | 32                            | 26                        | 11                          | 12            | 8      | 7         | 1                    | 3            | 3      | 2           | 1        | 1*                          |

Base: Whole sample.
On a per-country basis and main health issues, the high percentages of allergies in Finland and Sweden stand out (43% and 40% of the total respectively), migraines and headaches in Italy (40%), and chronic anxiety and depression in Spain (25%).

Table 19: Health problems (A8) by country

|                          | AT | BE | DE | DK | EE | ES | FI | FR | IT | NL | SE | SK | SL | UK |
|--------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Diabetes                 | 7  | 7  | 9  | 9  | 4  | 4  | 8  | 5  | 6  | 10 | 4  | 5  | 5  | 7  |
| An allergy               | 35 | 32 | 39 | 32 | 35 | 38 | 43 | 32 | 38 | 26 | 40 | 38 | 36 | 30 |
| Asthma                   | 8  | 7  | 11 | 14 | 4  | 13 | 14 | 11 | 11 | 11 | 14 | 7  | 8  | 16 |
| Hypertension             | 19 | 16 | 22 | 17 | 20 | 14 | 22 | 15 | 16 | 19 | 19 | 26 | 18 | 17 |
| Long-standing troubles with muscles, bones and joints | 19 | 29 | 26 | 29 | 26 | 21 | 21 | 20 | 25 | 26 | 23 | 23 | 13 | 24 |
| Cancer                   | 4  | 3  | 4  | 6  | 3  | 2  | 3  | 3  | 3  | 6  | 4  | 2  | 2  | 5  |
| Cataract                 | 3  | 2  | 2  | 4  | 1  | 2  | 3  | 1  | 3  | 3  | 4  | 3  | 2  | 3  |
| Migraine or frequent headaches | 29 | 30 | 31 | 28 | 29 | 30 | 29 | 32 | 40 | 25 | 26 | 28 | 21 | 26 |
| Chronic bronchitis, emphysema | 8  | 7  | 8  | 5  | 7  | 5  | 5  | 5  | 7  | 10 | 2  | 4  | 5  | 2  |
| Osteoporosis             | 4  | 4  | 3  | 4  | 2  | 3  | 3  | 3  | 4  | 5  | 1  | 5  | 2  | 3  |
| Stroke, cerebral haemorrhage | 2  | 1  | 2  | 3  | 1  | 2  | 0  | 2  | 4  | 4  | 2  | 1  | 1  | 2  |
| Peptic ulcer             | 7  | 7  | 6  | 7  | 11 | 5  | 4  | 3  | 4  | 5  | 8  | 5  | 7  | 4  |
| Chronic anxiety or depression | 19 | 21 | 19 | 20 | 21 | 25 | 17 | 21 | 19 | 19 | 15 | 16 | 14 | 20 |

Base: Whole sample.
4.2 Informal carers

With respect to long-standing illnesses or health disabilities, more than half, specifically 55% of the sampled European population indicate that someone close to them has these problems.

Figure 31: Someone close to you currently experience long-term illness or disability (A9)

The closeness of long-standing illnesses or health disabilities is associated with women, young people, students, densely populated areas and large households.

Table 20: Someone close to you, currently experiencing long-term illness or disability (A9) by socio-demographic

| Gender             | Yes | No  | Don’t know |
|--------------------|-----|-----|------------|
| Male               | 38  | 58* | 5          |
| Female             | 44* | 52  | 4          |

| Age group   | Yes | No  | Don’t know |
|-------------|-----|-----|------------|
| 16-24       | 46* | 48  | 7          |
| 25-54       | 40  | 56* | 4          |
| 55-74       | 37  | 59* | 4          |

| Level of education completed | Yes | No  | Don’t know |
|------------------------------|-----|-----|------------|
| Primary or lower secondary education | 42  | 52  | 6          |
| Upper secondary education    | 41  | 55  | 4          |
| Tertiary education           | 40  | 56  | 4          |

| Situation          | Yes | No  | Don’t know |
|--------------------|-----|-----|------------|
| Employed or self-employed | 39  | 58* | 3          |
| Unemployed         | 43  | 51  | 6          |
| Student            | 47* | 46  | 7          |
| Other not in the labour force | 42  | 54  | 4          |

| Type of locality     | Yes | No  | Don’t know |
|----------------------|-----|-----|------------|
| Densely-populated area | 43* | 53  | 4          |
| Intermediate area    | 40  | 56  | 4          |
| Thinly-populated area | 38  | 57  | 4          |

| Members in the household | Yes | No  | Don’t know |
|--------------------------|-----|-----|------------|
| 1                        | 37  | 58* | 5          |
| 2                        | 40  | 56* | 4          |
| 3                        | 43* | 53  | 4          |
| 4+                       | 42* | 53  | 5          |

Base: Whole sample.
On a per-country basis, this closeness is very clear in Denmark (47.2%), Estonia (50.1%), Finland (47.8%), Sweden (48.1%), Slovenia (54.5%) and Slovakia (49.0%).

Figure 32: Someone close to you currently experience long-term illness of disability (A9) by country

| Country | Yes | No | Don't answer |
|---------|-----|----|--------------|
| AT      | 4%  | 7% | 2%           |
| BE      | 62% | 59%| 2%           |
| DE      | 47% | 44%| 11%          |
| DK      | 39% | 44%| 8%           |
| EE      | 49% | 44%| 8%           |
| ES      | 43% | 44%| 8%           |
| FI      | 47% | 44%| 8%           |
| FR      | 46% | 44%| 8%           |
| IT      | 53% | 48%| 9%           |
| NL      | 47% | 44%| 8%           |
| SE      | 47% | 44%| 8%           |
| SK      | 46% | 44%| 8%           |
| SL      | 45% | 44%| 8%           |
| UK      | 44% | 44%| 8%           |

Base: Whole sample.

In the same way, around a third of the sampled European population (32%) take care of someone experience long-term illness or disability.

Figure 33: Taking care of a person experience long-term illness or disability (A10)

Base: A10 = Yes - 49% of whole sample.
The characterisation of those persons who take care of others, show us that this dependence situation is linked with the older population (38% of citizens between 55 and 74 years old care for another person) and inactivity (36%).

Table 21: Taking care of a person experience long-term illness or disability (A10) by socio-demographic

|                         | Yes | No  |
|-------------------------|-----|-----|
| **Gender**              |     |     |
| Male                    | 31  | 69  |
| Female                  | 33  | 67  |
| **Age group**           |     |     |
| 16-24                   | 28  | 72  |
| 25-54                   | 32  | 68  |
| 55-74                   | 38* | 62  |
| **Level of education completed** |     |     |
| Primary or lower secondary education | 28  | 72* |
| Upper secondary education | 33  | 67  |
| Tertiary education      | 33  | 67  |
| **Situation**           |     |     |
| Employed or self-employed | 32  | 68  |
| Unemployed              | 33  | 67  |
| Student                 | 26  | 74* |
| Other not in the labour force | 36* | 64  |
| **Type of locality**    |     |     |
| Densely-populated area  | 33  | 67  |
| Intermediate area       | 32  | 68  |
| Thinly-populated area   | 29  | 71  |
| **Members in the household** |     |     |
| 1                       | 12  | 88* |
| 2                       | 31  | 69  |
| 3                       | 33  | 67  |
| 4+                      | 40* | 60  |

Base: A10 = Yes, 49% of whole sample.
On a per-country basis, caring for a person stands out strongly in Estonia (52% of the total) and Italy (68%).

**Figure 34: Taking care of a person experience long-term illness or disability (A10) by country**

| Country | Yes | No |
|---------|-----|----|
| AT      | 81% | 15%|
| BE      | 66% | 34%|
| DE      | 83% | 17%|
| DK      | 85% | 15%|
| EE      | 48% | 52%|
| ES      | 62% | 38%|
| FI      | 61% | 39%|
| FR      | 74% | 26%|
| IT      | 64% | 36%|
| NL      | 86% | 14%|
| SE      | 73% | 27%|
| SK      | 76% | 24%|
| SL      | 61% | 39%|
| UK      | 61% | 39%|

Base: A10 = Yes 49% of whole sample

### 4.3 Health and social care demand

On average, the sampled population has been seen by a doctor 5.2 times during the previous twelve months, a doctor or nurse has provided home care, 0.65 times; and a social worker, 0.48 times.

**Figure 35: Health and social care demand (A1, A2, A3)**

| Question                                      | Value |
|-----------------------------------------------|-------|
| A1. How many times did you visit a doctor?    | 5,2   |
| A2. How many times have you received a doctor or a nurse at home? | 0,6 |
| A3. How many times have you visited or received a visit of a social care worker? | 0,5 |

Base: Whole sample.
With respect to the sample populations’ socio-demographic characteristics, it is worth mentioning the higher levels of medical care received by women (5.9 visits to the doctor during the last twelve months); the older population (6.12); the less educated population (5.6 visits among citizens with primary education); the inactive population (7.29); the densely populated areas (5.26); the citizens in a poor state of health (13.9 visits to the doctor by the section of the population in poor health); and the citizens with long-standing illnesses (7.89).

On a per-country basis, the higher levels of medical care in Denmark (around an average of 2 visits to the doctor in the last twelve months), Holland (1.45), Belgium (an average of 2.7 home medical visits) and France (1.71) stand out. Conversely, the lower levels of care occur in Estonia, Slovenia and Slovakia.

Table 22: Health and social care demand (A1, A2, A3) by socio-demographic

|                      | Average - visit a doctor during the last 12 months | Average - received a doctor or a nurse at home | Average visit or received a visit of a social care worker |
|----------------------|---------------------------------------------------|-----------------------------------------------|----------------------------------------------------------|
| **Gender**           |                                                   |                                               |                                                          |
| Male                 | 4.54                                              | .59                                           | .53                                                      |
| Female               | 5.90                                              | .71                                           | .41                                                      |
| **Age group**        |                                                   |                                               |                                                          |
| 16-24                | 4.03                                              | .52                                           | .32                                                      |
| 25-54                | 5.31                                              | .60                                           | .52                                                      |
| 55-74                | 6.12                                              | .95                                           | .49                                                      |
| **Level of education completed** |                                                   |                                               |                                                          |
| Primary or lower secondary education | 5.64 | .83 | .51 |
| Upper secondary education | 5.23 | .56 | .55 |
| Tertiary education | 5.00 | .68 | .37 |
| **Situation**        |                                                   |                                               |                                                          |
| Employed or self-employed | 4.79 | .53 | .31 |
| Unemployed           | 5.47                                              | .53                                           | .76                                                      |
| Student              | 4.12                                              | .37                                           | .37                                                      |
| Other not in the labour force | 7.29 | 1.32 | .95 |
| **Type of locality** |                                                   |                                               |                                                          |
| Densely-populated area | 5.26 | .51 | .47 |
| Intermediate area    | 5.20                                              | .73                                           | .42                                                      |
| Thinly-populated area | 5.09 | .74 | .59 |
| **Members in the household** |                                                   |                                               |                                                          |
| 1                    | 5.36                                              | .86                                           | .95                                                      |
| 2                    | 5.47                                              | .50                                           | .28                                                      |
| 3                    | 5.12                                              | .64                                           | .37                                                      |
| 4+                   | 4.91                                              | .68                                           | .50                                                      |
| **Health status**    |                                                   |                                               |                                                          |
| Bad                  | 13.92                                             | 1.83                                          | 1.55                                                     |
| Neither good or bad  | 7.36                                              | 1.16                                          | .88                                                      |
| Good                 | 3.81                                              | .40                                           | .27                                                      |
| **Long standing illness** |                                               |                                               |                                                          |
| Yes                  | 7.89                                              | .99                                           | .74                                                      |
| No                   | 3.31                                              | .39                                           | .30                                                      |

Base: Whole sample.
4.4 Quality of care

With respect to the specific uses of medical services undertaken by doctors or nurses on the sample population, it is worth indicating that:

- 61% of participants state that they always or very frequently have the results of medical exams explained to them;
- 52% state that they always or very frequently have the different treatment options explained to them by the healthcare professionals; and
- 54% state that the healthcare professionals always or very frequently listen to their opinions and take their preferences into account.

Figure 36: In general, how often does your usual source of care (doctor or nurse)... (A11)

These favourable opinions about the relationship between the healthcare professional and the patients are statistically linked by some of patient’s socio-demographic characteristics. In particular, being older, having a university education, being in self-employed or an entrepreneur, from the more densely populated areas, in poor state of health and having a long-standing illness.
Table 23: In general, how often does your usual source of care (doctor or nurse)... (A11) by socio-demographic

| % Often and Always | explain to you the results of medical exams? | explain to you different treatment options? | listen to your opinion and take your preferences into account to choose treatments? |
|--------------------|---------------------------------------------|------------------------------------------------|-----------------------------------------------------------------------------------|
| Gender             |                                             |                                                |                                                                                  |
| Male               | 60                                          | 52                                             | 53                                                                                |
| Female             | 60                                          | 51                                             | 55                                                                                |
| Age group          |                                             |                                                |                                                                                  |
| 16-24              | 53                                          | 46                                             | 51                                                                                |
| 25-54              | 60                                          | 51                                             | 53                                                                                |
| 55-74              | 69*                                         | 60                                             | 60                                                                                |
| Level of education completed |                              |                                                |                                                                                  |
| Primary or lower secondary education | 58                                           | 49                                             | 52                                                                                |
| Upper secondary education | 59                                           | 51                                             | 52                                                                                |
| Tertiary education  | 62*                                         | 53                                             | 57*                                                                               |
| Situation          |                                             |                                                |                                                                                  |
| Employed or self-employed | 60*                                        | 51                                             | 53                                                                                |
| Unemployed         | 56                                          | 49                                             | 54                                                                                |
| Student            | 55                                          | 46                                             | 52                                                                                |
| Other not in the labour force | 69*                                        | 57*                                           | 59*                                                                               |
| Type of locality   |                                             |                                                |                                                                                  |
| Densely-populated area | 59                                          | 50                                             | 53                                                                                |
| Intermediate area  | 59                                          | 51                                             | 54                                                                                |
|Thinly-populated area  | 63*                                       | 53*                                           | 56*                                                                               |
| Members in the household |                          |                                                |                                                                                  |
| 1                  | 59                                          | 49                                             | 53                                                                                |
| 2                  | 62*                                         | 52                                             | 54                                                                                |
| 3                  | 60                                          | 52                                             | 54                                                                                |
| 4+                 | 59                                          | 52                                             | 55                                                                                |
| Health status      |                                             |                                                |                                                                                  |
| Bad                | 66*                                         | 54                                             | 56*                                                                               |
| Neither good or bad| 62                                          | 52                                             | 54                                                                                |
| Good               | 59                                          | 51                                             | 54                                                                                |
| Long standing illness |                                                       |                                                |                                                                                  |
| Yes                | 66*                                         | 57*                                           | 60*                                                                               |
| No                 | 57                                          | 48                                             | 50                                                                                |

Base: Whole sample.
On a per-country basis, the perception of service quality with respect to the patient-healthcare professional relationship is strongly evident in Belgium, Denmark, Spain and France.

**Figure 37:** In general, how often does your usual source of care (doctor or nurse) explain to you the results of medical exams (laboratory, radiology, etc.)? Base: Whole sample.
Figure 38: In general, how often does your usual source of care (doctor or nurse) explain to you different treatment options (A11) by country

A11. In general, how often does your usual source of care (doctor or nurse) explain to you different treatment options?

| Country | Never | Rarely | Sometimes | Often | Always |
|---------|-------|--------|-----------|-------|--------|
| AT      | 20%   | 35%    | 26%       | 34%   | 29%    |
| BE      | 24%   | 30%    | 23%       | 26%   | 27%    |
| DE      | 25%   | 30%    | 28%       | 34%   | 29%    |
| DK      | 16%   | 22%    | 15%       | 16%   | 14%    |
| EE      | 15%   | 8%     | 10%       | 9%    | 8%     |
| ES      | 15%   | 6%     | 10%       | 9%    | 5%     |
| FI      | 15%   | 6%     | 10%       | 9%    | 5%     |
| FR      | 15%   | 6%     | 10%       | 9%    | 5%     |
| IT      | 15%   | 6%     | 10%       | 9%    | 5%     |
| NL      | 15%   | 6%     | 10%       | 9%    | 5%     |
| SE      | 15%   | 6%     | 10%       | 9%    | 5%     |
| SK      | 15%   | 6%     | 10%       | 9%    | 5%     |
| SL      | 15%   | 6%     | 10%       | 9%    | 5%     |
| UK      | 15%   | 6%     | 10%       | 9%    | 5%     |

Base: Whole sample.

Figure 39: In general, how often does your usual source of care (doctor or nurse) listen to your opinion and take your preferences into account to choose treatments (A11) by country

A11. In general, how often does your usual source of care (doctor or nurse) listen to your opinion and take your preferences into account to choose treatments?

| Country | Never | Rarely | Sometimes | Often | Always |
|---------|-------|--------|-----------|-------|--------|
| AT      | 21%   | 36%    | 26%       | 34%   | 29%    |
| BE      | 23%   | 36%    | 26%       | 34%   | 29%    |
| DE      | 26%   | 36%    | 26%       | 34%   | 29%    |
| DK      | 14%   | 10%    | 13%       | 15%   | 11%    |
| EE      | 16%   | 6%     | 9%        | 7%    | 5%     |
| ES      | 16%   | 6%     | 9%        | 7%    | 5%     |
| FI      | 16%   | 6%     | 9%        | 7%    | 5%     |
| FR      | 16%   | 6%     | 9%        | 7%    | 5%     |
| IT      | 16%   | 6%     | 9%        | 7%    | 5%     |
| NL      | 16%   | 6%     | 9%        | 7%    | 5%     |
| SE      | 16%   | 6%     | 9%        | 7%    | 5%     |
| SK      | 16%   | 6%     | 9%        | 7%    | 5%     |
| SL      | 16%   | 6%     | 9%        | 7%    | 5%     |
| UK      | 16%   | 6%     | 9%        | 7%    | 5%     |

Base: Whole sample.
Individuals were also questioned on how often they ask their usual source of care (doctor or nurse) about their results of medical exams; the different treatment options and to consider their opinions.

- 59% of participants state that they always or very frequently asked about the results of medical exams;
- 52% state that they always or very frequently asked about the different treatment options; and
- 50% state they always or very frequently asked health professional to consider their opinions.

**Figure 40: In general, how often do you ask your usual source of care (doctor or nurse)…(A12)**

| A12. In general, how often do you ask your usual source of care (doctor or nurse)… |
|-----------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| to explain to you the results of the medical exams? | to explain to you the different treatment options? | to consider your opinion and your preferences when choosing treatments? |
| Never | Rarely | Sometimes | Often | Always | Never | Rarely | Sometimes | Often | Always | Never | Rarely | Sometimes | Often | Always |
| 33 | 26 | 22 | 10 | 9 | 28 | 26 | 12 | 13 | 11 | 24 | 26 | 27 |

Base: Whole sample.
These favourable opinions about the relationship between the healthcare professional and the patients are statistically linked by some of patient’s socio-demographic characteristics. In particular, being middle age, having a university education, being in a poor state of health and having a long-standing illness.

**Table 24: In general, how often do you ask your usual source of care (doctor or nurse)... (A12) by socio-demographic**

| % Often and Always | to explain to you the results of the medical exams? | to explain to you the different treatment options? | to consider your opinion and your preferences when choosing treatments? |
|--------------------|---------------------------------------------------|---------------------------------------------------|-------------------------------------------------------------------|
| **Gender**         |                                                   |                                                   |                                                                   |
| Male               | 58                                                | 52                                                | 48                                                                |
| Female             | 60*                                                | 56*                                                | 52*                                                               |
| **Age group**      |                                                   |                                                   |                                                                   |
| 16-24              | 52                                                | 48                                                | 45                                                                |
| 25-54              | 60*                                                | 54*                                                | 51*                                                               |
| 55-74              | 66*                                                | 59*                                                | 54*                                                               |
| **Level of education completed** |                                                   |                                                   |                                                                   |
| Primary or lower secondary education | 55                                                | 51                                                | 45                                                                |
| Upper secondary education | 59                                                | 53*                                                | 48                                                                |
| Tertiary education | 62*                                                | 56*                                                | 54*                                                               |
| **Situation**      |                                                   |                                                   |                                                                   |
| Employed or self-employed | 59*                                                | 53*                                                | 50                                                                |
| Unemployed         | 59*                                                | 55*                                                | 51                                                                |
| Student            | 52                                                | 48                                                | 44                                                                |
| Other not in the labour force | 66*                                                | 60*                                                | 55*                                                               |
| **Type of locality** |                                                  |                                                   |                                                                   |
| Densely-populated area | 60                                                | 55*                                                | 51                                                                |
| Intermediate area  | 59                                                | 53                                                | 49                                                                |
| Thinly-populated area | 60                                                | 54                                                | 50                                                                |
| **Members in the household** |                                             |                                                   |                                                                   |
| 1                  | 58                                                | 52                                                | 49                                                                |
| 2                  | 61                                                | 54                                                | 49                                                                |
| 3                  | 60                                                | 54                                                | 51                                                                |
| 4+                 | 58                                                | 54                                                | 51                                                                |
| **Health status**  |                                                   |                                                   |                                                                   |
| Bad                | 65*                                                | 58*                                                | 55*                                                               |
| Neither good or bad| 62*                                                | 58*                                                | 53*                                                               |
| Good               | 58                                                | 52                                                | 49                                                                |
| **Long standing illness** |                                               |                                                   |                                                                   |
| Yes                | 65*                                                | 60*                                                | 56*                                                               |
| No                 | 56                                                | 50                                                | 46                                                                |

Base: Whole sample.
Figure 41: In general, how often do you ask your usual source of care (doctor or nurse) to explain to you the results of the medical exams? (A12), by country

| Country | Never | Rarely | Sometimes | Often | Always |
|---------|-------|--------|-----------|-------|--------|
| AT      | 29%   | 23%    | 5%        | 25%   | 47%    |
| BE      | 22%   | 72%    | 2%        | 21%   | 4%     |
| DE      | 25%   | 27%    | 28%       | 21%   | 11%    |
| DK      | 25%   | 12%    | 8%        | 31%   | 7%     |
| EE      | 13%   | 6%     | 8%        | 28%   | 4%     |
| ES      | 22%   | 27%    | 28%       | 21%   | 11%    |
| FI      | 25%   | 27%    | 28%       | 21%   | 11%    |
| FR      | 25%   | 27%    | 28%       | 21%   | 11%    |
| IT      | 25%   | 27%    | 28%       | 21%   | 11%    |
| NL      | 25%   | 27%    | 28%       | 21%   | 11%    |
| SE      | 25%   | 27%    | 28%       | 21%   | 11%    |
| SK      | 25%   | 27%    | 28%       | 21%   | 11%    |
| SL      | 25%   | 27%    | 28%       | 21%   | 11%    |
| UK      | 25%   | 27%    | 28%       | 21%   | 11%    |

Base: Whole sample.

Figure 42: In general, how often do you ask your usual source of care (doctor or nurse) to explain to you the different treatment options? (A12), by country

| Country | Never | Rarely | Sometimes | Often | Always |
|---------|-------|--------|-----------|-------|--------|
| AT      | 25%   | 35%    | 19%       | 28%   | 39%    |
| BE      | 23%   | 35%    | 28%       | 32%   | 28%    |
| DE      | 26%   | 28%    | 28%       | 31%   | 26%    |
| DK      | 12%   | 26%    | 31%       | 25%   | 26%    |
| EE      | 14%   | 26%    | 31%       | 25%   | 26%    |
| ES      | 14%   | 26%    | 31%       | 25%   | 26%    |
| FI      | 16%   | 26%    | 31%       | 25%   | 26%    |
| FR      | 16%   | 26%    | 31%       | 25%   | 26%    |
| IT      | 16%   | 26%    | 31%       | 25%   | 26%    |
| NL      | 16%   | 26%    | 31%       | 25%   | 26%    |
| SE      | 16%   | 26%    | 31%       | 25%   | 26%    |
| SK      | 16%   | 26%    | 31%       | 25%   | 26%    |
| SL      | 16%   | 26%    | 31%       | 25%   | 26%    |
| UK      | 16%   | 26%    | 31%       | 25%   | 26%    |

Base: Whole sample.
Figure 43: In general, how often do you ask your usual source of care (doctor or nurse) to consider your opinion and your preferences when choosing treatments? (A12), by country

A12. In general, how often do you ask your usual source of care (doctor or nurse) to consider your opinion and your preferences when choosing treatments?

| Country | Never | Rarely | Sometimes | Often | Always |
|---------|-------|--------|-----------|-------|--------|
| AT      | 20%   | 21%    | 25%       | 28%   | 19%    |
| BE      | 22%   | 21%    | 27%       | 25%   | 19%    |
| DE      | 27%   | 29%    | 26%       | 22%   | 24%    |
| DK      | 14%   | 23%    | 15%       | 12%   | 9%     |
| EE      | 17%   | 8%     | 16%       | 11%   | 7%     |
| ES      | 20%   | 29%    | 26%       | 28%   | 19%    |
| FI      | 22%   | 27%    | 18%       | 11%   | 13%    |
| FR      | 15%   | 12%    | 10%       | 6%    | 9%     |
| IT      | 23%   | 21%    | 12%       | 11%   | 11%    |
| NL      | 25%   | 26%    | 25%       | 27%   | 19%    |
| SE      | 24%   | 26%    | 20%       | 16%   | 16%    |
| SK      | 19%   | 30%    | 26%       | 24%   | 23%    |
| SL      | 16%   | 12%    | 11%       | 12%   | 10%    |
| UK      | 24%   | 24%    | 23%       | 15%   | 10%    |

Base: Whole sample.
5. ICT ACCESS

5.1 Internet access and frequency of use

The use of the Internet and Information and Communication Technologies (ICT) are key for the advancement of the new uses in healthcare. This study also provides relevant information in this aspect. 93% of the surveyed population uses the Internet at home at least once a day, 42% do so at work, and 14% at least once a day in other locations.

Figure 44: Internet access and use (C1)
In terms of socio-demographic characteristics, the intensive uses of ICTs are statistically linked with men (64.4% of men use the Internet at least once a day at work), the youngest age group (70.7% of the sample population between 16 and 24 years old connects to the Internet away from the home and at work), a university education (73.2% of the participants with a university education use the Internet at work at least once a day), the student population and the population density.

Base: Whole sample.
Table 25: Internet access and use (C1) by socio-demographics

| At least once a month (%) | You use the Internet in your home | You use the Internet at your place of work | You use the Internet somewhere else |
|---------------------------|----------------------------------|------------------------------------------|-----------------------------------|
| **Gender**                |                                  |                                          |                                   |
| Male                      | 99                               | 64*                                      | 44*                               |
| Female                    | 99                               | 54                                       | 30                                |
| **Age group**             |                                  |                                          |                                   |
| 16-24                     | 99                               | 63*                                      | 71*                               |
| 25-54                     | 99                               | 66*                                      | 33                                |
| 55-74                     | 100*                             | 33                                       | 14                                |
| **Level of education completed** |                                  |                                          |                                   |
| Primary or lower secondary education | 99 | 38 | 28 |
| Upper secondary education  | 99                               | 54*                                      | 34                                |
| Tertiary education        | 99                               | 73                                       | 44*                               |
| **Situation**             |                                  |                                          |                                   |
| Employed or self-employed | 99                               | 77*                                      | 34                                |
| Unemployed                | 97                               | 29                                       | 30                                |
| Student                   | 99                               | 62                                       | 83*                               |
| Other not in the labour force | 100*                          | 15                                       | 14                                |
| **Type of locality**      |                                  |                                          |                                   |
| Densely-populated area    | 99                               | 65*                                      | 44*                               |
| Intermediate area         | 99                               | 57                                       | 35                                |
| Thinly-populated area     | 99                               | 52                                       | 27                                |
| **Members in the household** |                                  |                                          |                                   |
| 1                         | 98                               | 55                                       | 34                                |
| 2                         | 99*                              | 56                                       | 29                                |
| 3                         | 99                               | 63*                                      | 37                                |
| 4+                        | 99                               | 61                                       | 46*                               |
| **Health status**         |                                  |                                          |                                   |
| Bad                       | 99                               | 36                                       | 25                                |
| Neither good or bad       | 99*                              | 50                                       | 31                                |
| Good                      | 99                               | 64*                                      | 40*                               |
| **Long standing illness** |                                  |                                          |                                   |
| Yes                       | 99*                              | 52                                       | 30                                |
| No                        | 99                               | 64*                                      | 42*                               |

Base: Whole sample.
On a per-country basis and looking at Internet use, it is worth indicating the intensity of use whilst at work in Estonia (62%), Sweden (56%) and Slovenia (55%).

### Table 26: Internet access and use at home (C1) by country

| (%) | AT | BE | DE | DK | EE | ES | FI | FR | IT | NL | SE | SK | SL | UK |
|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Never | 1  | 1  | 0  | 0  | 0  | 1  | 1  | 0  | 1  | 2  | 1  | 0  | 0  | 1  |
| Less than once a month | 0  | 1  | 0  | 1  | 1  | 0  | 1  | 0  | 0  | 1  | 0  | 0  | 0  | 0  |
| At least once a month (but not every week) | 1  | 2  | 1  | 2  | 1  | 1  | 2  | 2  | 1  | 0  | 0  | 1  | |
| At least once a week (but not every day) | 8  | 6  | 3  | 5  | 6  | 4  | 6  | 5  | 7  | 5  | 5  | 4  | 3  | 4  |
| Every day or almost every day | 90 | 91 | 95 | 92 | 92 | 92 | 94 | 89 | 89 | 93 | 95 | 96 | 95 | |

Base: Whole sample.

### Table 27: Internet access and use at work (C1) by country

| (%) | AT | BE | DE | DK | EE | ES | FI | FR | IT | NL | SE | SK | SL | UK |
|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Never | 32 | 44 | 33 | 40 | 20 | 32 | 30 | 39 | 31 | 54 | 26 | 32 | 28 | 47 |
| Less than once a month | 4  | 4  | 4  | 4  | 5  | 3  | 7  | 4  | 3  | 4  | 2  | 5  | 4  | 3  |
| At least once a month (but not every week) | 4  | 4  | 6  | 6  | 3  | 5  | 5  | 5  | 4  | 4  | 4  | 4  | 3  | 2  |
| At least once a week (but not every day) | 12 | 12 | 15 | 10 | 10 | 12 | 13 | 11 | 14 | 10 | 13 | 13 | 10 | 11 |
| Every day or almost every day | 49 | 36 | 43 | 41 | 62 | 47 | 46 | 41 | 49 | 28 | 55 | 46 | 55 | 37 |

Base: Whole sample.
Table 28: Internet access and use somewhere else (C1) by country

| (%)                      | AT | BE | DE | DK | EE | ES | FI | FR | IT | NL | SE | SK | SL | UK |
|--------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Never                    | 43 | 51 | 39 | 43 | 27 | 33 | 32 | 49 | 40 | 57 | 40 | 38 | 33 | 50 |
| Less than once a month   | 22 | 19 | 23 | 20 | 26 | 19 | 31 | 18 | 14 | 13 | 24 | 22 | 23 | 21 |
| At least once a month    | 12 | 8  | 12 | 8  | 12 | 13 | 11 | 9  | 10 | 7  | 9  | 11 | 12 | 8  |
| (but not every week)     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| At least once a week     | 12 | 12 | 15 | 10 | 12 | 15 | 12 | 12 | 15 | 11 | 13 | 14 | 12 | 12 |
| (but not every day)      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Every day or almost      | 11 | 10 | 12 | 20 | 23 | 20 | 14 | 12 | 21 | 12 | 15 | 16 | 20 | 10 |
| every day                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

Base: Whole sample.

5.2 Internet-related activities

With respect to Internet based activities, the sampled population mainly uses it to search for information (67.6% every day), sending e-mails with attachments (40.6%), online banking (20.3%), social networks (38.6%) and instant messaging (22.8%).

Figure 45: Internet activities (C2)

C2. Which of the following Internet related activities have you already carried out?
- Never
- Less than once a month
- At least once a month (but not every week)

Base: Whole sample.
As with the general situation, the main uses of the Internet are linked with the male gender, the youngest age groups, a university education, self-employment and entrepreneurs, studying, population density and a good state of health.

To be fully transparent a comparison between Internet activities performed by individuals in our sample and Internet activities reported by a representative sample of EU27 population was carried out (see Annex 4. Internet activities comparison). The results of this comparison reveals that our sample is composed by slightly advance Internet users: the less the diffusion of the Internet by country the higher the differences.
Table 29: Internet activities (C2) by socio-demographics

| At least once a month (%) | Use a search engine to find information | Send e-mails with attached files | Post messages to chatrooms, newsgroups or an online discussion forum | Use the Internet to make telephone calls | Use peer-to-peer file sharing for exchanging movies, music, etc | Create a web page | Use websites to share pictures, videos, movies, etc | Use a social networking site |
|---------------------------|----------------------------------------|----------------------------------|-----------------------------------------------------------------|----------------------------------------|---------------------------------------------------------------|---------------------|--------------------------------------------------|-----------------------------|
| Gender                    | Male                                   | 97*                              | 90*                                                             | 50*                                    | 38*                                                          | 32*                 | 22*                                                              | 47*                          | 68*                          |
|                           | Female                                  | 97                               | 88                                                              | 43                                     | 28                                                           | 19                  | 12                                                               | 43                           | 68*                          |
| Age group                 | 16-24                                   | 96                               | 88                                                              | 63*                                    | 41*                                                          | 41*                 | 25*                                                              | 68*                          | 88*                          |
|                           | 25-54                                   | 97*                              | 90*                                                             | 47                                     | 31                                                           | 25*                 | 17*                                                              | 43                           | 68*                          |
|                           | 55-74                                   | 96                               | 87                                                              | 29                                     | 30                                                           | 11                  | 10                                                               | 27                           | 46                           |
| Level of education        | Primary or lower secondary education    | 95                               | 79                                                              | 45                                     | 27                                                           | 22                  | 16                                                               | 41                           | 63                           |
| completed                 | Upper secondary education              | 96                               | 88                                                              | 47                                     | 31                                                           | 26*                 | 16                                                               | 45                           | 67                           |
|                           | Tertiary education                      | 98*                              | 95*                                                             | 48                                     | 37*                                                          | 27*                 | 19*                                                              | 47*                          | 71*                          |
| Situation                 | Employed or self-employed              | 98*                              | 92*                                                             | 46                                     | 34*                                                          | 26                  | 19*                                                              | 44                           | 67                           |
|                           | Unemployed                               | 96                               | 85                                                              | 51                                     | 28                                                           | 28                  | 15                                                               | 45                           | 72                           |
|                           | Student                                  | 96                               | 88                                                              | 62*                                    | 40*                                                          | 39*                 | 22*                                                              | 67*                          | 88*                          |
|                           | Other not in the labour force           | 96                               | 84                                                              | 35                                     | 26                                                           | 12                  | 10                                                               | 31                           | 51                           |
| Type of locality          | Densely-populated area                  | 97                               | 91                                                              | 51*                                    | 36*                                                          | 30*                 | 20*                                                              | 50*                          | 71*                          |
|                           | Intermediate area                       | 97                               | 88                                                              | 47                                     | 32                                                           | 25                  | 17                                                               | 44                           | 69*                          |
|                           | Thinly-populated area                   | 97                               | 88                                                              | 39                                     | 28                                                           | 19                  | 13                                                               | 38                           | 60                           |
| Health status             | Bad                                      | 96                               | 85                                                              | 46                                     | 28                                                           | 17                  | 13                                                               | 38                           | 62                           |
|                           | Neither good or bad                      | 97                               | 86                                                              | 47                                     | 31                                                           | 23                  | 15                                                               | 41                           | 63                           |
|                           | Good                                     | 97                               | 90*                                                             | 47                                     | 34*                                                          | 27*                 | 18*                                                              | 47*                          | 70*                          |
| Long standing illness     | Yes                                      | 97*                              | 89                                                              | 46                                     | 32                                                           | 23                  | 15                                                               | 42                           | 65                           |
|                           | No                                       | 97                               | 89                                                              | 47                                     | 33*                                                          | 28*                 | 18*                                                              | 47*                          | 70*                          |

Base: Whole sample.
Table 30: Internet activities (C2) by socio-demographics

At least once a month (%)

|                                    | Purchase goods or services online / online shopping | Keep a blog | Instant messaging, chat websites | Do home banking | Use online software | Use the Internet through your mobile phone | Online gaming and/or playing games console |
|------------------------------------|---------------------------------------------------|-------------|-----------------------------------|-----------------|--------------------|------------------------------------------|-----------------------------------------|
| Gender                             |                                                   |             |                                   |                 |                    |                                          |                                         |
| Male                               | 68*                                               | 24*         | 55*                               | 79*             | 57*                | 47*                                      | 51*                                     |
| Female                             | 63                                                | 19          | 51                                | 72              | 44                 | 35                                       | 46                                      |
| Age group                          |                                                   |             |                                   |                 |                    |                                          |                                         |
| 16-24                              | 66                                                | 34*         | 77*                               | 66              | 61*                | 61*                                      | 65*                                     |
| 25-54                              | 67*                                               | 20          | 51*                               | 78*             | 49                 | 41                                       | 49                                      |
| 55-74                              | 58                                                | 13          | 35                                | 77              | 42                 | 19                                       | 30                                      |
| Level of education completed       |                                                   |             |                                   |                 |                    |                                          |                                         |
| Primary or lower secondary education| 57                                                | 20          | 50                                | 70              | 47                 | 34                                       | 53*                                     |
| Upper secondary education          | 65                                                | 22          | 53                                | 74              | 48                 | 39                                       | 51                                      |
| Tertiary education                 | 69*                                               | 22          | 54                                | 80*             | 54*                | 46*                                      | 45                                      |
| Situation                          |                                                   |             |                                   |                 |                    |                                          |                                         |
| Employed or self-employed          | 70*                                               | 20          | 51                                | 81*             | 51                 | 45                                       | 48                                      |
| Unemployed                         | 51                                                | 21          | 58                                | 64              | 44                 | 34                                       | 55                                      |
| Student                            | 65*                                               | 33*         | 76*                               | 63              | 61*                | 56*                                      | 62*                                     |
| Other not in the labour force      | 59                                                | 14          | 39                                | 73              | 41                 | 21                                       | 38                                      |
| Type of locality                   |                                                   |             |                                   |                 |                    |                                          |                                         |
| Densely-populated area             | 66                                                | 23*         | 57*                               | 76              | 55*                | 47                                       | 51                                      |
| Intermediate area                  | 64                                                | 22          | 53                                | 75              | 49                 | 41                                       | 50                                      |
| Thinly-populated area              | 67                                                | 16          | 47                                | 76              | 45                 | 31                                       | 44                                      |
| Health status                      |                                                   |             |                                   |                 |                    |                                          |                                         |
| Bad                                | 70*                                               | 18          | 49                                | 77              | 45                 | 31                                       | 45                                      |
| Neither good or bad                | 63                                                | 20          | 50                                | 76              | 48                 | 36                                       | 49                                      |
| Good                               | 66                                                | 22          | 54                                | 76              | 51*                | 43*                                      | 49                                      |
| Long standing illness              |                                                   |             |                                   |                 |                    |                                          |                                         |
| Yes                                | 66                                                | 19          | 49                                | 77              | 49                 | 36                                       | 46                                      |
| No                                 | 65                                                | 23*         | 56*                               | 75              | 51                 | 45*                                      | 50*                                     |

Base: Whole sample.
| At least once a month (%) | AT | BE | DE | DK | EE | ES | FI | FR | IT | NL | SE | SK | SL | UK |
|--------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Use a search engine to find information | 98 | 96 | 97 | 95 | 97 | 98 | 97 | 97 | 96 | 93 | 98 | 99 | 99 | 98 |
| Send e-mails with attached files (documents, pictures, etc.) | 92 | 89 | 89 | 86 | 94 | 93 | 80 | 91 | 90 | 82 | 89 | 94 | 97 | 88 |
| Post messages to chatrooms, newsgroups or an online discussion forum | 46 | 34 | 50 | 43 | 47 | 63 | 41 | 38 | 54 | 36 | 38 | 57 | 65 | 46 |
| Use the Internet to make telephone calls | 35 | 28 | 35 | 28 | 31 | 33 | 22 | 33 | 45 | 29 | 33 | 48 | 38 | 24 |
| Use peer-to-peer file sharing for exchanging movies, music, etc | 20 | 25 | 18 | 22 | 36 | 40 | 25 | 22 | 41 | 28 | 19 | 32 | 50 | 22 |
| Create a web page | 17 | 11 | 19 | 17 | 14 | 23 | 11 | 14 | 25 | 17 | 14 | 21 | 20 | 12 |
| Use websites to share pictures, videos, movies, etc. | 48 | 46 | 40 | 44 | 60 | 40 | 40 | 41 | 53 | 47 | 41 | 61 | 55 | 40 |
| Use a social networking site | 63 | 65 | 68 | 68 | 76 | 80 | 47 | 63 | 72 | 60 | 64 | 77 | 75 | 67 |
| Purchase goods or services online / online shopping (e.g. travel & holiday, clothes, books, tickets, films, music, software, food) | 71 | 43 | 76 | 62 | 42 | 54 | 55 | 61 | 55 | 54 | 60 | 55 | 51 | 80 |
| Keep a blog (also known as web-log) | 18 | 16 | 23 | 16 | 16 | 33 | 14 | 17 | 29 | 20 | 23 | 16 | 16 | 15 |
| Instant messaging, chat websites | 50 | 50 | 52 | 45 | 55 | 66 | 48 | 57 | 64 | 42 | 52 | 72 | 44 | 41 |
| Do home banking | 79 | 84 | 75 | 85 | 95 | 68 | 93 | 76 | 62 | 85 | 92 | 73 | 66 | 80 |
| Use online software | 51 | 44 | 52 | 49 | 68 | 54 | 50 | 43 | 55 | 48 | 52 | 56 | 59 | 51 |
| Use the Internet through your mobile phone | 42 | 24 | 38 | 40 | 33 | 46 | 42 | 39 | 40 | 38 | 49 | 36 | 53 | 48 |
| Online gaming and/or playing games console | 46 | 54 | 49 | 49 | 42 | 53 | 44 | 47 | 52 | 66 | 36 | 44 | 29 | 44 |

Base: Whole sample.
Despite the importance of the Internet as an empowering tool for health, and with respect to the set of available information sources, the surveyed citizens continue to consider direct interaction with doctors (75%) and nurses (40%) to be most relevant. In turn, the growth of the Internet as a channel for health interaction stands out, if it is taken into account that its relevance (35%) is already greater than that of pharmacies (32%).

**Figure 46: Health information sources (B4)**

B4. Below you can find a list of various sources of information about health, illness or wellness, and we would like to know how important these are to you.

| Information Source                                      | Very Important | Somewhat Important | Not so important | Not important at all |
|---------------------------------------------------------|----------------|--------------------|------------------|---------------------|
| Direct face-to-face contact with doctors                 | 75             | 40                 | 15               | 20                  |
| Direct face-to-face contact with nurses                   | 40             | 40                 | 15               | 5                   |
| Internet                                                | 35             | 45                 | 16               | 5                   |
| Pharmacies                                              | 32             | 51                 | 14               | 3                   |
| Books, medical encyclopaedias and leaflets              | 24             | 49                 | 21               | 6                   |
| Family, friends and colleagues                          | 24             | 49                 | 23               | 5                   |
| Courses and lectures                                     | 14             | 39                 | 33               | 15                  |
| TV                                                      | 11             | 40                 | 36               | 13                  |
| Newspapers, magazines                                   | 9              | 41                 | 37               | 13                  |
| Radio                                                   | 7              | 27                 | 43               | 23                  |

Base: Whole sample.

The perceived importance of the Internet as a main channel for health interaction is linked with women (81%), the middle population set (81% of people aged between 25 and 54 years old), the worst states of health, and the existence of long-standing illness (82%).
### Table 32: Health information sources (B4) by socio-demographics

| Important (%) | Internet | TV | Radio | Books, medical encyclopedias and leaflets | Courses and lectures | Newspapers magazines | Family, friends and colleagues | Pharmacies | Direct face-to-face contact with doctors | Direct face-to-face contact with nurses |
|---------------|----------|----|-------|------------------------------------------|---------------------|----------------------|------------------------|------------|----------------------------------------|----------------------------------------|
| **Gender**    |          |    |       |                                          |                     |                      |                        |            |                                        |                                        |
| Male          | 78       | 49 | 34    | 70                                       | 50                  | 47                   | 68                     | 80         | 95                                     | 79                                     |
| Female        | 81*      | 54*| 33    | 76*                                      | 55*                 | 52*                  | 77*                    | 85*        | 96*                                    | 83*                                    |
| **Age group** |          |    |       |                                          |                     |                      |                        |            |                                        |                                        |
| 16-24         | 80       | 53 | 32    | 74                                       | 57*                 | 52*                  | 80*                    | 85         | 93                                     | 81                                     |
| 25-54         | 81*      | 52 | 34*   | 75*                                      | 52                  | 50                   | 74*                    | 83         | 96                                    | 81                                     |
| 55-74         | 76       | 46 | 33    | 65                                       | 48                  | 46                   | 60                     | 80         | 98*                                   | 82                                     |
| **Level of education completed** |          |    |       |                                          |                     |                      |                        |            |                                        |                                        |
| Primary or lower secondary education | 79 | 60 | 39*   | 68                                       | 52                  | 51                   | 77*                    | 85*        | 95                                    | 82                                     |
| Upper secondary education | 81 | 53 | 34    | 73                                       | 52                  | 49                   | 73                     | 83         | 95                                    | 82                                     |
| Tertiary education | 79 | 47 | 31    | 74*                                      | 53                  | 50                   | 70                     | 81         | 96                                    | 79                                     |
| **Situation** |          |    |       |                                          |                     |                      |                        |            |                                        |                                        |
| Employed or self-employed | 80 | 51 | 35*   | 74*                                      | 53                  | 50                   | 73                     | 82         | 96                                    | 81                                     |
| Unemployed    | 81       | 58 | 34    | 74                                       | 52                  | 49                   | 75                     | 84         | 96                                    | 83                                     |
| Student       | 79       | 51 | 28    | 75*                                      | 56*                 | 53*                  | 80*                    | 84         | 93                                    | 77                                     |
| Other not in the labour force | 78 | 49 | 32    | 68                                       | 48                  | 46                   | 64                     | 83         | 97                                    | 83                                     |
| **Type of locality** |          |    |       |                                          |                     |                      |                        |            |                                        |                                        |
| Densely-populated area | 81* | 52 | 35*   | 73                                       | 54                  | 52*                  | 74*                    | 82         | 96                                    | 80                                     |
| Intermediate area | 80 | 53 | 32    | 74                                       | 51                  | 48                   | 72                     | 83         | 95                                    | 82*                                   |
| Thinly-populated area | 77 | 49 | 33    | 71                                       | 51                  | 47                   | 71                     | 83         | 96                                    | 80                                     |
| **Health status** |          |    |       |                                          |                     |                      |                        |            |                                        |                                        |
| Bad           | 85*      | 47 | 26    | 69                                       | 51                  | 40                   | 67                     | 78         | 97                                    | 79                                     |
| Neither good or bad | 81* | 55*| 34    | 72                                       | 52                  | 50                   | 71                     | 83         | 96*                                   | 81                                     |
| Good          | 79       | 51 | 34*   | 74                                       | 53                  | 51*                  | 73                     | 83         | 95                                    | 81                                     |
| **Long standing illness** |          |    |       |                                          |                     |                      |                        |            |                                        |                                        |
| Yes           | 82*      | 51 | 32    | 72                                       | 52                  | 48                   | 70                     | 82         | 97*                                   | 81                                     |
| No            | 78       | 52*| 35*   | 74*                                      | 53                  | 51                   | 74                     | 83         | 94                                    | 81                                     |

Base: Whole sample.
Estonia (87%), Slovakia (94%), Slovenia (93%) and the United Kingdom (89%) lead the Internet as 
source of health information.

**Table 33: Health information sources (B4) by country**

| Important (%)                     | AT | BE | DE | DK | EE | ES | FI | FR | IT | NL | SE | SK | SL | UK |
|-----------------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Internet                          | 84 | 67 | 85 | 75 | 87 | 74 | 80 | 65 | 84 | 80 | 75 | 94 | 93 | 89 |
| TV                                | 49 | 46 | 53 | 38 | 66 | 50 | 44 | 48 | 57 | 56 | 35 | 64 | 59 | 54 |
| Radio                             | 32 | 29 | 31 | 19 | 50 | 37 | 40 | 35 | 23 | 44 | 32 | 29 |    |    |
| Books, medical encyclopaedias and leaflets | 74 | 74 | 74 | 52 | 77 | 77 | 57 | 71 | 76 | 69 | 61 | 76 | 77 | 75 |
| Courses and lectures              | 54 | 61 | 52 | 28 | 68 | 62 | 35 | 57 | 67 | 48 | 36 | 48 | 58 | 39 |
| Newspapers, magazines             | 53 | 44 | 55 | 27 | 66 | 52 | 44 | 48 | 60 | 48 | 31 | 52 | 46 | 43 |
| Family, friends and colleagues    | 80 | 65 | 80 | 68 | 87 | 72 | 80 | 62 | 70 | 74 | 77 | 76 | 74 | 73 |
| Pharmacies                        | 82 | 89 | 76 | 66 | 88 | 89 | 80 | 88 | 82 | 89 | 79 | 81 | 74 | 83 |
| Direct face-to-face contact with doctors | 93 | 97 | 94 | 93 | 97 | 96 | 94 | 97 | 96 | 95 | 94 | 97 | 92 | 97 |
| Direct face-to-face contact with nurses | 67 | 87 | 62 | 83 | 86 | 92 | 87 | 87 | 78 | 87 | 87 | 82 | 78 | 92 |

Base: Whole sample.

Medical and health institutions continue to lead in terms of perceived trust with respect to the 
health information available to European citizens. 26% of participants fully trust medical and health 
institutions, with 55% trusting them somewhat. Something similar, although not as marked, occurs 
with the national health authorities. When it comes to online companies, the percentage of trust is 
very much lower. 4% of the European population trusts them fully, whilst a third trust them somewhat.
The perceived importance of the Internet as a main channel for health interaction is linked with women (81.3%), the middle population set (80.7% of people aged between 25 and 54 years old), the worst states of health, and the existence of long-standing illness (81.8%).
Table 34: Trust (B5) by socio-demographics

| Trust (%)                      | National public authorities | European institutions | Banks and financial institutions | Health and medical institutions | Shops and department stores | Internet companies | Phone and mobile phone companies and ISP | Pharmaceutical companies |
|--------------------------------|-----------------------------|------------------------|----------------------------------|---------------------------------|-----------------------------|-------------------|------------------------------------------|----------------------------|
| Gender                         | Male                        | 63                     | 55                               | 41                              | 81                          | 30                | 36                                        | 26*                        | 42                        |
|                                | Female                      | 64                     | 55                               | 46*                             | 82                          | 30                | 38                                        | 24                         | 49*                       |
| Age group                      | 16-24                       | 70*                    | 68*                              | 54*                             | 84*                         | 37*               | 37                                        | 29*                        | 57*                       |
|                                | 25-54                       | 64                     | 55                               | 42                              | 81                          | 30                | 37                                        | 25                         | 44                        |
|                                | 55-74                       | 55                     | 41                               | 35                              | 78                          | 23                | 36                                        | 20                         | 37                        |
| Level of education completed   | Primary or lower secondary education | 63         | 50                               | 47                              | 81                          | 35*               | 42*                                       | 30*                        | 50*                       |
|                                | Upper secondary education   | 63                     | 53                               | 44                              | 82*                         | 31                | 38                                        | 26                         | 47                        |
|                                | Tertiary education          | 65*                    | 59*                              | 41                              | 80                          | 26                | 33                                        | 22                         | 42                        |
| Situation                      | Employed or self-employed  | 64                     | 55                               | 43                              | 81                          | 30                | 38                                        | 25                         | 44                        |
|                                | Unemployed                  | 60                     | 49                               | 42                              | 79                          | 28                | 37                                        | 25                         | 49                        |
|                                | Student                     | 72*                    | 70*                              | 52*                             | 85*                         | 34                | 33                                        | 27                         | 52*                       |
|                                | Other not in the labour force | 57                   | 44                               | 39                              | 79                          | 25                | 36                                        | 23                         | 41                        |
| Type of locality               | Densely-populated area      | 66*                    | 58*                              | 45*                             | 82                          | 29                | 36                                        | 25                         | 45                        |
|                                | Intermediate area           | 62                     | 55                               | 43                              | 81                          | 32*               | 38                                        | 26                         | 47*                       |
|                                | Thinly-populated area       | 62                     | 51                               | 42                              | 80                          | 28                | 35                                        | 22                         | 44                        |
| Health status                  | Bad                         | 56                     | 46                               | 36                              | 78                          | 24                | 34                                        | 20                         | 37                        |
|                                | Neither good or bad         | 57                     | 46                               | 38                              | 80                          | 28                | 40                                        | 24                         | 43                        |
|                                | Good                        | 66*                    | 58*                              | 45*                             | 82*                         | 31*               | 36                                        | 25*                        | 46*                       |
| Long standing illness          | Yes                         | 61                     | 51                               | 40                              | 81                          | 27                | 37                                        | 23                         | 42                        |
|                                | No                          | 66*                    | 59*                              | 46*                             | 82                          | 32*               | 37                                        | 26*                        | 48*                       |

Base: Whole sample.
On a per-country basis, trust in Internet-based health is led by Denmark (43% of all participants), Italy (48%), Holland (41%) and the United Kingdom (40%).

**Table 35: Trust (B5) by country**

| Trust (%) | AT  | BE  | DE  | DK  | EE  | ES  | FI  | FR  | IT  | NL  | SE  | SK  | SL  | UK  |
|-----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| National public authorities (e.g. tax authorities, social security authorities) | 70  | 60  | 64  | 76  | 69  | 65  | 71  | 65  | 64  | 58  | 73  | 56  | 57  | 59  |
| European institutions | 52  | 57  | 57  | 56  | 59  | 57  | 49  | 60  | 70  | 43  | 49  | 56  | 58  | 42  |
| Banks and financial institutions | 56  | 43  | 47  | 68  | 67  | 38  | 74  | 33  | 37  | 48  | 60  | 61  | 54  | 43  |
| Health and medical institutions | 85  | 87  | 82  | 85  | 80  | 77  | 80  | 84  | 87  | 82  | 78  | 70  | 78  | 76  |
| Shops and department stores | 25  | 29  | 29  | 33  | 24  | 25  | 28  | 28  | 31  | 31  | 18  | 20  | 24  | 38  |
| Internet companies | 32  | 36  | 33  | 43  | 35  | 29  | 23  | 39  | 48  | 41  | 24  | 30  | 35  | 40  |
| Phone companies, mobile phone companies and Internet Services Providers | 26  | 22  | 22  | 38  | 34  | 18  | 30  | 23  | 27  | 23  | 20  | 33  | 28  | 31  |
| Pharmaceutical companies | 37  | 56  | 35  | 51  | 53  | 52  | 45  | 46  | 47  | 41  | 41  | 39  | 47  | 54  |

Base: Whole sample.
7. **ICT FOR HEALTH: MOTIVATIONS AND BARRIERS**

### 7.1 Triggers

Beyond specific uses of ICTs in the health sector, the research has also captured the thoughts of European citizens with respect to facilitators and barriers. With respect to the factors that motivate the use of ICTs in health, more than a third of the sampled European population indicates a significant use of ICTs in health to better understand a health problem or disease (39.2%), to find additional sources of information (36.1%) and to develop knowledge and personal satisfaction (34.7%). A little further behind, but still with a relevant frequency, there is the perception that ICTs in health are very useful to help a family member or a friend who is ill (30.7%), to prevent illnesses or to adopt a more healthy lifestyle (28.4%), to find a solution to or a treatment for a health problem (27.5%), to obtain different points of view about an issue (22.3%), and to access an online health service (20.9%). Finally, and as a counterpoint, only 10.6% of European citizens give much importance to the use of ICTs in health for participating in online discussions.

**Figure 48: ICT for Health motivations and triggers (D11)**

| Motivation                                                                 | Not important at all | Not so important | Somewhat important | Very important |
|---------------------------------------------------------------------------|---------------------|------------------|--------------------|---------------|
| To access an online health service                                        | 10                  | 27               | 42                 | 21            |
| To help a family member or friend who is ill                             | 5                   | 14               | 50                 | 31            |
| To develop one’s general knowledge or satisfy one’s curiosity             | 4                   | 14               | 47                 | 35            |
| To participate in online discussions                                      | 19                  | 40               | 30                 | 11            |
| To find additional sources of information (addresses, references or links)| 4                   | 13               | 47                 | 36            |
| To find a specific solution to or treatment for a health problem          | 5                   | 18               | 49                 | 28            |
| To better understand a health problem or disease                          | 4                   | 10               | 47                 | 39            |
| To obtain different points of view from those offered by mainstream medicine| 8                   | 23               | 47                 | 22            |
| To prevent diseases by adopting a healthier lifestyle                     | 6                   | 17               | 48                 | 28            |

Base: Whole sample.

With respect to the socio-demographic characteristics of the population, the perception of the importance of ICTs in health for the health or wellness sector is much more positive for women, young people, the middle aged, those with a tertiary education, the employed, students, and people in a bad state of health or with long standing illnesses.
| Important (%) | To prevent diseases by adopting a healthier lifestyle | To obtain different points of view from those offered by mainstream medicine | To better understand a health problem or disease | To find a specific solution to or treatment for a health problem | To find additional sources of information | To participate in online discussions | To develop one's general knowledge or satisfy one's curiosity | To help a family member or friend who is ill | To access an online health service |
|---------------|-----------------------------------------------------|-------------------------------------------------------------------------------|-------------------------------------------------|---------------------------------------------------------------|---------------------------------|---------------------------------|---------------------------------------------------------------|---------------------------------|-------------------------------|
| Gender        |                                                    |                                                                               |                                                 |                                                               |                                 |                                 |                                                               |                                 |                               |
| Male          |                              75                          | 66                                                                           | 84                                             | 74                                                            | 80                              | 41                              | 80                                                            | 78                              | 62                            |
| Female        |                              79*                         | 73*                                                                         | 90*                                            | 79*                                                           | 86*                            | 41                              | 84*                            | 84*                            | 64                            |
| Age group     |                                                    |                                                                               |                                                 |                                                               |                                 |                                 |                                                               |                                 |                               |
| 16-24         |                              75                          | 70*                                                                         | 84                                             | 72                                                            | 80                              | 52*                            | 80                                                            | 77                              | 61                            |
| 25-54         |                              78*                         | 71*                                                                         | 88*                                            | 78*                                                           | 84*                            | 41*                            | 83*                            | 82*                            | 65*                           |
| 55-74         |                                                    |                                                                               |                                                 |                                                               |                                 |                                 |                                                               |                                 |                               |
| Level of education completed |                                                    |                                                                               |                                                 |                                                               |                                 |                                 |                                                               |                                 |                               |
| Primary or lower secondary education |                              75                          | 67                                                                           | 85                                             | 77                                                            | 79                              | 39                              | 79                                                            | 81                              | 61                            |
| Upper secondary education |                              77                          | 70*                                                                         | 87                                             | 77*                                                           | 83                              | 41                              | 81                                                            | 81                              | 63                            |
| Tertiary education |                              78                          | 69                                                                           | 88*                                            | 75                                                            | 85*                            | 41*                            | 84*                            | 80                              | 64*                           |
| Situation     |                                                    |                                                                               |                                                 |                                                               |                                 |                                 |                                                               |                                 |                               |
| Employed or self-employed |                              77                          | 71*                                                                         | 87                                             | 77                                                            | 84*                            | 41                              | 83*                            | 81                              | 64*                           |
| Unemployed    |                              80*                         | 71*                                                                         | 87                                             | 79*                                                           | 82                              | 42*                            | 81                                                            | 83*                            | 68*                           |
| Student       |                              75                          | 69                                                                           | 84                                             | 71                                                            | 81                              | 50*                            | 81                                                            | 75                              | 57                            |
| Other not in the labour force |                              78                          | 64                                                                           | 88                                             | 77                                                            | 83                              | 31                              | 80                                                            | 83                              | 61                            |
| Health status |                                                    |                                                                               |                                                 |                                                               |                                 |                                 |                                                               |                                 |                               |
| Bad           |                              79                          | 72                                                                           | 91*                                            | 84*                                                           | 87*                            | 39                              | 85                                                            | 87*                            | 66*                           |
| Neither good or bad |                              79                          | 70                                                                           | 88                                             | 78*                                                           | 83                              | 41                              | 83                                                            | 83                              | 63                            |
| Good          |                              76                          | 69                                                                           | 86                                             | 75                                                            | 82                              | 41                              | 81                                                            | 80                              | 63                            |
| Long standing illness |                                                    |                                                                               |                                                 |                                                               |                                 |                                 |                                                               |                                 |                               |
| Yes           |                              79                          | 71                                                                           | 90*                                            | 79*                                                           | 85*                            | 39                              | 84*                            | 83*                            | 65                            |
| No            |                              75                          | 68                                                                           | 86                                             | 74                                                            | 82                              | 42                              | 80                                                            | 79                              | 62                            |

Base: Whole sample.
On a per-country basis, the greatest perceptions of the relevance of ICTs for health use are found in Slovakia, Slovenia and the United Kingdom.

**Table 37: Information and Communication Technology motivations and triggers (D11) by socio-demographics**

| Important (%) | AT | BE | DE | DK | EE | ES | FI | FR | IT | NL | SE | SK | SL | UK |
|---------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| To prevent diseases by adopting a healthier lifestyle | 74 | 70 | 73 | 67 | 85 | 84 | 74 | 67 | 80 | 72 | 69 | 87 | 92 | 89 |
| To obtain different points of view from those offered by mainstream medicine | 74 | 52 | 75 | 54 | 74 | 72 | 63 | 60 | 75 | 53 | 57 | 78 | 82 | 76 |
| To better understand a health problem or disease | 86 | 80 | 87 | 81 | 92 | 87 | 83 | 84 | 88 | 81 | 81 | 91 | 95 | 91 |
| To find a specific solution to or treatment for a health problem | 79 | 67 | 81 | 68 | 82 | 75 | 68 | 66 | 78 | 72 | 69 | 85 | 91 | 84 |
| To find additional sources of information (addresses, references or links) | 87 | 74 | 87 | 78 | 93 | 84 | 83 | 76 | 87 | 71 | 74 | 85 | 92 | 87 |
| To participate in online discussions | 38 | 25 | 41 | 30 | 53 | 45 | 48 | 34 | 54 | 27 | 17 | 48 | 60 | 45 |
| To develop one’s general knowledge or satisfy one’s curiosity | 84 | 76 | 86 | 74 | 89 | 82 | 81 | 80 | 86 | 72 | 74 | 80 | 85 | 82 |
| To help a family member or friend who is ill | 79 | 75 | 80 | 72 | 89 | 83 | 74 | 76 | 81 | 80 | 79 | 85 | 92 | 87 |
| To access an online health service | 58 | 43 | 57 | 53 | 82 | 78 | 62 | 48 | 80 | 50 | 63 | 70 | 84 | 74 |

Base: Whole sample.
7.2 Empowerment

When it comes to attitudes towards health and health information sources, the research also provides empirical evidence in the case of the sample of European citizens. Overall, the sampled European citizens show they agree that ICTs, especially the Internet, improve their capacity for information and empower them with respect to their state of health. Around two thirds of the sampled citizens show they agree with the fact that the Internet improves their capacity for information and their relationships with other people. In the same manner, they consider that the Internet improves the understanding of the state of health, allows them to be more informed and to have a more proactive role in their relationship with the healthcare professionals, and gives them greater access to expert knowledge through interaction with more people.

Figure 49: Empowerment and ICT for Health (B1)

B1. For each of the following statements regarding the use of Information and Communication Technologies, specially the Internet, could you please tell me whether you agree or disagree? Information and Communication Technologies, specially the Internet

- Totally disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Totally agree

| Statement                                                                 | Totally disagree | Somewhat disagree | Neither agree nor disagree | Somewhat agree | Totally agree |
|---------------------------------------------------------------------------|------------------|-------------------|-----------------------------|----------------|---------------|
| play a more active role in my exchanges with my physician or the health...| 6                | 8                 | 30                          | 36             | 21            |
| better understand my personal health or that of a family member or friend...| 5                | 7                 | 25                          | 38             | 24            |
| know more about the opinions of people who are in similar situations or who are... | 34               | 22                 | 40                          | 30             | 30            |
| better understand my personal health or that of a family member or friend... | 35               | 24                 | 42                          | 25             | 25            |
| become better informed on what is available, such as the available solutions... | 35               | 20                 | 41                          | 32             | 32            |
| develop a better understanding of my personal health or that of a family...   | 35               | 21                 | 43                          | 29             | 29            |
| be better informed about how to follow the advice of the physician or...     | 4                | 6                  | 25                          | 41             | 24            |

Base: Whole sample.

Overall, this greater digital empowerment for the European citizens when it comes to their health and the healthcare professionals is linked with higher education levels, the worst states of health and the existence of long-standing illnesses.
## Table 38: Empowerment and ICT for Health (B1) by socio-demographic

| Agree (%) | be better informed about how to follow the advice of the physician or professionals I consult | develop a better understanding of my personal health or that of a family member or friend by giving me access to recognized expert knowledge | become better informed on what is available, such as the available solutions and treatments, so that I can make my own choices | better understand my personal health or that of a family member or friend through my ability to determine what is relevant | know more about the opinions of people who are in similar situations or who are active in support groups | better understand my personal health or that of a family member or friend through online discussions or the opinions of people going through similar experiences | play a more active role in my exchanges with my physician or the health professionals I consult |
|-----------|-------------------------------------------------|-------------------------------------------------|-------------------------------------------------|-------------------------------------------------|-------------------------------------------------|-------------------------------------------------|-------------------------------------------------|
| **Gender** | | | | | | | | |
| Male | 65 | 69 | 70 | 66 | 67 | 60 | 56 |
| Female | 65 | 74* | 76* | 70* | 74* | 65* | 58 |
| **Age group** | | | | | | | | |
| 16-24 | 61 | 69 | 71 | 64 | 72* | 63 | 50 |
| 25-54 | 66 | 72* | 74* | 69* | 71* | 64* | 58 |
| 55-74 | 66 | 71 | 72 | 68* | 64 | 54 | 61* |
| **Level of education completed** | | | | | | | | |
| Primary or lower secondary education | 62 | 68 | 69 | 64 | 68 | 59 | 56 |
| Upper secondary education | 66* | 71 | 73 | 68* | 70 | 62* | 57 |
| Tertiary education | 65 | 73* | 74* | 69* | 72* | 63 | 58 |
| **Situation** | | | | | | | | |
| Employed or self-employed | 66* | 72 | 74* | 69 | 71 | 63 | 58 |
| Unemployed | 64 | 71 | 72 | 67 | 68 | 63 | 54 |
| Student | 60 | 70 | 71 | 62 | 72* | 63 | 48 |
| Other not in the labour force | 66 | 71 | 72 | 69* | 66 | 57 | 61* |
| **Type of locality** | | | | | | | | |
| Densely-populated area | 66 | 73* | 74 | 69 | 72 | 63 | 57 |
| Intermediate area | 66* | 71 | 73 | 68 | 71 | 63 | 57 |
| Thinly-populated area | 61 | 70 | 70 | 66 | 67 | 59 | 55 |
| **Health status** | | | | | | | | |
| Bad | 71* | 74* | 78* | 74* | 74* | 62 | 64* |
| Neither good or bad | 68* | 72 | 74 | 69 | 68 | 62 | 60 |
| Good | 64 | 71 | 72 | 67 | 70 | 62 | 55 |
| **Long standing illness** | | | | | | | | |
| Yes | 68* | 74* | 77* | 72* | 72* | 63 | 61* |
| No | 63 | 69 | 70 | 65 | 69 | 62 | 54 |

Base: Whole sample.
On a per-country basis, this perception of greater empowerment with respect to health occurs in countries where the digital divide among citizens is more marked, particularly in Estonia, Slovenia and Slovakia.

Table 39: Empowerment and ICT for Health (B1) by socio-demographic

| Agree (%)                                                                 | AT  | BE  | DE  | DK  | EE  | ES  | FI  | FR  | IT  | NL  | SE  | SK  | SL  | UK  |
|---------------------------------------------------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| be better informed about how to follow the advice of the physician or professionals I consult develop a better understanding of my personal health or that of a family member or friend by giving me access to recognized expert knowledge | 65  | 55  | 61  | 64  | 71  | 69  | 63  | 59  | 73  | 55  | 64  | 81  | 84  | 71  |
| become better informed on what is available, such as the available solutions and treatments, so that I can make my own choices better understand my personal health or that of a family member or friend through my ability to determine what is relevant | 75  | 64  | 73  | 72  | 81  | 72  | 77  | 67  | 80  | 61  | 72  | 84  | 88  | 76  |
| know more about the opinions of people who are in similar situations or who are active in support groups better understand my personal health or that of a family member or friend through online discussions or the opinions of people going through similar experiences | 65  | 62  | 63  | 63  | 75  | 68  | 71  | 68  | 74  | 59  | 63  | 79  | 85  | 73  |
| play a more active role in my exchanges with my physician or the health professionals I consult | 58  | 52  | 54  | 60  | 61  | 58  | 60  | 54  | 65  | 51  | 54  | 68  | 69  | 58  |

Base: Whole sample.

In the same way, the majority of the surveyed citizens consider that the Internet makes them better equipped for consultations and to relate with the healthcare professionals (64% and 62% respectively), it empowers them to make decisions with respect to their treatments and solutions (63%), and it makes them more confident in their health related exchanges with other people.
Similarly, the Internet also appears to be an excellent tool for health decision making, independently of healthcare professionals or the conventional health system (alternative medicine).

Figure 50: Empowerment and ICT for Health (B2)

B2. For each of the following statements regarding the use of Information and Communication Technologies, specially the Internet, could you please tell me whether you agree or disagree? ICT, specially the Internet, helps me feel …

- More confident in my discussions with the people in my life (my family, people at work or on the Internet, etc.): Totally disagree 4 | Somewhat disagree 7 | Neither agree nor disagree 28 | Totally agree 40 | 22
- More confident about the choices I plan on making, on my own, between the various possible treatments and solutions: Totally disagree 4 | Somewhat disagree 6 | Neither agree nor disagree 27 | Totally agree 41 | 22
- More confident in playing a more active role in my exchanges with my physician or the health professionals I consult: Totally disagree 4 | Somewhat disagree 7 | Neither agree nor disagree 27 | Totally agree 40 | 22
- Better equipped to make positive changes to my situation or that of a family member or friend through discussions and exchanges with others (in my family, at work, on the…): Totally disagree 4 | Somewhat disagree 6 | Neither agree nor disagree 28 | Totally agree 41 | 21
- Better equipped to make my own choices, without being limited to the advice of a physician or health professionals, which I believe is the best approach: Totally disagree 5 | Somewhat disagree 9 | Neither agree nor disagree 28 | Totally agree 38 | 21
- Better equipped to implement the advice of the physician or health professionals I consult: Totally disagree 4 | Somewhat disagree 6 | Neither agree nor disagree 25 | Totally agree 42 | 22

Base: Whole sample.

Again, education levels, the state of health and the persistence of long-standing illnesses, like in countries with a greater digital divide, appear linked with this greater perception of empowerment with respect to health.
Table 40: Empowerment and ICT for Health (B2) by socio-demographic

| Agree (%) | better equipped to implement the advice of the physician or health professionals I consult | better equipped to make my own choices, without being limited to the advice of a physician or health professionals which I believe is the best approach | more confident in playing a more active role in my exchanges with my physician or the health professionals I consult | more confident in my discussion with the people in my life |
|-----------|-----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| **Gender** |                                                                                         |                                                                                                                                   |                                                                                                  |                                                                                                  |
| Male      | 63                                                                                      | 60                                                                                                                                | 61                                                                                               | 59                                                                                               |
| Female    | 66*                                                                                     | 64*                                                                                                                               | 65*                                                                                              | 64*                                                                                              |
| **Age group** |                                                                                       |                                                                                                                                   |                                                                                                  |                                                                                                  |
| 16-24     | 61                                                                                      | 62                                                                                                                                | 62                                                                                               | 60                                                                                               |
| 25-54     | 65*                                                                                     | 63*                                                                                                                               | 64*                                                                                              | 62*                                                                                              |
| 55-74     | 67*                                                                                     | 58                                                                                                                                | 64                                                                                               | 62                                                                                               |
| **Level of education completed** |                                                                                         |                                                                                                                                   |                                                                                                  |                                                                                                  |
| Primary or lower secondary education | 63                                                                                      | 59                                                                                                                                | 60                                                                                               | 58                                                                                               |
| Upper secondary education | 65*                                                                                     | 62                                                                                                                                | 64*                                                                                              | 62*                                                                                              |
| Tertiary education | 64                                                                                      | 63*                                                                                                                               | 63                                                                                               | 63*                                                                                              |
| **Situation** |                                                                                         |                                                                                                                                   |                                                                                                  |                                                                                                  |
| Employed or self-employed | 65                                                                                      | 64*                                                                                                                               | 64                                                                                               | 63                                                                                               |
| Unemployed | 63                                                                                      | 61                                                                                                                                | 63                                                                                               | 63                                                                                               |
| Student    | 61                                                                                      | 61                                                                                                                                | 60                                                                                               | 58                                                                                               |
| Other not in the labour force | 66*                                                                                     | 58                                                                                                                                | 62                                                                                               | 63                                                                                               |
| **Type of locality** |                                                                                         |                                                                                                                                   |                                                                                                  |                                                                                                  |
| Densely-populated area | 65*                                                                                     | 64*                                                                                                                               | 65                                                                                               | 62                                                                                               |
| Intermediate area | 65                                                                                      | 62                                                                                                                                | 61                                                                                               | 62                                                                                               |
| Thinly-populated area | 62                                                                                      | 60                                                                                                                                | 61                                                                                               | 59                                                                                               |
| **Health status** |                                                                                         |                                                                                                                                   |                                                                                                  |                                                                                                  |
| Bad       | 68*                                                                                     | 64*                                                                                                                               | 66*                                                                                              | 61                                                                                               |
| Neither good or bad | 65                                                                                      | 62                                                                                                                                | 63                                                                                               | 60                                                                                               |
| Good      | 64                                                                                      | 62                                                                                                                                | 61                                                                                               | 63                                                                                               |
| **Long standing illness** |                                                                                         |                                                                                                                                   |                                                                                                  |                                                                                                  |
| Yes       | 68*                                                                                     | 64*                                                                                                                               | 66*                                                                                              | 63                                                                                               |
| No        | 62                                                                                      | 60                                                                                                                                | 61                                                                                               | 61                                                                                               |

Base: Whole sample.
| Agree (%)                                                                 | AT | BE | DE | DK | EE | ES | FI | FR | IT | NL | SE | SK | SL | UK |
|--------------------------------------------------------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| better equipped to implement the advice of the physician or health professionals I consult | 69 | 55 | 68 | 60 | 75 | 64 | 61 | 60 | 72 | 53 | 60 | 74 | 75 | 63 |
| better equipped to make my own choices, without being limited to the advice of a physician or health professionals, which I believe is the best approach | 61 | 50 | 60 | 57 | 70 | 52 | 52 | 55 | 62 | 51 | 57 | 65 | 78 | 65 |
| better equipped to make positive changes to my situation or that of a family member or friend through discussions and exchanges with others (in my family, at work, on the Internet, etc.) | 69 | 51 | 64 | 58 | 75 | 63 | 59 | 58 | 67 | 48 | 61 | 74 | 82 | 63 |
| more confident in playing a more active role in my exchanges with my physician or the health professionals I consult | 66 | 53 | 64 | 61 | 68 | 60 | 58 | 58 | 68 | 53 | 57 | 72 | 80 | 65 |
| more confident about the choices I plan on making, on my own, between the various possible treatments and solutions | 67 | 54 | 66 | 60 | 73 | 61 | 63 | 57 | 65 | 53 | 61 | 75 | 82 | 68 |
| more confident in my discussions with the people in my life (my family, people at work or on the Internet, etc.) | 57 | 53 | 56 | 60 | 73 | 68 | 59 | 61 | 66 | 50 | 60 | 77 | 82 | 67 |

Base: Whole sample.
Figure S1: Empowerment and ICT for Health (B3)

B3. For each of the following statements regarding the use of Information and Communication Technologies, specially the Internet, could you please tell me whether you agree or disagree? ICT, specially the Internet, facilitates...

- making decisions about my health by relying on the experiences and points of view of the people with whom I talk (on the Internet, at work, in my family, etc.)
  - Totally disagree: 6
  - Somewhat disagree: 11
  - Neither agree nor disagree: 30
  - Totally agree: 37
  - Neither agree nor disagree: 17

- a more active role in my health by continuing to talk with the people in my life who could help me clarify my ideas
  - Totally disagree: 4
  - Somewhat disagree: 7
  - Neither agree nor disagree: 30
  - Totally agree: 40
  - Neither agree nor disagree: 19

- making decisions about my health on the basis of my preferences and means rather than only on the advice of my physician
  - Totally disagree: 6
  - Somewhat disagree: 11
  - Neither agree nor disagree: 28
  - Totally agree: 37
  - Neither agree nor disagree: 18

- a more active role in my health by deciding which solutions I prefer, whether from mainstream medicine or alternative approaches
  - Totally disagree: 4
  - Somewhat disagree: 7
  - Neither agree nor disagree: 28
  - Totally agree: 39
  - Neither agree nor disagree: 21

- making decisions on my health albeit without going against the advice of the physician or the health professionals I have consulted
  - Totally disagree: 5
  - Somewhat disagree: 8
  - Neither agree nor disagree: 28
  - Totally agree: 39
  - Neither agree nor disagree: 20

Base: Whole sample.
Table 42: Empowerment and ICT for Health (B3) by socio-demographics

| Agree (%) | making decisions on my health albeit without going against the advice of the physician or the health professionals I have consulted | a more active role in my health by deciding which solutions I prefer, whether from mainstream medicine or alternative approaches | making decisions about my health on the basis of my preferences and means rather than only on the advice of my physician | a more active role in my health by continuing to talk with the people in my life who could help me clarify my ideas | making decisions about my health by relying on the experiences and points of view of the people with whom I talk |
|-----------|---------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| Gender    |                                                                                                                                |                                                                                                                                 |                                                                                                                                 |                                                                                                                                 |                                                                                                                                 |
| Male      | 58 59 52 57 52                                                                                                                  | 60 62* 58* 62* 55                                                                                                                  | 60 62* 58* 62* 55                                                                                                                  | 60 62* 58* 62* 55                                                                                                                  | 60 62* 58* 62* 55                                                                                                                  |
| Female    | 61* 63* 58* 62* 55                                                                                                               | 60 62* 58* 62* 55                                                                                                                  | 60 62* 58* 62* 55                                                                                                                  | 60 62* 58* 62* 55                                                                                                                  | 60 62* 58* 62* 55                                                                                                                  |
| Age group | 16-24 57 55 53 59 57*                                                                                                            | 59 60 55 58 54 51                                                                                                                  | 59 60 55 58 54 51                                                                                                                  | 59 60 55 58 54 51                                                                                                                  | 59 60 55 58 54 51                                                                                                                  |
| 25-54     | 60* 63* 56* 60* 54 54                                                                                                            | 60 62* 56 60 54 54                                                                                                                  | 60 62* 56 60 54 54                                                                                                                  | 60 62* 56 60 54 54                                                                                                                  | 60 62* 56 60 54 54                                                                                                                  |
| 55-74     | 59 61 53 56 48                                                                                                                  | 59 60 55 58 54 51                                                                                                                  | 59 60 55 58 54 51                                                                                                                  | 59 60 55 58 54 51                                                                                                                  | 59 60 55 58 54 51                                                                                                                  |
| Level of education completed | Primary or lower secondary education 58 60 54 58 51 |                                                                                                                                 |                                                                                                                                 |                                                                                                                                 |                                                                                                                                 |
|           | Upper secondary education 59 60 55 58 54*                                                                                      | 59 60 55 58 54 51                                                                                                                  | 59 60 55 58 54 51                                                                                                                  | 59 60 55 58 54 51                                                                                                                  | 59 60 55 58 54 51                                                                                                                  |
|           | Tertiary education 60 62* 56 60* 54                                                                                             | 59 60 55 58 54 51                                                                                                                  | 59 60 55 58 54 51                                                                                                                  | 59 60 55 58 54 51                                                                                                                  | 59 60 55 58 54 51                                                                                                                  |
| Situatio n | Employed or self-employed 60 62* 57* 61 55                                                                                   | 60 60 51 61 52                                                                                                                    | 60 60 51 61 52                                                                                                                    | 60 60 51 61 52                                                                                                                    | 60 60 51 61 52                                                                                                                    |
|           | Unemployed 60 60 51 61 52                                                                                                     | 60 60 51 61 52                                                                                                                    | 60 60 51 61 52                                                                                                                    | 60 60 51 61 52                                                                                                                    | 60 60 51 61 52                                                                                                                    |
|           | Student 56 56 54 56 55                                                                                                        | 59 61 53 56 49                                                                                                                    | 59 61 53 56 49                                                                                                                    | 59 61 53 56 49                                                                                                                    | 59 61 53 56 49                                                                                                                    |
|           | Other not in the labour force 59 61 53 56 49                                                                                 | 59 61 53 56 49                                                                                                                    | 59 61 53 56 49                                                                                                                    | 59 61 53 56 49                                                                                                                    | 59 61 53 56 49                                                                                                                    |
| Type of locality | Densely-populated area 60 62* 56 61* 55                                                                                     | 59 60 54 59 53                                                                                                                    | 59 60 54 59 53                                                                                                                    | 59 60 54 59 53                                                                                                                    | 59 60 54 59 53                                                                                                                    |
|           | Intermediate area 59 60 54 59 53                                                                                             | 59 60 54 59 53                                                                                                                    | 59 60 54 59 53                                                                                                                    | 59 60 54 59 53                                                                                                                    | 59 60 54 59 53                                                                                                                    |
|           | Thinly-populated area 58 60 55 57 52                                                                                          | 59 60 54 59 53                                                                                                                    | 59 60 54 59 53                                                                                                                    | 59 60 54 59 53                                                                                                                    | 59 60 54 59 53                                                                                                                    |
| Health status | Bad 65* 67* 58 63* 55                                                                                                        | 59 61 57 60 53                                                                                                                    | 59 61 57 60 53                                                                                                                    | 59 61 57 60 53                                                                                                                    | 59 61 57 60 53                                                                                                                    |
|           | Neither good or bad 59 61 57 60 53                                                                                             | 59 61 57 60 53                                                                                                                    | 59 61 57 60 53                                                                                                                    | 59 61 57 60 53                                                                                                                    | 59 61 57 60 53                                                                                                                    |
|           | Good 59 60 54* 59 54                                                                                                         | 59 61 57 60 53                                                                                                                    | 59 61 57 60 53                                                                                                                    | 59 61 57 60 53                                                                                                                    | 59 61 57 60 53                                                                                                                    |
| Long standing illness | Yes 63* 64* 57* 61* 54                                                                                                       | 59 61 57 60 53                                                                                                                    | 59 61 57 60 53                                                                                                                    | 59 61 57 60 53                                                                                                                    | 59 61 57 60 53                                                                                                                    |
|           | No 57 58 53 58 53                                                                                                              | 59 61 57 60 53                                                                                                                    | 59 61 57 60 53                                                                                                                    | 59 61 57 60 53                                                                                                                    | 59 61 57 60 53                                                                                                                    |

Base: Whole sample.
| Agree (%)                                                                 | AT  | BE  | DE  | DK  | EE  | ES  | FI  | FR  | IT  | NL  | SE  | SK  | SL  | UK  |
|----------------------------------------------------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| making decisions on my health albeit without going against the advice of  | 59  | 52  | 60  | 65  | 75  | 62  | 61  | 56  | 65  | 48  | 53  | 66  | 57  | 61  |
| the physician or the health professionals I have consulted                |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| making decisions in my health by deciding which solutions I prefer,      | 68  | 51  | 67  | 60  | 67  | 58  | 57  | 53  | 65  | 52  | 57  | 73  | 74  | 62  |
| whether from mainstream medicine or alternative approaches               |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| making decisions about my health on the basis of my preferences and     | 61  | 44  | 61  | 54  | 67  | 49  | 54  | 48  | 55  | 46  | 56  | 69  | 73  | 59  |
| means rather than only on the advice of my physician                     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| making decisions in my health by continuing to talk with the people in  | 58  | 52  | 57  | 57  | 69  | 63  | 60  | 59  | 66  | 48  | 53  | 74  | 76  | 60  |
| my life who could help me clarify my ideas                               |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| making decisions about my health by relying on the experiences and      | 53  | 45  | 58  | 50  | 71  | 51  | 50  | 51  | 53  | 42  | 54  | 69  | 76  | 56  |
| points of view of the people with whom I talk (on the Internet, at work, |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| in my family, etc.)                                                      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

Base: Whole sample.
7.3 Barriers

Just as there are factors that justify a good evaluation of health websites, the lack of privacy (51.9%), security (50.5%), reliability (47.2%) and trust (45.7%) were the four main barriers for ICT uses for health indicated by the sampled European population to be very important. Other justifications were the lack of liability (38.2%), health literacy (36.2%), knowledge (33.4%), access to ICTs for health (28.9%), motivation and interest (27.9%), and the lack of digital skills (24.4%).

Figure 52: ICT for Health barriers (D13)

| D13. Regardless of whether you have used Information and Communication Technologies for healthcare or wellness purposes, would you tell us how important the following barriers are in using these technologies for health or wellness purposes? |
|--------------------------------------------------|
| Not important at all | Not so important | Somewhat important | Very important |
|----------------------|------------------|--------------------|----------------|
| Lack of reliability  | 4 11 38 47       |                    |                |
| Lack of security     | 4 11 35 50       |                    |                |
| Lack of privacy      | 4 11 33 52       |                    |                |
| Lack of liability    | 6 16 40 38       |                    |                |
| Lack of trust        | 5 12 38 46       |                    |                |
| Lack of health literacy | 6 17 40 36   |                    |                |
| Lack of awareness    | 7 17 43 33       |                    |                |
| Lack of motivation and interest | 6 21 45 28 |                |                |
| Lack of access to ICT for health applications | 8 20 43 29 |                |                |
| Lack of digital skills | 14 24 38 24   |                    |                |

Base: Whole sample.

With respect to the socio-demographic structure of the sampled European population, the analysis of the barriers provides significant indications. Firstly, that women are much more sensitive to the barriers to the ICT use for health than men, particularly in terms of a lack of trust (87.2%), privacy (87.9%), security (87.9%) and liability (88.6%). Similarly, the demonstration of barriers to ICT use for health is also much more evident in older people, those with lower levels of education and the inactive. Lastly, it is also worth highlighting that the presence of long standing illnesses is also very sensitive to the barriers to ICT use, particularly the lack of trust (85.6%), privacy (86.8%), security (87.5%) and liability (87.5%).
| Important (%) | Lack of digital skills | Lack of access to ICT for health applications | Lack of motivation and interest | Lack of awareness | Lack of health literacy | Lack of trust | Lack of liability | Lack of privacy | Lack of security | Lack of reliability |
|----------------|-----------------------|---------------------------------------------|--------------------------------|------------------|-----------------------|---------------|------------------|----------------|----------------|-------------------|
| Gender          |                       |                                             |                                |                  |                       |               |                  |                |                |                   |
| Male            | 60                    | 70                                          | 71                             | 74               | 74                    | 80            | 76               | 82            | 83             | 82                |
| Female          | 66*                   | 75*                                         | 75*                            | 80*              | 80*                   | 87*           | 81*              | 88*           | 88*            | 89*               |
| Age group       |                       |                                             |                                |                  |                       |               |                  |                |                |                   |
| 16-24           | 59                    | 67                                          | 71                             | 74               | 74                    | 79            | 74               | 79            | 70             | 81                |
| 25-54           | 63                    | 73*                                         | 73                             | 77               | 77                    | 84*           | 79*              | 86*           | 86*            | 85*               |
| 55-74           | 66*                   | 76*                                         | 74*                            | 78*              | 78*                   | 87*           | 82*              | 88*           | 88*            | 89*               |
| Level of education completed |  |                                             |                                |                  |                       |               |                  |                |                |                   |
| Primary or lower secondary education | 67*   | 73                                          | 75*                            | 79               | 80                    | 84            | 80               | 85            | 85             | 85                |
| Upper secondary education | 65*   | 75*                                         | 75                             | 78               | 78                    | 84            | 80*              | 85*           | 86*            | 85*               |
| Tertiary education | 58    | 69                                          | 70                             | 74               | 73                    | 83            | 77*              | 84            | 85             | 86                |
| Situation       |                       |                                             |                                |                  |                       |               |                  |                |                |                   |
| Employed or self-employed | 62    | 72                                          | 71                             | 75               | 76                    | 83            | 79               | 84            | 85             | 85                |
| Unemployed      | 66                    | 76*                                         | 76                             | 81               | 80*                   | 86            | 80               | 87            | 87             | 88                |
| Student         | 58                    | 67                                          | 72                             | 75               | 73                    | 79            | 73               | 81            | 80             | 81                |
| Other not in the labour force | 68*   | 77*                                         | 80                             | 80*              | 88*                   | 82*           | 88*              | 89*           | 90*            |                   |
| Type of locality |                       |                                             |                                |                  |                       |               |                  |                |                |                   |
| Densely-populated area | 64    | 73                                          | 73                             | 77               | 77                    | 84*           | 79            | 85            | 85             | 85                |
| Intermediate area | 63     | 72                                         | 73                             | 77               | 76                    | 83            | 78               | 84            | 85             | 85                |
| Thinly-populated area | 60    | 72                                          | 71                             | 74               | 76                    | 85            | 79               | 86            | 86             | 86                |
| Health status   |                       |                                             |                                |                  |                       |               |                  |                |                |                   |
| Bad             | 63                    | 74                                          | 71                             | 76               | 77                    | 84            | 76               | 85            | 85             | 85                |
| Neither good or bad | 66*   | 76*                                         | 75                             | 81*              | 79*                   | 85            | 81*              | 87*           | 88*            | 87*               |
| Good            | 62                    | 71                                          | 72                             | 76               | 76                    | 83            | 78               | 84            | 85             | 85                |
| Long standing illness |       |                                             |                                |                  |                       |               |                  |                |                |                   |
| Yes             | 64*                   | 75*                                         | 74                             | 79*              | 78*                   | 86*           | 80*              | 87*           | 88*            | 88*               |
| No              | 61                    | 70                                          | 72                             | 75               | 76                    | 82            | 77               | 83            | 83             | 83                |

Base: Whole sample.
On a per-country basis, from those sampled, the highest percentages are observed for Estonia, Spain, Italy, Slovenia and Slovakia with respect to the proposed indicators in assessing the barriers to ICT uses for health.

**Table 45: ICT for Health barriers (D13) by country**

| Important (%)                      | AT | BE | DE | DK | EE | ES | FI | FR | IT | NL | SE | SK | SL | UK |
|-----------------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Lack of digital skills            | 58 | 59 | 55 | 66 | 74 | 71 | 71 | 54 | 77 | 70 | 62 | 78 | 77 | 64 |
| Lack of access to ICT for health applications | 73 | 66 | 70 | 63 | 82 | 81 | 77 | 66 | 82 | 72 | 62 | 81 | 84 | 71 |
| Lack of motivation and interest   | 74 | 69 | 70 | 77 | 83 | 79 | 80 | 69 | 80 | 75 | 72 | 84 | 81 | 69 |
| Lack of awareness                 | 76 | 74 | 71 | 78 | 83 | 85 | 82 | 71 | 84 | 83 | 73 | 85 | 86 | 79 |
| Lack of health literacy           | 78 | 76 | 76 | 78 | 80 | 83 | 83 | 71 | 82 | 81 | 77 | 84 | 83 | 73 |
| Lack of trust                     | 84 | 81 | 82 | 84 | 91 | 87 | 88 | 82 | 89 | 84 | 83 | 86 | 89 | 82 |
| Lack of liability                 | 77 | 76 | 75 | 80 | 89 | 84 | 84 | 78 | 85 | 80 | 79 | 84 | 86 | 74 |
| Lack of privacy                   | 87 | 85 | 85 | 79 | 89 | 89 | 86 | 85 | 85 | 85 | 79 | 82 | 88 | 83 |
| Lack of security                  | 85 | 83 | 84 | 83 | 92 | 88 | 86 | 85 | 87 | 86 | 82 | 88 | 88 | 85 |
| Lack of reliability               | 85 | 85 | 82 | 83 | 92 | 88 | 86 | 85 | 89 | 87 | 83 | 90 | 91 | 84 |

Base: Whole sample.
8. ICT FOR HEALTH ACCESS

8.1 ICT for Health utilisation

When it comes to specifically using the Internet for health and wellness, the research has provided interesting information, with notable relative differences. The main use of the Internet for health is for individual information searches, rather than sharing information, communicating or interacting about health. Information searches about physical illnesses or conditions (40% of the sampled European citizens use the Internet this way at least once a month, and 25% of the citizens at least once a month, but not every week); information searches about wellness and lifestyles (33% less than once a month, and 25% at least once a month, but not every week); bookmarking a health website as a favourite to pay regular visits (20% less than once a month, and 13% at least once a month, but not every week); to look which company or organisation provided the advice or information that appears on a health website (24% less than once a month, and 14% less than once a month, but not every week); and to look for information about a mental health issue like depression or anxiety (23% less than once a month, and 12% less than once a month, but not every week). In fact, individual searches for health information using the Internet make up one of the most frequently mentioned uses by the sampled European citizens. 13% of the respondents look for information about physical illnesses or conditions; 14% look for information about wellness and lifestyles; 13% bookmark a health website as a favourite in their browser to pay regular visits; 14% look which company or organisation provided the advice or information that appears on a health website; and 12% look for information about a mental health issue like depression or anxiety.

Over half of the sampled European citizens have never used the Internet to buy medicine or vitamins online (56% of the total); participated in online support groups for people with the same health issue (60%), used social networking sites for health and wellness issues (58%); used e-mail or websites to communicate with a doctor or their office (58%); analysed the privacy policy for personal information in medical websites (52%); explained a medical issue online in order to make contact with an e-health medical service (61%) or with other users (58%); disclosed medical information on social networking sites (67%); or disclosed medical information on websites to share pictures, videos, or movies (67%).
### Table 46: Internet for Health utilisation (D1a)

| (%) | Never | Less than once a month | At least once a month (but not every week) | At least once a week (but not every day) | Every day or almost every day | I was not aware of it |
|-----|-------|------------------------|------------------------------------------|-----------------------------------|-------------------------------|-----------------------|
| looked for information about a physical illness or condition that you or someone you know has | 15 | 40 | 25 | 13 | 4 | 3 |
| looked for information about wellness or lifestyle | 21 | 33 | 24 | 14 | 4 | 4 |
| bought medicine or vitamins online | 56 | 17 | 9 | 5 | 2 | 11 |
| participated in an online support group for people who are concerned about the same health or medical issue | 60 | 12,6 | 8 | 5 | 2 | 12 |
| participated in Social Networking Sites talking about health and wellness | 58 | 14,2 | 9 | 6 | 3 | 11 |
| used email or went to a web site to communicate with a doctor or a doctor's office | 58 | 14 | 8 | 5 | 2 | 14 |
| clicked on a health or medical web site's privacy policy to read about how the site uses personal information | 52 | 17 | 9 | 6 | 3 | 12 |
| described a medical condition or problem online in order to get advice from an online doctor | 61 | 13 | 7 | 4 | 2 | 13 |
| described a medical condition or problem online in order to get advice from other online users (peers) | 58 | 16 | 9 | 5 | 2 | 10 |
| kept a health web site "bookmarked", or saved as a "favourite place", so you can go back to it regularly | 45 | 20 | 13 | 10 | 4 | 9 |
| looked to see what company or organization is providing the advice or information that appears on a health web site | 44 | 24 | 14 | 7 | 3 | 9 |
| looked for information about a mental health issue like depression or anxiety | 46 | 23 | 12 | 7 | 3 | 9 |
| disclosed medical information on Social Networking Sites | 66 | 8 | 6 | 4 | 2 | 13 |
| disclosed medical information on websites to share pictures, videos, movies, etc. | 67 | 7 | 6 | 5 | 2 | 14 |

Base: Whole sample.
The following observations are notable in terms of the socio-demographic characteristics of the sampled European population. With respect to gender, and establishing significant statistical differences, women stand out for carrying out individual information searches more often. 85% look for information about physical illnesses or conditions, and 79% look for information about wellness or lifestyles. Men, on the other hand, are characterised by a deeper and more interactive use of the Internet for health. 48% of the men sampled bookmarked health websites as favourites in their browser to visit them regularly. 24% of the men sampled disclose medical information on social networking sites, and 23% of the men sampled disclose medical information on health websites using pictures, videos or movies. With respect to the remaining socio-demographic factors, the analysis shows homogeneity in terms of the overall use of the Internet for health, which is more frequent in the young population, those with a tertiary education, students and the employed, those in densely populated urban areas, people in a bad state of health and those with long standing illnesses.
| At least once (%) | looked for information about a physical illness or condition that you or someone you know has | looked for information about wellness or lifestyle | bought medicine or vitamins online | participated in an online support group for people who are concerned about the same health or medical issue | participated in Social Networking Sites talking about health and wellness | used email or gone to a web site to communicate with a doctor or a doctor's office | clicked on a health or medical web site's privacy policy to read about how the site uses personal information |
|------------------|---------------------------------------------------------------------------------|-----------------------------------------------|---------------------------------|-------------------------------------------------|-------------------------------------------------|-------------------------------------------------|-------------------------------------------------|
| **Gender**       |                                                 |                                              |                                 |                                                 |                                                 |                                                 |                                                 |
| Male             | 78                                              | 72                                            | 34*                             | 28                                              | 33                                              | 31                                              | 38*                                              |
| Female           | 85*                                             | 79*                                           | 31                              | 28                                              | 30                                              | 27                                              | 33                                              |
| **Age group**    |                                                 |                                              |                                 |                                                 |                                                 |                                                 |                                                 |
| 16-24            | 83*                                             | 80*                                           | 35*                             | 36*                                             | 44*                                             | 36*                                             | 40*                                              |
| 25-54            | 83*                                             | 76*                                           | 32                              | 28                                              | 31                                              | 29                                              | 36                                              |
| 55-74            | 77                                              | 68                                            | 30                              | 16                                              | 16                                              | 20                                              | 28                                              |
| **Level of education completed** |                                          |                                              |                                 |                                                 |                                                 |                                                 |                                                 |
| Primary or lower secondary education | 76                                              | 67                                            | 33                              | 27                                              | 29                                              | 24                                              | 33                                              |
| Upper secondary education | 81*                                             | 74                                            | 33*                             | 28                                              | 31                                              | 29                                              | 37*                                              |
| Tertiary education | 85*                                             | 80*                                           | 32                              | 28                                              | 32                                              | 31*                                             | 35                                              |
| **Situation**    |                                                 |                                              |                                 |                                                 |                                                 |                                                 |                                                 |
| Employed or self-employed | 82*                                             | 77*                                           | 35*                             | 28                                              | 32                                              | 30*                                             | 37                                              |
| Unemployed       | 80                                              | 76                                            | 27                              | 28                                              | 31                                              | 26                                              | 34                                              |
| Student          | 82*                                             | 78                                            | 32                              | 34*                                             | 39*                                             | 33*                                             | 38*                                              |
| Other not in the labour force | 80                                              | 68                                            | 29                              | 22                                              | 22                                              | 22                                              | 30                                              |
| **Type of locality** |                                              |                                              |                                 |                                                 |                                                 |                                                 |                                                 |
| Densely-populated area | 84*                                             | 78*                                           | 32                              | 31                                              | 34*                                             | 33*                                             | 38*                                              |
| Intermediate area | 82                                              | 76                                            | 33                              | 28                                              | 31                                              | 29                                              | 35                                              |
| Thinly-populated area | 78                                              | 70                                            | 33                              | 22                                              | 25                                              | 23                                              | 31                                              |
| **Health status** |                                              |                                              |                                 |                                                 |                                                 |                                                 |                                                 |
| Bad              | 86*                                             | 72                                            | 38*                             | 38*                                             | 33*                                             | 37*                                             | 40*                                              |
| Neither good or bad | 84                                              | 76*                                           | 34                              | 32*                                             | 34                                              | 30                                              | 36                                              |
| Good             | 81                                              | 76*                                           | 32                              | 26                                              | 30                                              | 28                                              | 35                                              |
| **Long standing illness** |                                              |                                              |                                 |                                                 |                                                 |                                                 |                                                 |
| Yes              | 85*                                             | 77*                                           | 36*                             | 31*                                             | 33                                              | 31*                                             | 37*                                              |
| No               | 79                                              | 74                                            | 30                              | 25                                              | 30                                              | 27                                              | 35                                              |

Base: Whole sample.
Table 48: Internet for Health utilisation (D1a) by socio-demographics (II)

| At least once (%) |  |  |  |  |  |
|-------------------|---|---|---|---|---|
|                   | described a medical condition or problem online in order to get advice from an online doctor | described a medical condition or problem online in order to get advice from other online users (peers) | kept a health web site "bookmarked", or saved as a "favourite place", so you can go back to it regularly | looked to see what company or organization is providing the advice or information that appears on a health web site | looked for information about a mental health issue like depression or anxiety | disclosed medical information on Social Networking Sites | disclosed medical information on websites to share pictures, videos, movies, etc. |
| Gender           | Male | 28 | 33 | 48* | 48 | 43 | 43 | 24* | 23* |
|                   | Female | 24 | 30 | 45 | 46 | 47 | 18 | 16 |
| Age group        | 16-24 | 38* | 43* | 54* | 49 | 55* | 55* | 32* | 31* |
|                   | 25-54 | 26 | 32 | 48 | 48 | 46 | 21 | 19 |
|                   | 55-74 | 13 | 17 | 37 | 41 | 31 | 10 | 9 |
| Level education completed of | Primary or lower secondary education | 24 | 31 | 42 | 42 | 42 | 21 | 19 |
|                   | Upper secondary education | 27 | 32* | 46 | 47* | 45 | 22 | 20* |
|                   | Tertiary education | 26 | 31 | 49* | 48* | 46* | 20 | 18 |
| Situation         | Employed or self-employed | 27 | 33 | 48 | 49* | 44 | 22 | 20 |
|                   | Unemployed | 26 | 32 | 46 | 43 | 48 | 21 | 17 |
|                   | Student | 35* | 39* | 52 | 50* | 55* | 29 | 27* |
|                   | Other not in the labour force | 17 | 22 | 39 | 40 | 38 | 13 | 11 |
| Type of locality  | Densely-populated area | 30* | 34* | 50* | 51* | 49* | 24* | 22* |
|                   | Intermediate area | 27 | 31 | 47 | 46 | 45 | 22 | 20 |
|                   | Thinly-populated area | 20 | 27 | 41 | 41 | 39 | 16 | 14 |
| Health status     | Bad | 25 | 35* | 50* | 52* | 59* | 24* | 17 |
|                   | Neither good or bad | 28 | 33 | 48 | 51* | 49* | 22 | 20 |
|                   | Good | 26 | 31 | 46 | 46 | 43 | 21 | 19 |
| Long standing illness | Yes | 26 | 33 | 49* | 51* | 49* | 21 | 18 |
|                   | No | 26 | 31 | 45 | 44 | 41 | 21 | 20* |

Base: Whole sample.
On a per-country basis, Slovenia, Slovakia and the United Kingdom stands out due to a more intensive use of the available online health practices, in particular information searches about physical illness or conditions, about wellness or quality of life, and particularly, e-commerce in health.

### Table 49: Internet for Health utilisation (D1a) by country

| Activity                                                                 | AT  | BE  | DE  | DK  | EE  | ES  | FI  | FR  | IT  | NL  | SE  | SK  | SL  | UK  |
|-------------------------------------------------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| looked for information about a physical illness or condition that you or someone you know has | 79  | 75  | 80  | 75  | 78  | 84  | 81  | 75  | 87  | 73  | 78  | 92  | 93  | 89  |
| looked for information about wellness or lifestyle bought medicine or vitamins online | 74  | 71  | 71  | 68  | 76  | 79  | 82  | 71  | 84  | 61  | 69  | 91  | 91  | 81  |
| participated in an online support group for people who are concerned about the same health or medical issue | 29  | 15  | 56  | 24  | 26  | 22  | 20  | 20  | 25  | 21  | 22  | 36  | 32  | 35  |
| participated in Social Networking Sites talking about health and wellness | 23  | 20  | 30  | 18  | 17  | 34  | 21  | 22  | 35  | 25  | 14  | 40  | 41  | 28  |
| used email or gone to a web site to communicate with a doctor or a doctor's office | 28  | 24  | 34  | 29  | 36  | 41  | 27  | 29  | 39  | 24  | 23  | 38  | 44  | 24  |
| clicked on a health or medical web site's privacy policy to read about how the site uses personal information | 35  | 32  | 41  | 35  | 36  | 34  | 22  | 35  | 46  | 31  | 26  | 34  | 28  | 28  |
| described a medical condition or problem online in order to get advice from an online doctor | 22  | 18  | 24  | 25  | 26  | 34  | 16  | 22  | 41  | 22  | 16  | 33  | 36  | 24  |
| described a medical condition or problem online in order to get advice from other online users (peers) | 27  | 26  | 36  | 21  | 32  | 37  | 25  | 31  | 39  | 30  | 20  | 40  | 38  | 23  |
| kept a health web site "bookmarked" | 45  | 46  | 49  | 60  | 34  | 43  | 28  | 55  | 67  | 31  | 40  | 45  | 54  | 33  |
or saved as a "favourite place", so you can go back to it regularly. Looked to see what company or organization is providing the advice or information that appears on a health web site:

|                | AT | BE | DE | DK | EE | ES | FI | FR | IT | NL | SE | SK | SL | UK |
|----------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| looked for information about a mental health issue like depression or anxiety | 57 | 41 | 57 | 39 | 62 | 45 | 42 | 39 | 60 | 41 | 42 | 60 | 57 | 36 |
| disclosed medical information on Social Networking Sites | 44 | 39 | 49 | 47 | 48 | 52 | 49 | 38 | 51 | 39 | 40 | 41 | 41 | 42 |
| disclosed medical information on websites to share pictures, videos, movies, etc. | 21 | 18 | 24 | 15 | 17 | 22 | 14 | 16 | 34 | 22 | 14 | 18 | 21 | 17 |
|                | 20 | 16 | 24 | 15 | 12 | 20 | 8  | 16 | 32 | 20 | 9  | 17 | 15 | 13 |

Base: Whole sample.

Beyond the use of information, the specific use of ICTs in the health sector, particularly the Internet, is still quite limited among the sampled European citizens. Around three-quarters of the sampled population have never used any of the specified ICTs for health uses. 78.9% of the total have never made an online consultation through videoconference with healthcare professionals. 74.8% haven’t received medical or clinical tests online either. 77.2% haven’t accessed or uploaded medical results via a specialist provider, such as Google Health or Microsoft Vault. 76.4% haven’t accessed or uploaded medical results via an Internet application provided by a health organisation. 76.6% haven’t accessed or uploaded medical results via an Internet application provided by a health organisation. 76.6% haven’t used health or wellness applications on mobile telephones either. And 73.6% of the sampled population have not used ICT applications to transmit vital signs and other clinical information anytime or anywhere.

On the other hand, there are some specific ICTs for health uses that are used more, although the majority are not used either. 16.0% of the sampled European population has made, cancelled or changed an appointment with their family doctor, specialist or any other health professional at least once a month, which becomes 6.5% when the frequency becomes once a month, but not every week. In the same manner, around 20% of the sampled population has sent or received an email from a doctor, nurse and health organisation at least once a month, or at least once a month, but not every week. Along the same lines, around a fifth of the sampled population (16.5% less than once a month, and 9.2% at least once a month, but not every week) have received an email message about a health promotion or health prevention. The research results conclude, therefore, a quite basic usage of ICTs in health, which are centred on appointments with professionals, and the sending/receiving of emails with health professionals or health promotions/prevention.
| (%), Activity                                                                 | Never | Less than once a month | At least once a month (but not every week) | At least once a week (but not every day) | Every day or almost every day | I was not aware of it |
|------------------------------------------------------------------------------|-------|------------------------|--------------------------------------------|------------------------------------------|-------------------------------|-------------------------|
| Made, cancelled or changed an appointment with your family doctor, specialist or other health professionals online. | 66,7  | 16,0                   | 6,5                                        | 3,7                                      | 2,0                           | 6,1                     |
| Sent or received an email from your doctor, nurse or health care organization. | 68,2  | 14,6                   | 5,5                                        | 3,7                                      | 1,5                           | 6,4                     |
| Made an online consultation through videoconference with your doctor or nurse. | 78,9  | 3,5                    | 3,8                                        | 2,6                                      | 1,4                           | 9,8                     |
| Received online the results of your clinical or medical test.                | 74,8  | 8,3                    | 4,4                                        | 3,3                                      | 1,4                           | 7,9                     |
| Accessed or uploaded your (or any other family member) medical information or health record through an Internet provider (ex. Google Health, Microsoft Vault…). | 77,2  | 4,7                    | 4,2                                        | 3,1                                      | 1,3                           | 9,5                     |
| Accessed or uploaded your (or any other family member) medical information or health record through an Internet application provided by your healthcare organization. | 76,4  | 5,4                    | 4,3                                        | 3,2                                      | 1,4                           | 9,3                     |
| Used a game console to play games related with your health or your wellness. | 71,8  | 8,5                    | 6,1                                        | 4,1                                      | 1,7                           | 7,8                     |
| Used a health/wellness application on your mobile phone.                     | 76,6  | 6,4                    | 4,9                                        | 3,8                                      | 1,4                           | 6,8                     |
| Used devices (as pulse meter, glucose meter…) to transmit vital signs or other clinical information and/or received alarms or follow-up about your health anytime, anywhere. | 73,6  | 7,6                    | 5,6                                        | 4,0                                      | 2,0                           | 7,2                     |
| Received any message about health promotion and/or health prevention.        | 61,2  | 16,5                   | 9,2                                        | 5,5                                      | 2,4                           | 5,1                     |

Base: Whole sample.
With respect to the socio-demographic categories of the sampled population, the following results stand out. Firstly, in clear contrast to what occurs with information searches, and unlike men, women do not stand out for their use of ICTs in the health sector. ICTs for health use are mainly used by men. Secondly, it is also worth highlighting that uses of ICTs in health are different in the youngest population compared to older age groups. Thirdly, a higher education level is associated with more intensive uses of ICTs in health. Around a third of the sampled population that have completed tertiary education have made, cancelled or changed an appointment with a healthcare professional, have sent or received an email from a health professional or organization, or have received an online message about a health promotion or health prevention. Fourthly, students and those living in densely populated areas also stand out for one of the most frequent uses of ICTs in health with respect to other labor situations or types of urban living. And fifthly, and in general terms, a good state of health and a lack of long standing illnesses is linked with the most intensive use of ICTs in health.

Table 51: Information and Communication Technology utilisation (D10a) by socio-demographics

| % At least once | Made, cancelled or changed an appointment with your family doctor, specialist or other health professionals online | Sent or received an email from your doctor, nurse or health care organization | Made an online consultation through videoconference with your doctor or nurse | Received online the results of your clinical or medical test | Accessed or uploaded your medical information or health record through an Internet provider |
|----------------|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| Gender         | Male                                                                                               | 34 | 33* | 16* | 23* | 19* |
|                | Female                                                                                             | 28 | 23  | 8   | 14  | 11  |
| Age group      | 16-24                                                                                              | 36* | 33* | 23* | 28* | 24* |
|                | 25-54                                                                                              | 31* | 28  | 12  | 18  | 14  |
|                | 55-74                                                                                              | 21  | 21  | 3   | 10  | 7   |
| Level of education completed | Primary or lower secondary education | 26  | 26  | 12  | 19  | 15  |
|                | Upper secondary education                                                                         | 30  | 27  | 13  | 19  | 15  |
|                | Tertiary education                                                                                | 33* | 29* | 12  | 19  | 14  |
| Situation      | Employed or self-employed                                                                         | 32* | 29* | 13  | 20  | 15  |
|                | Unemployed                                                                                        | 34  | 23  | 11  | 16  | 13  |
|                | Student                                                                                          | 35* | 32* | 21* | 26* | 23* |
|                | Other not in the labour force                                                                     | 21  | 23  | 5   | 11  | 8   |
| Type of locality | Densely-populated area                                                                 | 37* | 33* | 15* | 23* | 17* |
|                | Intermediate area                                                                                | 29  | 25  | 12  | 17  | 15  |
|                | Thinly-populated area                                                                             | 22  | 23  | 8   | 14  | 11  |
| Health status  | Bad                                                                                               | 31* | 36* | 8   | 15  | 9   |
|                | Neither good or bad                                                                               | 30  | 29  | 11  | 18  | 13  |
|                | Good                                                                                              | 31  | 27  | 13* | 19  | 16  |
| Long standing illness | Yes                                                                                       | 33* | 31* | 11  | 18  | 13  |
|                | No                                                                                                | 29  | 25  | 14  | 19  | 16* |

Base: Whole sample.
### Table 52: Information and Communication Technology utilisation (D10a) by socio-demographics

| % At least once                                                                 | Accessed or uploaded your information or health record through an Internet application provided by your healthcare organization | Used a game console to play games related with your health or your wellness | Used a health/wellness application on your mobile phone | Used devices to transmit vital signs or other clinical information and/or received alarms or follow-up about your health | Received any message about health promotion and/or health prevention |
|---------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|----------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|
| Gender                                                                           | Male 20* 26* 23* 26* 41*                                                                                                |                                                                           |                                                          |                                                                                                           |                                                                     |
|                                                                                  | Female 12 19 14 16 33                                                                                                     |                                                                           |                                                          |                                                                                                           |                                                                     |
| Age group                                                                        | 16-24 26* 38* 33* 30* 47*                                                                                                  |                                                                           |                                                          |                                                                                                           |                                                                     |
|                                                                                  | 25-54 15 22 17 20 36                                                                                                     |                                                                           |                                                          |                                                                                                           |                                                                     |
|                                                                                  | 55-74 7 5 4 16 29                                                                                                        |                                                                           |                                                          |                                                                                                           |                                                                     |
| Level of education completed                                                     | Primary or lower secondary education 15 20 16 22 33                                                                      |                                                                           |                                                          |                                                                                                           |                                                                     |
|                                                                                  | Upper secondary education 17 23 19 22* 37                                                                                   |                                                                           |                                                          |                                                                                                           |                                                                     |
|                                                                                  | Tertiary education 15 22 19 19 39*                                                                                           |                                                                           |                                                          |                                                                                                           |                                                                     |
| Situation                                                                        | Employed or self-employed 16 23 19 21 38                                                                                   |                                                                           |                                                          |                                                                                                           |                                                                     |
|                                                                                  | Unemployed 14 20 15 18 34                                                                                                  |                                                                           |                                                          |                                                                                                           |                                                                     |
|                                                                                  | Student 23* 36* 31* 30* 48*                                                                                                 |                                                                           |                                                          |                                                                                                           |                                                                     |
|                                                                                  | Other not in the labour force 8 9 7 17 28                                                                                   |                                                                           |                                                          |                                                                                                           |                                                                     |
| Type of locality                                                                 | Densely-populated area 18* 25* 21* 22* 41*                                                                                   |                                                                           |                                                          |                                                                                                           |                                                                     |
|                                                                                  | Intermediate area 15 22 18 20 36                                                                                             |                                                                           |                                                          |                                                                                                           |                                                                     |
|                                                                                  | Thinly-populated area 11 18 13 20 32                                                                                         |                                                                           |                                                          |                                                                                                           |                                                                     |
| Health status                                                                    | Bad 12 14 12 22 36                                                                                                          |                                                                           |                                                          |                                                                                                           |                                                                     |
|                                                                                  | Neither good or bad 15 18 16 21 36                                                                                           |                                                                           |                                                          |                                                                                                           |                                                                     |
|                                                                                  | Good 16 24* 19* 21 38                                                                                                      |                                                                           |                                                          |                                                                                                           |                                                                     |
| Long standing illness                                                            | Yes 14 18 15 22* 37*                                                                                                       |                                                                           |                                                          |                                                                                                           |                                                                     |
|                                                                                  | No 17* 25* 20* 20 37                                                                                                      |                                                                           |                                                          |                                                                                                           |                                                                     |

Base: Whole sample.

On a per-country basis, the greater intensity of use of the majority of ICTs for health is clearly evident in Italy, which leads the way for online consultations through videoconferencing with health professionals, accessing and obtaining medical information through an Internet provider, the use of consoles or games related to health or wellness, the use of health applications on mobile
telephones, and for having received online health promotions or health preventions. Furthermore, the high level of appointments made, changed or cancelled at health centres in Spain also has to be highlighted (53.9%), or the sending or receiving of emails by health professionals and organizations in Denmark (50.7%).

**Table 53: Information and Communication Technology utilisation (D10a) by socio-demographics by country**

| At least once (%)                                      | AT | BE | DE | DK | EE | ES | FI | FR | IT | NL | SE | SK | SL | UK |
|-------------------------------------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Made, cancelled or changed an appointment with your family doctor, specialist or other health professionals online | 27 | 24 | 26 | 39 | 39 | 54 | 47 | 17 | 32 | 21 | 32 | 17 | 15 | 25 |
| Sent or received an email from your doctor, nurse or health care organization | 28 | 22 | 28 | 51 | 32 | 25 | 30 | 19 | 36 | 25 | 31 | 19 | 20 | 19 |
| Made an online consultation through videoconference with your doctor or nurse | 7  | 8  | 11 | 10 | 6  | 17 | 7  | 10 | 19 | 9  | 4  | 10 | 7  | 9  |
| Received online the results of your clinical or medical test. | 18 | 15 | 16 | 34 | 21 | 24 | 17 | 16 | 31 | 14 | 9  | 11 | 11 | 9  |
| Accessed or uploaded your medical information or health record through an Internet provider | 12 | 13 | 14 | 13 | 12 | 19 | 9  | 12 | 20 | 15 | 5  | 11 | 10 | 9  |
| Accessed or uploaded your medical information or health record through an Internet application provided by your healthcare organization | 13 | 13 | 15 | 17 | 18 | 19 | 7  | 14 | 22 | 13 | 6  | 11 | 10 | 8  |
| Used a game console to play games related with your health or your wellness | 18 | 15 | 22 | 16 | 11 | 27 | 18 | 21 | 25 | 20 | 12 | 16 | 14 | 14 |
| Used a health/wellness application on your mobile phone | 17 | 10 | 18 | 13 | 12 | 20 | 12 | 15 | 22 | 12 | 14 | 16 | 10 | 14 |
| Used devices to transmit vital signs or other clinical information and/or received alarms or follow-up about your health anytime, anywhere | 23 | 20 | 24 | 15 | 19 | 25 | 12 | 14 | 23 | 24 | 13 | 27 | 24 | 12 |
| Received any message about health promotion and/or health prevention | 32 | 30 | 37 | 26 | 49 | 43 | 32 | 35 | 47 | 23 | 22 | 38 | 45 | 20 |

Base: Whole sample.
8.2 ICT for Health willingness and awareness

Individuals who stated they never carry out these activities or they were not aware of them were asked about their willingness to carry out these activities.

Table 54: Internet for Health utilisation (D1b)

| Activity                                                                 | Likely (%) | Base % of whole sample* |
|-------------------------------------------------------------------------|------------|--------------------------|
| look for information about a physical illness or condition that you or someone you know has | 40         | 84                       |
| use email or gone to a web site to communicate with a doctor or a doctor's office | 32         | 29                       |
| look for information about wellness or lifestyle                        | 29         | 75                       |
| click on a health or medical web site's privacy policy to read about how the site uses personal information | 25         | 35                       |
| describe a medical condition or problem online in order to get advice from an online doctor | 24         | 26                       |
| keep a health web site "bookmarked", or saved as a "favourite place", so you can go back to it regularly | 23         | 47                       |
| look to see what company or organization is providing the advice or information that appears on a health web site | 23         | 48                       |
| participate in an online support group for people who are concerned about the same health or medical issue | 18         | 28                       |
| look for information about a mental health issue like depression or anxiety | 16         | 45                       |
| describe a medical condition or problem online in order to get advice from other online users (peers) | 15         | 31                       |
| buy medicine or vitamins online                                         | 14         | 32                       |
| participate in Social Networking Sites talking about health and wellness | 14         | 31                       |
| disclose medical information on Social Networking Sites                | 7          | 21                       |
| disclose medical information on websites to share pictures, videos, movies, etc. | 6          | 19                       |

* 'Never' or 'I was not aware of it' in the equivalent question in D1a.
| likely                      | 0.49 | 0.28 |
|-----------------------------|------|------|
| Make, cancel or change an appointment with your family doctor, specialist or other health professionals online | 49   | 28   |
| Send or receive an email from your doctor, nurse or health care organization | 43   | 25   |
| Receive online the results of your clinical or medical test. | 43   | 17   |
| Access or upload your medical information or health record through an Internet provider (ex. Google Health, Microsoft Vault…) | 22   | 13   |
| Access or upload your medical information or health record through Internet application provided by your healthcare organization | 28   | 14   |
| Use a game console to play games related with your health or your wellness | 12   | 20   |
| Use a health/wellness application on your mobile phone | 14   | 16   |
| Use devices (as pulse meter, glucose meter…) to transmit vital signs or other clinical information and/or received alarms or follow-up about your health anytime, anywhere | 25   | 19   |
| Receive any message about health promotion and/or health prevention | 28   | 34   |

* ‘Never’ or ‘I was not aware of it’ in the equivalent question in D10a.
9. INTERNET HEALTH INFORMATION

9.1 Internet health information utilisation

When it comes to the nature of the health or wellness information that is being searched online, it is important to indicate that the large majority of the sampled European population (84.5%) looks for information for their own use. Information searches for other people, such as parents (39.1%), children (29.1%), other relatives (39.4%) and people other than relatives (39.4%) fall very short of information searches for personal use.

**Figure 53: Social life of Internet health information (D2)**

![Bar chart showing information searches for personal and others]

Base: Looked for information about a physical illness or about wellness or lifestyle (88% of whole sample).

With respect to the socio-demographic categories of the surveyed population, the individual or collective nature of the health information searches leads to some significant conclusions. Firstly, that woman are characterized by their greater usage of the Internet for health than men, both in terms of individual information (87%), and particularly, when it comes to information for other people (32% for children and 42% for parents). Secondly, to highlight that the youngest population tends to look for information for themselves (86% for the population aged between 16 and 24 years old) or for their parents (43%), whilst the oldest population is characterized by information searching for their children (36% of the 25 to 54 years old sample) or for their partners (42% of the 55 and 74 years old sample). Thirdly, greater uses of the Internet for health can be seen, both for personal use and for that of other people, in larger households. Finally, with respect to state of health, two arguments are evident. Firstly, the population in a bad state of health tends to look for information for personal use (95%). Secondly, the sampled population with long standing illnesses combines their use mainly for personal information (91%) with the use to find information for other people, in particular their partner (42%) and people other than relatives (37%).
**Table 56: Internet for health utilisation (D2) by socio-demographics**

| % Yes | Yourself | Child | Parent | Another relative | Someone else |
|-------|----------|-------|--------|------------------|--------------|
| **Gender** | | | | | |
| Male | 82 | 26 | 36 | 38 | 33 |
| Female | 87* | 32* | 42* | 41* | 38* |
| **Age group** | | | | | |
| 16-24 | 86 | 12 | 43* | 40 | 44 |
| 25-54 | 85 | 36* | 42* | 39 | 35 |
| 55-74 | 81 | 25 | 25 | 42* | 28 |
| **Level of education completed** | | | | | |
| Primary or lower secondary education | 84 | 30 | 30 | 35 | 31 |
| Upper secondary education | 85 | 29 | 40* | 41* | 35 |
| Tertiary education | 84 | 29 | 42* | 40 | 38 |
| **Situation** | | | | | |
| Employed or self-employed | 84 | 34* | 41* | 39 | 35 |
| Unemployed | 84 | 30 | 42* | 39 | 36 |
| Student | 86* | 10 | 45* | 41 | 46* |
| Other not in the labour force | 85 | 30 | 27 | 41 | 28 |
| **Type of locality** | | | | | |
| Densely-populated area | 86* | 27 | 40 | 40 | 40* |
| Intermediate area | 84 | 30 | 40 | 40 | 34 |
| Thinly-populated area | 82 | 31* | 35 | 37 | 30 |
| **Members in the household** | | | | | |
| 1 | 86 | 9 | 30 | 26 | 39 |
| 2 | 85 | 16 | 33 | 41* | 34 |
| 3 | 84 | 42* | 45* | 43* | 35 |
| 4+ | 84 | 42* | 46 | 42* | 36 |
| **Health status** | | | | | |
| Bad | 95* | 27 | 33 | 38 | 34 |
| Neither good or bad | 90* | 28 | 40 | 39 | 35 |
| Good | 82 | 30 | 39 | 40 | 36 |
| **Long standing illness** | | | | | |
| Yes | 91* | 29* | 38 | 42* | 37* |
| No | 79 | 29 | 39 | 37 | 34 |

Base: Looked for information about a physical illness or or about wellness or lifestyle (88% of whole sample).

On a per-country basis, intense use of the Internet for health can be seen, both from an individual perspective and for other people, in Estonia, Slovakia and Slovenia, whilst Finland stands out in terms of information for personal use and for children, the United Kingdom for information for personal use, and Spain and Italy for information for parents and other relatives.
Table 57: Internet for Health utilisation (D2) by country

| Yes (%) | AT | BE | DE | DK | EE | ES | FI | FR | IT | NL | SE | SK | SL | UK |
|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Yourself| 87 | 74 | 88 | 84 | 89 | 85 | 89 | 78 | 85 | 72 | 83 | 88 | 90 | 89 |
| Child   | 32 | 30 | 23 | 26 | 56 | 30 | 39 | 33 | 29 | 32 | 36 | 47 | 44 | 28 |
| Parent  | 39 | 33 | 36 | 23 | 55 | 51 | 39 | 41 | 56 | 28 | 27 | 54 | 61 | 29 |
| Another relative | 39 | 34 | 35 | 34 | 44 | 48 | 32 | 40 | 52 | 38 | 29 | 52 | 46 | 34 |
| Someone else | 41 | 29 | 42 | 28 | 49 | 37 | 37 | 27 | 47 | 31 | 35 | 44 | 49 | 28 |

Base: Looked for information about a physical illness or or about wellness or lifestyle (88% of whole sample).

When it comes to motives for using the Internet for health for personal use or for others, it is important to indicate two basic conclusions. The first is that the use of online personal health information is directly associated with visiting the doctor. 51% of the sampled European citizens consulted the Internet for personal health information before visiting the doctor, and 51% of the sampled European citizens consulted the Internet for personal health information after visiting the doctor. The second is that the use of online health information for other people is mainly related to a visit to the doctor that has already taken place (46%) or is unrelated to visiting the doctor (44%).

Figure 54: Internet health information and doctor’s consultation (D3)

Base: Looked for information about a physical illness or about wellness or lifestyle (88% of whole sample).
Figure 55: Internet health information and doctor’s consultation (D4)

D4. Did you happen to go looking for this health information for another person...?

| Before visiting a doctor or clinic | After visiting a doctor or clinic | Unrelated to visiting a doctor or clinic | Instead of visiting a doctor or clinic |
|-----------------------------------|----------------------------------|----------------------------------------|---------------------------------------|
| 34                                | 46                               | 9                                      | 44                                    |

Base: Looked for information about a physical illness or about wellness or lifestyle (88% of whole sample).

With respect to the socio-demographic characteristics of the sampled European population, the motives for the use of the personal online health information are linked with visiting the doctor and are carried out differentially by women, young people, those with a tertiary education, students, those in densely populated areas, and households with many members. When it comes to state of health, 69% of the sampled population in a bad state of health uses online information for personal use after visiting the doctor. In the same manner, 60% of the sampled population with a long-standing illness use online information for personal use after visiting the doctor.
Table 58: Did you happen to go looking for this health information for yourself...?, by socio-demographic variables (D3) by socio-demographics

| % Yes | Before visiting a doctor or clinic | After visiting a doctor or clinic | Instead of visiting a doctor or clinic | Unrelated to visiting a doctor or clinic |
|-------|-----------------------------------|-----------------------------------|---------------------------------------|----------------------------------------|
| Gender |                                   |                                   |                                       |                                        |
| Male   | 51                                | 49                                | 13                                    | 39                                     |
| Female | 51                                | 52*                               | 15                                    | 39                                     |
| Age group |                                 |                                   |                                       |                                        |
| 16-24  | 61*                               | 43                                | 22*                                   | 41                                     |
| 25-54  | 51                                | 53*                               | 13                                    | 37                                     |
| 55-74  | 39                                | 51                                | 8                                     | 44*                                    |
| Level of education completed |                                   |                                   |                                       |                                        |
| Primary or lower secondary education | 45                                | 45                                | 15                                    | 39                                     |
| Upper secondary education | 49                                | 50                                | 14                                    | 39                                     |
| Tertiary education | 56*                               | 53*                               | 15                                    | 39*                                    |
| Situation |                                   |                                   |                                       |                                        |
| Employed or self-employed | 52                                | 51                                | 14                                    | 38                                     |
| Unemployed | 51                                | 50                                | 15                                    | 33                                     |
| Student | 60*                               | 44                                | 21*                                   | 44                                     |
| Other not in the labour force | 42                                | 55*                               | 9                                     | 41                                     |
| Type of locality |                                   |                                   |                                       |                                        |
| Densely-populated area | 55*                               | 50                                | 16*                                   | 39*                                    |
| Intermediate area | 50                                | 51                                | 13                                    | 39                                     |
| Thinly-populated area | 48                                | 50                                | 12                                    | 38                                     |
| Members in the household |                                   |                                   |                                       |                                        |
| 1      | 47                                | 48                                | 12                                    | 48*                                    |
| 2      | 49                                | 52                                | 14                                    | 40*                                    |
| 3      | 53*                               | 52                                | 14                                    | 35                                     |
| 4+     | 55*                               | 50                                | 15*                                   | 36                                     |
| Health status |                                   |                                   |                                       |                                        |
| Bad    | 48                                | 69*                               | 10                                    | 37                                     |
| Neither good or bad | 48                                | 58                                | 13                                    | 37                                     |
| Good   | 53*                               | 46                                | 15*                                   | 40                                     |
| Long standing illness |                                   |                                   |                                       |                                        |
| Yes    | 49                                | 60                                | 12                                    | 38                                     |
| No     | 53*                               | 43*                               | 16*                                   | 39                                     |

Base: Looked for information about a physical illness or about wellness or lifestyle (88% of whole sample).

On a per-country basis, Estonia, Finland, Slovakia and Slovenia again stand out for the medical visit motive for their personal and collective uses of online health information. Spain can be mentioned...
as a stand out case, leading the way in terms of use of e-health information for personal use and for other people, after visiting the doctor (59% and 61%, respectively), as can the cases of Slovakia and Slovenia, where a quarter of the population that makes personal use of online health information, doing so independently of the medical visit.

Table 59: Did you happen to go looking for this health information for yourself...?, by socio-demographic variables (D3) by country

| Yes (%)                  | AT  | BE  | DE  | DK  | EE  | ES  | FI  | FR  | IT  | NL  | SE  | SK  | SL  | UK  |
|--------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Before visiting a doctor or clinic | 49  | 41  | 52  | 49  | 64  | 51  | 62  | 51  | 56  | 41  | 49  | 54  | 60  | 50  |
| After visiting a doctor or clinic | 48  | 54  | 49  | 45  | 48  | 59  | 53  | 53  | 51  | 50  | 36  | 54  | 49  | 48  |
| Unrelated to visiting a doctor or clinic | 14  | 8   | 19  | 12  | 19  | 11  | 20  | 8   | 11  | 22  | 25  | 26  | 17  |
| Instead of visiting a doctor or clinic | 50  | 42  | 48  | 38  | 48  | 18  | 53  | 41  | 46  | 36  | 46  | 48  | 42  | 29  |

Base: Looked for information about a physical illness or about wellness or lifestyle (88% of whole sample).

With respect to the use of health information and the Internet for other people, the analysis of statistical differences again suggests intensive use linked with a medical visit by women, young people, households with many members, and a population that is in a bad state of health or has long-standing illnesses. As a differentiating factor, the use of online medical information for non-personal use, which is not linked to a medical visit, is evident in the older population (50.9% of people between 55 and 74 years old), the inactive (49.8%) and single member households (55.1%).
Table 60: Did you happen to go looking for this health information for another person? by socio-demographic variables (D3) by socio-demographics

| % Yes                      | Before visiting a doctor or clinic | After visiting a doctor or clinic | Instead of visiting a doctor or clinic | Unrelated to visiting a doctor or clinic |
|---------------------------|-----------------------------------|----------------------------------|---------------------------------------|------------------------------------------|
| **Gender**                |                                   |                                  |                                       |                                          |
| Male                      | 35                                | 44                               | 10                                    | 44                                       |
| Female                    | 34                                | 47*                              | 9                                     | 44                                       |
| **Age group**             |                                   |                                  |                                       |                                          |
| 16-24                     | 41*                               | 42                               | 15*                                   | 43                                       |
| 25-54                     | 35                                | 48*                              | 9                                     | 43                                       |
| 55-74                     | 26                                | 39                               | 5                                     | 51*                                      |
| **Level of education completed** |                               |                                  |                                       |                                          |
| Primary or lower secondary education | 31 | 39 | 9 | 45 |
| Upper secondary education | 33 | 47 | 10 | 44 |
| Tertiary education        | 38* | 47 | 9 | 44* |
| **Situation**             |                                   |                                  |                                       |                                          |
| Employed or self-employed| 36                                | 47                               | 9                                     | 43                                       |
| Unemployed                | 38                                | 43                               | 9                                     | 40                                       |
| Student                   | 35                                | 45                               | 15*                                   | 43                                       |
| Other not in the labour force | 25 | 43 | 8 | 50* |
| **Type of locality**      |                                   |                                  |                                       |                                          |
| Densely-populated area    | 36*                               | 47                               | 10                                    | 43                                       |
| Intermediate area         | 33                                | 44                               | 10                                    | 44                                       |
| Thinly-populated area     | 33                                | 45                               | 8                                     | 44                                       |
| **Members in the household** |                               |                                  |                                       |                                          |
| 1                         | 27                                | 41                               | 7                                     | 55*                                      |
| 2                         | 32                                | 45                               | 9                                     | 44                                       |
| 3                         | 36*                               | 44                               | 9                                     | 43                                       |
| 4+                        | 38*                               | 48                               | 11*                                   | 40                                       |
| **Health status**         |                                   |                                  |                                       |                                          |
| Bad                       | 30                                | 52*                              | 10                                    | 47                                       |
| Neither good or bad       | 31                                | 46                               | 8                                     | 45                                       |
| Good                      | 36*                               | 45                               | 10                                    | 44                                       |
| **Long standing illness** |                                   |                                  |                                       |                                          |
| Yes                       | 33                                | 50*                              | 9                                     | 44                                       |
| No                        | 36*                               | 42                               | 10                                    | 43                                       |

Base: Looked for information about a physical illness or about wellness or lifestyle (88% of whole sample).
Table 61: Did you happen to go looking for this health information for another person..., by country (D3) by country

| Yes (%)                                      | AT | BE | DE | DK | EE | ES | FI | FR | IT | NL | SE | SK | SL | UK |
|----------------------------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Before visiting a doctor or clinic           | 31 | 26 | 34 | 28 | 41 | 37 | 49 | 33 | 38 | 24 | 35 | 35 | 36 | 35 |
| After visiting a doctor or clinic            | 43 | 39 | 46 | 34 | 41 | 61 | 47 | 44 | 48 | 35 | 40 | 43 | 47 | 40 |
| Unrelated to visiting a doctor or clinic     | 9  | 7  | 12 | 9  | 12 | 7  | 13 | 6  | 7  | 10 | 9  | 13 | 13 | 13 |
| Instead of visiting a doctor or clinic       | 50 | 55 | 47 | 49 | 49 | 24 | 52 | 49 | 48 | 51 | 46 | 50 | 45 | 39 |

Base: Looked for information about a physical illness or about wellness or lifestyle (88% of whole sample).

With respect to the usefulness of the health information obtained online, around two-thirds (65%) of the sampled European population consider it to be somewhat useful. Furthermore, an additional fifth part of the sample (20%) considers it to be very useful.

Figure 56: How useful was the health information you got online? (D5)

Base: Looked for information about a physical illness or about wellness or lifestyle (88% of whole sample).

With respect to the socio-demographic characteristics of the population, the perception of the usefulness of the online health information stands out in the employed (66.0%) and students (67.0%), in the same manner that the information is perceived to have a greater usefulness for the population with secondary education (20.9%), the unemployed (22.0%), households with many members (21.5%) and people with long standing illnesses (22.5%). As a negative counterpoint, 5.0% of the 55 to 74 year old population who consulted online health information do not find it useful.
Table 62: How useful was the health information you got online? (DS) by socio-demographics

|                        | Not at all useful | Not too useful | Somewhat useful | Very useful |
|------------------------|-------------------|----------------|-----------------|-------------|
| Gender                 |                   |                |                 |             |
| Male                   | 2                 | 12             | 66              | 19          |
| Female                 | 2                 | 12             | 65              | 22          |
| Age group              |                   |                |                 |             |
| 16-24                  | 2                 | 13             | 67              | 18          |
| 25-54                  | 2                 | 11             | 66              | 22          |
| 55-74                  | 5*                | 13             | 63              | 19          |
| Level of education completed |       |                |                 |             |
| Primary or lower secondary education | 3 | 11 | 64 | 22 |
| Upper secondary education | 2 | 12 | 65 | 21* |
| Tertiary education     | 2                 | 12             | 66              | 19          |
| Situation              |                   |                |                 |             |
| Employed or self-employed | 2 | 11 | 66* | 21 |
| Unemployed             | 2                 | 11             | 64              | 22*         |
| Student                | 2                 | 15             | 67*             | 16          |
| Other not in the labour force | 4* | 12 | 63 | 21 |
| Type of locality       |                   |                |                 |             |
| Densely-populated area | 2                 | 11             | 66              | 21          |
| Intermediate area      | 2                 | 12             | 66              | 20          |
| Thinly-populated area  | 3                 | 13             | 64              | 20          |
| Members in the household |     |                |                 |             |
| 1                      | 3                 | 11             | 66              | 21          |
| 2                      | 3                 | 13             | 65              | 20          |
| 3                      | 2                 | 12             | 66              | 20          |
| 4+                     | 2                 | 12             | 66              | 22*         |
| Long standing illness  |                   |                |                 |             |
| Yes                    | 2                 | 11             | 64              | 23*         |
| No                     | 3                 | 12             | 67              | 19          |

Base: Looked for information about a physical illness or about wellness or lifestyle (88% of whole sample).
On a per-country basis, Germany (24%), Spain (24%), Holland (20%), Sweden (22%), and particularly, Austria (26.5%), Slovenia (30.6%) and the United Kingdom (23.5%) stand out for a very positive perception of the usefulness of the medical information consulted online.

**Figure 57: How useful was the health information you got online? (D5) by country**

| Country | Not at all useful | Not too useful | Somewhat useful | Very useful |
|---------|------------------|----------------|-----------------|------------|
| AT      | 12%              | 15%            | 9%              | 4%         |
| BE      | 57%              | 64%            | 63%             | 65%        |
| DE      | 27%              | 14%            | 24%             | 5%         |
| DK      | 24%              | 36%            | 17%             | 1%         |
| EE      | 17%              | 24%            | 24%             | 12%        |
| ES      | 15%              | 12%            | 17%             | 20%        |
| FI      | 16%              | 12%            | 20%             | 13%        |
| FR      | 12%              | 17%            | 71%             | 67%        |
| IT      | 13%              | 13%            | 68%             | 67%        |
| NL      | 12%              | 13%            | 71%             | 67%        |
| SE      | 12%              | 13%            | 68%             | 67%        |
| SK      | 12%              | 13%            | 68%             | 67%        |
| SL      | 12%              | 13%            | 68%             | 67%        |
| UK      | 12%              | 13%            | 68%             | 67%        |

Base: Looked for information about a physical illness or about wellness or lifestyle (88% of whole sample).

Another way of discovering the usefulness of online medical information is that it can lead to users gaining new knowledge. Relevant information of this type has also been obtained from the research. Three-quarters of the sampled European population indicate that they have found online medical information to be useful for learning something.
This learning is characterized by young people (78.5%), the middle age group (76.3% aged between 25 and 54 years old), those with a tertiary education (76.8%), students (78.3%), and households with more members. On the other hand, the inability to learn through the use of online medical information is characterized by older people (25.2% of the population aged between 55 and 74 years old), those with primary or lower secondary education (22.5%), the inactive (21.9%), those that live in thinly populated areas (20.6%) and households with few members (10.7% in single member households).

Table 63: Did you learn anything NEW from the information you got online, or not? (D6) by socio-demographics

| Gender         | Yes  | No  | Don't know |
|----------------|------|-----|------------|
| Male           | 76   | 17  | 8          |
| Female         | 74   | 18  | 8          |

| Age group      | Yes  | No  | Don't know |
|----------------|------|-----|------------|
| 16-24          | 79*  | 13  | 9          |
| 25-54          | 76*  | 16  | 8          |
| 55-74          | 66   | 25* | 9          |

| Level of education completed | Yes  | No  | Don't know |
|------------------------------|------|-----|------------|
| Primary or lower secondary education | 70   | 23* | 8          |
| Upper secondary education    | 75   | 17  | 8          |
| Tertiary education           | 77*  | 16  | 8          |

| Situation                 | Yes  | No  | Don't know |
|---------------------------|------|-----|------------|
| Employed or self-employed | 76   | 17  | 8          |
| Unemployed                | 75   | 17  | 8          |
| Student                   | 78*  | 14  | 8          |
| Other not in the labour force | 70   | 22* | 9          |

| Type of locality          | Yes  | No  | Don't know |
|----------------------------|------|-----|------------|
| Densely-populated area    | 77   | 16  | 8          |
| Intermediate area         | 76   | 17  | 8          |
| Thinly-populated area     | 71   | 21* | 8          |

| Members in the household | Yes  | No  | Don't know |
|--------------------------|------|-----|------------|
| 1                        | 72   | 20* | 9          |
| 2                        | 73   | 19  | 8          |
| 3                        | 77*  | 15  | 8          |
| 4+                       | 77*  | 15  | 7          |

| Long standing illness     | Yes  | No  | Don't know |
|---------------------------|------|-----|------------|
|                           | 76   | 18  | 7          |
|                           | 75   | 17  | 8          |

Base: Looked for information about a physical illness or about wellness or lifestyle (88% of whole sample).
On a per-country basis, learning through online medical information stands out in Spain (82.6%), Italy (82%), Slovakia (85%) and Slovenia (91%).

**Figure 59: Did you learn anything NEW from the information you got online, or not? (D6) by country**

![Bar chart showing the percentage of people who learned something new from online information by country.](chart)

Base: Looked for information about a physical illness or about wellness or lifestyle (88% of whole sample).

The capacity for user interaction with online health information is also an element of this research. In this respect, a little under half of the sampled European citizens (46.8%) had spoken with a doctor or a nurse about information obtained online.

**Figure 60: Did you later talk to a doctor or nurse about the information you got online? (D7)**

![Pie chart showing the percentage of people who talked to a doctor or nurse about online information.](chart)

Base: Looked for information about a physical illness or about wellness or lifestyle (88% of whole sample).
Among those that stand out having interacted with health professionals after consulting online health information are people aged between 25 and 54 years old (48.0%), those with a tertiary education (49.2%), the employed (48.3%) the inactive (47.8%), those from 3 member households (48.6%) and people with long standing illnesses (54.8%). On the other hand, non-interaction with health professionals after consulting for online health information is characterized by people having attained low levels of education (51.8%), the unemployed (48.7%) and students (49.5%), and those without long standing illnesses (52.0%).

Table 64: Did you later talk to a doctor or nurse about the information you got online? (D7) by socio-demographics

|                | Yes | No  | Don’t know |
|----------------|-----|-----|------------|
| Gender         |     |     |            |
| Male           | 47  | 46  | 6          |
| Female         | 47  | 47  | 6          |
| Age group      |     |     |            |
| 16-24          | 44  | 46  | 9          |
| 25-54          | 48* | 47  | 5          |
| 55-74          | 46  | 48  | 6          |
| Level of education completed |     |     |            |
| Primary or lower secondary education | 42  | 52* | 6          |
| Upper secondary education | 47  | 47  | 7          |
| Tertiary education | 49* | 45  | 6          |
| Situation      |     |     |            |
| Employed or self-employed | 48* | 46  | 6          |
| Unemployed     | 47  | 49* | 5          |
| Student        | 41  | 50* | 10         |
| Other not in the labour force | 48* | 47  | 5          |
| Type of locality |    |     |            |
| Densely-populated area | 48  | 46  | 7          |
| Intermediate area | 48  | 46  | 7          |
| Thinly-populated area | 45  | 51  | 5          |
| Members in the household |     |     |            |
| 1              | 44  | 49  | 8          |
| 2              | 47  | 47  | 6          |
| 3              | 49* | 45  | 6          |
| 4+             | 48  | 47  | 5          |
| Long standing illness |     |     |            |
| Yes            | 55* | 40  | 5          |
| No             | 42  | 52* | 6          |

Base: Looked for information about a physical illness or about wellness or lifestyle (88% of whole sample).

On a per-country basis, interaction with professionals with respect to the use of online medical information stands out in Belgium (49.5%), Spain (48.9%), Slovenia (53.0%) and, above all, in Italy (60.5%).
Figure 61: Did you later talk to a doctor or nurse about the information you got online? (D7) by country

Base: Looked for information about a physical illness or about wellness or lifestyle (88% of whole sample).

Information has also been obtained about whether getting online health information had changed individual decisions about treatments or the way citizens care for themselves. 44.2% of the sampled European population stated that the use of the online medical information affected their decisions about health treatments or the way they take care of themselves.

Figure 62: Did the information you got online affect any of your decisions about health treatments or the way you take care of yourself? (D8)

Base: Looked for information about a physical illness or about wellness or lifestyle (88% of whole sample).
The changing of health decisions as a consequence of online medical information is characterized by the young (48.9% of the sampled citizens aged between 16 and 24 years old have changed their health decisions as a result of using e-health information), students (49.9%), those living in densely populated areas (46.7%), households with many members, and people with long standing illnesses (47.3%). With respect to the characteristics of the people that have not changed their health decisions as a result of consulting online medical information, the following stand out: the older population (64.3% of citizens aged between 55 and 74 years old), those with lower education levels (58.8%), the inactive (60.7%), those residing in thinly populated areas (60.1%), households with few members and without long standing illnesses (58.2%).

Table 65: Did the information you got online affect any of your decisions about health treatments or the way you take care of yourself? (D8) by socio-demographics

| Gender      | Yes | No |
|-------------|-----|----|
| Male        | 44  | 56 |
| Female      | 44  | 56 |

| Age group   | Yes | No |
|-------------|-----|----|
| 16-24       | 49  | 51 |
| 25-54       | 45  | 55 |
| 55-74       | 36  | 64 |

| Level of education completed | Yes | No |
|------------------------------|-----|----|
| Primary or lower secondary education | 41  | 59 |
| Upper secondary education    | 43  | 57 |
| Tertiary education           | 46  | 54 |

| Situation                  | Yes | No |
|-----------------------------|-----|----|
| Employed or self-employed   | 44  | 56 |
| Unemployed                  | 44  | 56 |
| Student                     | 50  | 50 |
| Other not in the labour force | 39  | 61 |

| Type of locality            | Yes | No |
|-----------------------------|-----|----|
| Densely-populated area      | 47  | 53 |
| Intermediate area           | 44  | 56 |
| Thinly-populated area       | 40  | 60 |

| Members in the household    | Yes | No |
|-----------------------------|-----|----|
| 1                           | 42  | 58 |
| 2                           | 42  | 58 |
| 3                           | 46  | 54 |
| 4+                          | 47  | 54 |

| Long standing illness       | Yes | No |
|-----------------------------|-----|----|
| Yes                         | 47  | 53 |
| No                          | 42  | 58 |

Base: Looked for information about a physical illness or about wellness or lifestyle (88% of whole sample).
On a per-country basis, and as is now becoming the norm, Estonia (57.6%), Finland (52.2%), Slovakia (68.4%) and Slovenia (68.2%) stand out for changing their health decisions due to the use of online medical information.

**Figure 63: Did the information you got online affect any of your decisions about health treatments or the way you take care of yourself? (D8) by country**

| Country | Yes | No |
|---------|-----|----|
| AT      | 57% | 43%|
| BE      | 60% | 40%|
| DE      | 52% | 48%|
| DK      | 58% | 42%|
| EE      | 42% | 58%|
| ES      | 54% | 46%|
| FI      | 48% | 52%|
| FR      | 62% | 38%|
| IT      | 52% | 48%|
| NL      | 56% | 44%|
| SE      | 60% | 40%|
| SK      | 32% | 68%|
| SL      | 32% | 68%|
| UK      | 61% | 39%|

Base: Looked for information about a physical illness or about wellness or lifestyle (88% of whole sample).

Lastly, information has also been collected on whether the use of online health information affects the way the sampled citizens eat or exercise. A little over a third of the European population (37.2%) states that to be the case.

**Figure 64: Did the information you got online affect the way you eat or exercise? (D9)**

Base: Looked for information about a physical illness or about wellness or lifestyle (88% of whole sample).
Again, the young population (41.2% of the population aged between 16 and 24 years old), those with a tertiary education (40.2%), students (41.2%), and residents of densely populated areas (40.9%) lead the way with respect to changing eating and exercise habits due to the use of online health information. On the other hand, a lack of change of eating and exercise habits due to the use of online information is characterised by the older population (60.6%), the inactive (61.7%), those residing in thinly populated areas (61.7%) and households with few members (58.0%).

**Table 66: Did the information you got online affect the way you eat or exercise? (D9) by socio-demographics**

|                          | Yes | No  | Don't know |
|--------------------------|-----|-----|------------|
| **Gender**               |     |     |            |
| Male                     | 38  | 54  | 8          |
| Female                   | 36  | 56  | 8          |
| **Age group**            |     |     |            |
| 16-24                    | 41* | 48  | 11         |
| 25-54                    | 37  | 56  | 7          |
| 55-74                    | 33  | 61* | 6          |
| **Level of education completed** |     |     |            |
| Primary or lower secondary education | 32  | 61* | 7          |
| Upper secondary education | 36  | 55  | 9          |
| Tertiary education       | 40* | 53  | 7          |
| **Situation**            |     |     |            |
| Employed or self-employed | 38  | 55  | 7          |
| Unemployed               | 36  | 55  | 8          |
| Student                  | 41* | 48  | 11         |
| Other not in the labour force | 31  | 62* | 7          |
| **Type of locality**     |     |     |            |
| Densely-populated area   | 41* | 50  | 9          |
| Intermediate area        | 37  | 56  | 8          |
| Thinly-populated area    | 32  | 63* | 6          |
| **Members in the household** |     |     |            |
| 1                        | 34  | 58* | 9          |
| 2                        | 36  | 57  | 7          |
| 3                        | 38  | 54  | 8          |
| 4+                       | 40* | 52  | 9          |
| **Long standing illness**|     |     |            |
| Yes                      | 38  | 55  | 7          |
| No                       | 37  | 55  | 8          |

Base: Looked for information about a physical illness or about wellness or lifestyle (88% of whole sample).

On a per-country basis, the change of eating and exercise habits due to e-health information is more effective in Spain (50.3%), Finland (51.2%), Slovakia (53.9%) and Slovenia (58.3%).
Figure 65: Did the information you got online affect the way you eat or exercise? (D9) by country

Base: Looked for information about a physical illness or about wellness or lifestyle (88% of whole sample).
9.2 Factors for the evaluation of an Internet health site

The research has also captured the motives considered to be important by the sampled European citizens when it comes to evaluating a health website. 70.2% of the sampled population considers it to be very important that personal information is securely handled, 63.0% that the information is provided in the user's own language, 62.4% that the information should be updated, and 54.1% that health professionals should be involved online. Some distance behind, the population places a high level of importance on the fact that the website clearly states who is responsible for it (39.7%), that there are health organisations involved (36.1%), that there is interactivity (22.4%) and that governments are involved (18.4%).

Figure 66: Internet website evaluation (D12)

| D12. Regardless of whether you have used Information and Communication Technologies or the Internet for healthcare or wellness purposes, would you tell us how important the following factors are when evaluating an internet health site? |
|--------------------------------------------------|
| Not important at all | Not so important | Somewhat important | Very important |
| Governments are involved | 15 | 31 | 35 | 18 |
| Health organizations are involved | 5 | 15 | 44 | 36 |
| Clearly stated who is responsible for sponsoring the site | 8 | 19 | 33 | 40 |
| Health professionals are involved | 3 | 9 | 34 | 54 |
| Interactivity, e.g. Question-and-answer service, discussion groups, chat | 9 | 27 | 42 | 22 |
| Updated information | 3 | 6 | 28 | 62 |
| Information in my own language | 3 | 8 | 26 | 63 |
| Secure handling of personal information | 3 | 6 | 21 | 70 |

Base: Whole sample.

With respect to the socio-demographic characteristics of the population, women stand out for awarding much more relevance to the defined factors for evaluating a health website (over 90% of women consider personal information, language adaptation and updating as very important). Men only stand out for their preference for government involvement (55.2%). The middle age groups, higher levels of education, population density, and the presence of long standing illnesses are associated with the defined indicators when it comes to assessing the effectiveness of a health website.
| Important (%) | Secure handling of personal information | Information in my own language | Updated information | Interactivity | Health professionals are involved | Clearly stated who is responsible for sponsoring the site | Health organization s are involved | Governments are involved |
|---------------|---------------------------------------|--------------------------------|---------------------|--------------|---------------------------------|--------------------------------------------------------|-----------------------------|--------------------------|
| Gender        |                                       |                                |                     |              |                                 |                                                        |                             |                          |
| Male          | 90                                    | 87                             | 89                  | 63           | 87                              | 73                                                     | 79                          | 55*                      |
| Female        | 92*                                   | 91*                            | 92*                 | 65*          | 90*                             | 73                                                     | 81*                         | 52                       |
| Age group     |                                       |                                |                     |              |                                 |                                                        |                             |                          |
| 16-24         | 88                                    | 84                             | 86                  | 67*          | 84                              | 66                                                     | 77                          | 56                       |
| 25-54         | 89*                                   | 91*                            | 92*                 | 66*          | 89*                             | 74*                                                    | 81                          | 54                       |
| 55-74         | 93                                    | 92*                            | 91                  | 54           | 90*                             | 78*                                                    | 82                          | 51                       |
| Level of education completed |           |                                |                     |              |                                 |                                                        |                             |                          |
| Primary or lower secondary education | 89 | 88                             | 64                  | 86           | 68                              | 78                                                     | 50                          |                         |
| Upper secondary education | 91 | 90*                            | 64                  | 88           | 73                              | 80                                                     | 54                          |                         |
| Tertiary education | 91 | 87                             | 92*                 | 89*          | 74*                             | 82                                                     | 55                          |                         |
| Situation     |                                       |                                |                     |              |                                 |                                                        |                             |                          |
| Employed or self-employed | 91 | 89*                            | 91                  | 64           | 88                              | 73                                                     | 80                          | 53                       |
| Unemployed    | 91                                    | 90                             | 70*                 | 89           | 77                              | 81                                                     | 58*                         |                         |
| Student       | 89                                    | 84                             | 68*                 | 85           | 66                              | 77                                                     | 52                          |                         |
| Other not in the labour force | 93* | 92                           | 58                  | 89*          | 77*                             | 82                                                     | 54                          |                         |
| Type of locality |                                         |                                |                     |              |                                 |                                                        |                             |                          |
| Densely-populated area | 92 | 89                             | 92*                 | 67*          | 89*                             | 77*                                                    | 82                          | 56                       |
| Intermediate area | 91 | 90                             | 90                  | 65           | 88                              | 73                                                     | 80                          | 55                       |
| thinly-populated area | 90 | 88                             | 90                  | 58           | 87                              | 66                                                     | 77                          | 48                       |
| Health status |                                       |                                |                     |              |                                 |                                                        |                             |                          |
| Bad           | 93                                    | 92                             | 91                  | 65           | 89                              | 73                                                     | 79                          | 48                       |
| Neither good or bad | 92 | 91                             | 92                  | 62           | 91                              | 76                                                     | 82                          | 54*                      |
| Good          | 91                                    | 88                             | 90                  | 65           | 87                              | 72                                                     | 80                          | 54                       |
| Long standing illness |                                 |                                |                     |              |                                 |                                                        |                             |                          |
| Yes           | 93*                                   | 91*                            | 93*                 | 65*          | 91*                             | 77                                                     | 82                          | 52                       |
| No            | 89                                    | 87                             | 89                  | 64           | 86                              | 70                                                     | 79                          | 55                       |

Base: Whole sample.
On a per-country basis, and as in the previous case, Slovakia, Slovenia and the United Kingdom stand out from other countries in the sample in the majority of the defined indicators when assessing the perceived importance of health websites.

Table 68: Internet website evaluation (D12) by country

| Important ( % )                                      | AT | BE | DE | DK | EE | ES | FI | FR | IT | NL | SE | SK | SL | UK |
|-----------------------------------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Secure handling of personal information             | 93 | 88 | 94 | 89 | 95 | 91 | 93 | 86 | 88 | 86 | 91 | 96 | 97 | 96 |
| Information in my own language                      | 88 | 86 | 89 | 83 | 94 | 91 | 90 | 86 | 87 | 85 | 85 | 91 | 89 | 94 |
| Updated information                                  | 91 | 85 | 92 | 89 | 96 | 93 | 93 | 84 | 91 | 85 | 90 | 96 | 97 | 96 |
| Interactivity, e.g. Question-and-answer service, discussion groups, chat | 65 | 47 | 66 | 44 | 80 | 79 | 65 | 54 | 73 | 52 | 46 | 79 | 83 | 66 |
| Health professionals are involved                    | 88 | 80 | 89 | 85 | 93 | 92 | 91 | 81 | 89 | 84 | 87 | 94 | 96 | 93 |
| Clearly stated who is responsible for sponsoring the site | 65 | 65 | 68 | 72 | 60 | 88 | 64 | 56 | 80 | 77 | 79 | 58 | 75 | 86 |
| Health organizations are involved                    | 76 | 73 | 76 | 75 | 90 | 84 | 75 | 71 | 85 | 80 | 82 | 81 | 91 | 90 |
| Governments are involved                             | 34 | 67 | 35 | 40 | 62 | 62 | 43 | 58 | 63 | 77 | 33 | 45 | 49 | 63 |

Base: Whole sample.
10. ICT FOR PARTICIPATORY HEALTH

The research has also obtained and assessed information about the attitudes of citizens with respect to health information on the Internet. Specifically, the sampled population was asked what action came out of looking for information about health or illnesses on the Internet. 57.6% of the sample indicated that the health information obtained from the Internet was used to propose suggestions or queries about diagnosis or treatment to the family doctor. 56.6% indicated that they had an increased feeling of reassurance and relief. 54.3% suggested that their willingness to change diet or lifestyle habits improved. 46.7% suggested that they have used online medical information to make, cancel or change an appointment with the family doctor.

Some distance behind, 29.1% of the sampled citizens confirmed that the use of medical information for health improved their feelings of anxiety; and 17.7% of citizens have changed their use of medicine without consulting with their family doctor.

Figure 67: Internet health information consequences (D14)

| **D14. Assuming that you were provided the possibility of looking for health information on the Internet, would information on health or illness which you had obtained from the Internet lead to any of the following?** |
|-------------------------------------------------------------|
| Making, cancelling or changing an appointment with family doctor,... | Yes | No | Don't know |
| Changing of use of medicine without consulting your family... | 47 | 38 | 16 |
| Suggestions or queries on diagnosis or treatment to your family... | 18 | 68 | 14 |
| Willingness to change diet or other lifestyle habits | 58 | 25 | 17 |
| Feelings of reassurance or relief | 54 | 26 | 20 |
| Feelings of anxiety | 57 | 23 | 20 |

Base: Whole sample.

As is becoming the norm, women are seen to be much more sensitive to changes in attitude as a result of the use of medical information on the Internet, particularly in the proposal of suggestions or queries to the family doctor (60.5%) and in increased feelings of reassurance and relief. Men, however, are more predisposed than women to changing the use of medicine without consulting the doctor as a result of medical information from the Internet (19.0%).

The change in attitudes derived from the use of medical information for health on the Internet is more intense in the youngest population, those with a tertiary education, and those that live in densely populated areas. Lastly, and with respect to state of health and the presence of long standing illnesses, the use of medical information for health from the Internet improves the feeling of anxiety of the population in a bad state of health (32.5%); increases the feeling of reassurance and relief (58.9%) and the willingness to change diet and lifestyle habits (57.0%) in the population with long standing illnesses.
Table 69: Internet health information consequences (D14) by socio-demographics

| Yes (%)                  | Feelings of anxiety | Feelings of reassurance or relief | Willingness to change diet or other lifestyle habits | Suggestions or queries on diagnosis or treatment to your family doctor, specialist or other health professional | Changing of use of medicine without consulting your family doctor, specialist or other health professional | Making, cancelling or changing an appointment with family doctor, specialist or other health professional |
|-------------------------|---------------------|-----------------------------------|-----------------------------------------------------|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| Gender                  |                     |                                   |                                                     |                                                                                                  |                                                                                                |                                                                                                  |
| Male                    | 26                  | 53                                | 51                                                  | 55                                                                                               | 19*                                                                                               | 45                                                                                                |
| Female                  | 33*                 | 60*                               | 58*                                                 | 61*                                                                                               | 16                                                                                                | 49*                                                                                                |
| Age group               |                     |                                   |                                                     |                                                                                                  |                                                                                                |                                                                                                  |
| 16-24                   | 37*                 | 57                                | 55                                                  | 51                                                                                               | 20*                                                                                               | 41                                                                                                |
| 25-54                   | 29                  | 58*                               | 54                                                  | 60*                                                                                               | 18                                                                                                | 50*                                                                                                |
| 55-74                   | 21                  | 52                                | 55                                                  | 59                                                                                               | 12                                                                                                | 43                                                                                                |
| Level of education      |                     |                                   |                                                     |                                                                                                  |                                                                                                |                                                                                                  |
| completed               |                     |                                   |                                                     |                                                                                                  |                                                                                                |                                                                                                  |
| Primary or lower        | 28                  | 54                                | 49                                                  | 52                                                                                               | 19                                                                                                | 46                                                                                                |
| secondary education     | Upper secondary     | 27                                | 56                                                  | 53                                                                                               | 17                                                                                                | 44                                                                                                |
| education               | Tertiary education  | 32*                               | 58*                                                 | 58*                                                                                               | 19                                                                                                | 50                                                                                                |
| Situation               |                     |                                   |                                                     |                                                                                                  |                                                                                                |                                                                                                  |
| Employed or self        | 28*                 | 57                                | 54                                                  | 58                                                                                               | 18                                                                                                | 48*                                                                                                |
| employed                | Unemployed          | 33                                | 60*                                                 | 52                                                                                               | 17                                                                                                | 45                                                                                                |
| Student                 | 35*                 | 57                                | 55                                                  | 50                                                                                               | 21*                                                                                               | 45                                                                                                |
| Other not in the labour | 26                  | 55                                | 55                                                  | 60                                                                                               | 13                                                                                                | 45                                                                                                |
| force                   | Type of locality    |                     |                                                     |                                                                                                  |                                                                                                |                                                                                                  |
| Densely-populated area  | 29                  | 58*                               | 56                                                  | 59*                                                                                               | 20*                                                                                               | 50*                                                                                                |
| Intermediate area       | 29                  | 56                                | 55                                                  | 57                                                                                               | 17                                                                                                | 46                                                                                                |
| Thinly-populated area   | 28                  | 55                                | 51                                                  | 55                                                                                               | 15                                                                                                | 43                                                                                                |
| Health status           |                     |                                   |                                                     |                                                                                                  |                                                                                                |                                                                                                  |
| Bad                     | 33*                 | 60                                | 57                                                  | 67                                                                                               | 22                                                                                                | 49                                                                                                |
| Neither good or bad     | 29                  | 57                                | 54                                                  | 60                                                                                               | 16                                                                                                | 47                                                                                                |
| Good                    | 29                  | 56                                | 54                                                  | 56                                                                                               | 18                                                                                                | 46                                                                                                |
| Long standing illness   |                     |                                   |                                                     |                                                                                                  |                                                                                                |                                                                                                  |
| Yes                     | 29                  | 59*                               | 57*                                                 | 63                                                                                               | 19                                                                                                | 50*                                                                                                |
| No                      | 29                  | 55                                | 53                                                  | 54                                                                                               | 17                                                                                                | 45                                                                                                |

Base: Whole sample.
On a per-country basis, Estonia, Slovakia and Slovenia lead the way in terms of highest frequency of attitude change with respect to the use of medical information for health. With respect to changes in diet and lifestyles, and the proposal of suggestions and queries to the family doctor as a result of the use of online medical information for health also stands out in Spain and Holland. Lastly, the population from Austria and Germany are among the most willing to change medicine without consulting the family doctor, as a result of using medical information for health from the Internet.

Table 70: Internet health information consequences (D14) by country

| Yes (%) | AT  | BE  | DE  | DK  | EE  | ES  | FI  | FR  | IT  | NL  | SE  | SK  | SL  | UK  |
|---------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Feelings of anxiety | 23  | 33  | 23  | 16  | 40  | 30  | 25  | 37  | 26  | 35  | 17  | 26  | 24  | 34  |
| Feelings of reassurance or relief | 57  | 55  | 56  | 40  | 75  | 60  | 56  | 58  | 55  | 57  | 46  | 61  | 66  | 58  |
| Willingness to change diet or other lifestyle habits | 55  | 51  | 53  | 53  | 64  | 62  | 57  | 49  | 49  | 56  | 57  | 66  | 68  | 58  |
| Suggestions or queries on diagnosis or treatment to your family doctor, specialist or other health professional | 55  | 59  | 52  | 53  | 64  | 68  | 57  | 54  | 66  | 63  | 61  | 64  | 66  | 55  |
| Changing of use of medicine without consulting your family doctor, specialist or other health professional | 22  | 13  | 24  | 14  | 24  | 20  | 14  | 15  | 16  | 15  | 18  | 21  | 25  | 14  |
| Making, cancelling or changing an appointment with family doctor, specialist or other health professional | 59  | 44  | 56  | 39  | 70  | 59  | 62  | 39  | 39  | 54  | 67  | 37  | 53  | 34  |

Base: Whole sample.
Lastly, the research has also obtained evidence about the beliefs of the European citizens with respect to the use of ICTs for health. It has to be said that the perceptions are positive overall. 58.3% of the sampled European population state they agree that ICT use for health allows for savings in the cost of travel and time. 55.9% state that they would be willing to share personal health information with the doctor despite the privacy issue. 55.0% state that ICTs for health can improve the possibilities for caring for themselves and monitoring their state of health. 54.5% state they agree with the fact that ICT use for health leads to greater patient satisfaction. 53.5% state they agree that e-health can improve the quality of the medical services received. 50.3% of the European citizens consider that ICT use for health can change their behaviour towards a healthy lifestyle.

Slightly under half of the sample of European citizens, 43.0%, agrees that ICT use for health can improve their state of health. 41.8% consider that they would feel more comfortable and safe if they used a remote monitoring system for their health condition. 41.7% consider that ICT use for health increases ICT use in other fields of daily life. 32.2% agree that the use of health services through the Internet substitutes face-to-face consultations with doctors. 31.6% agree that online health services and face-to-face services are of equal quality. And lastly, 22.8% of European citizens agree that they would be willing to pay for access to Internet health services to improve their state of health or that of their relatives.

**Figure 68: ICT for Health consequences (D15)**

| Total agreement level | Statement |
|-----------------------|-----------|
| ICT for health could avoid travelling expenses and time | ![Chart](chart.jpg) |
| I have concerns about the kind of PI shared with physicians though internet due to privacy | ![Chart](chart.jpg) |
| ICT for health could improve the ability to take care and monitor my own health | ![Chart](chart.jpg) |
| ICT for health could lead to greater patients satisfaction | ![Chart](chart.jpg) |
| ICT for health could improve the quality of health care services received | ![Chart](chart.jpg) |
| Internet health services complement some of my face-to-face consultations with the physicians | ![Chart](chart.jpg) |
| ICT for health could change my behaviours towards a healthy lifestyle | ![Chart](chart.jpg) |
| ICT for health could improve my health status | ![Chart](chart.jpg) |
| I would feel more comfortable and safe at home with a remote monitoring system to track my health | ![Chart](chart.jpg) |
| ICT for health could increase my use of the ICT in other fields of my daily life | ![Chart](chart.jpg) |
| Internet health services substitute some of my face-to-face consultations with the physicians | ![Chart](chart.jpg) |
| The quality of internet health services is aligned with the quality of ICT services | ![Chart](chart.jpg) |
| I would be willing to pay to access Internet health services for myself or relatives | ![Chart](chart.jpg) |

Base: Whole sample.
With respect to socio-demographic characteristics of the population, women are in greater agreement than men that ICT use for health complements face-to-face use (52.7%) and that they are willing to share information with the doctor online despite privacy issues (58.1%). On the other hand, men differ from women on considering ICT use for health improves their state of health (43.2%), they advocate digital monitoring systems for their health condition (42.1%), and are willing to pay to access Internet health systems (22.5%). Positive attitudes towards ICT uses for health are also characterised in the youngest population, those with a tertiary education, and those that live in densely populated areas. With respect to bad states of health, the only notable difference from a good state of health is that ICT use for health can improve the quality of health services received (56.6%). Meanwhile, citizens with long standing illnesses clearly state their favourable perceptions of ICT use for health, with respect to citizens that don't have long standing illnesses. In particular, they state that ICT use can improve patient satisfaction (55.5%), improve caring and health condition monitoring skills (57.4%), save travelling costs and time (59.9%), and that they are willing to share personal information through the Internet with doctors and health organisations despite privacy issues (60.1%).
Table 71: ICT for Health consequences (D15) by socio-demographics

| Agree (%) | ICT for health could increase my use of the ICT in other fields of my daily life | ICT for health could lead to greater patients satisfaction | ICT for health could improve my health status | ICT for health could improve the ability to take care and monitor my own health | ICT for health could change my behaviours towards a healthy lifestyle | ICT for health could avoid travelling expenses and time | ICT for health could improve the quality of health care services received |
|-----------|---------------------------------------------------------------------------------|-------------------------------------------------------------|---------------------------------------------|---------------------------------------------------------------------------------|---------------------------------------------------------------|---------------------------------------------------------------|---------------------------------------------------------------------|
| Gender    |                                                                                 |                                                              |                                             |                                                                                |                                                              |                                                              |                                                                     |
| Male      | 40                                                                               | 51                                                          | 43*                                         | 53                                                                             | 48                                                           | 56                                                           | 52                                                                  |
| Female    | 38                                                                               | 53                                                          | 41                                          | 54                                                                             | 50                                                           | 56                                                           | 51                                                                  |
| Age group |                                                                                 |                                                              |                                             |                                                                                |                                                              |                                                              |                                                                     |
| 16-24     | 41                                                                               | 51                                                          | 44*                                         | 55                                                                             | 52*                                                          | 54                                                           | 49                                                                  |
| 25-54     | 40                                                                               | 53*                                                        | 44                                          | 55*                                                                            | 50*                                                          | 58*                                                          | 52*                                                                 |
| 55-74     | 34                                                                               | 48                                                          | 35                                          | 49                                                                             | 44                                                           | 53                                                           | 50                                                                  |
| Level of education completed |                                                                                 |                                                              |                                             |                                                                                |                                                              |                                                              |                                                                     |
| Primary or lower secondary education | 39                                                                             | 48                                                          | 39                                          | 48                                                                             | 46                                                           | 51                                                           | 48                                                                  |
| Upper secondary education | 39                                                                             | 51                                                          | 42                                          | 54                                                                             | 48                                                           | 55                                                           | 50                                                                  |
| Tertiary education | 40                                                                             | 54*                                                        | 44                                          | 56                                                                             | 51                                                           | 59                                                           | 54*                                                                 |
| Situation |                                                                                 |                                                              |                                             |                                                                                |                                                              |                                                              |                                                                     |
| Employed or self-employed | 41*                                                                            | 53*                                                        | 43                                          | 55*                                                                            | 49*                                                          | 57*                                                          | 52*                                                                 |
| Unemployed | 41                                                                              | 53                                                          | 44                                          | 53                                                                             | 49                                                           | 58                                                           | 52                                                                  |
| Student   | 40                                                                               | 50                                                          | 44                                          | 55                                                                             | 52                                                           | 56                                                           | 50                                                                  |
| Other not in the labour force | 34                                                                             | 48                                                          | 37                                          | 50                                                                             | 44                                                           | 52                                                           | 50                                                                  |
| Type of locality |                                                                                 |                                                              |                                             |                                                                                |                                                              |                                                              |                                                                     |
| Densely-populated area | 42*                                                                            | 55*                                                        | 45*                                         | 56*                                                                            | 52*                                                          | 60*                                                          | 55*                                                                 |
| Intermediate area | 40                                                                              | 52                                                          | 43                                          | 54                                                                             | 48                                                           | 55                                                           | 51                                                                  |
| Thinly-populated area | 34                                                                              | 46                                                          | 36                                          | 49                                                                             | 44                                                           | 51                                                           | 45                                                                  |
| Health status |                                                                                 |                                                              |                                             |                                                                                |                                                              |                                                              |                                                                     |
| Bad       | 42                                                                               | 59                                                          | 45                                          | 61                                                                             | 51                                                           | 59                                                           | 57*                                                                 |
| Neither good or bad | 39                                                                              | 53                                                          | 42                                          | 53                                                                             | 50                                                           | 55                                                           | 52                                                                  |
| Good      | 39                                                                               | 51                                                          | 42                                          | 53                                                                             | 48                                                           | 56                                                           | 51                                                                  |
| Long standing illness |                                                                                 |                                                              |                                             |                                                                                |                                                              |                                                              |                                                                     |
| Yes       | 41*                                                                              | 56*                                                        | 45*                                         | 57*                                                                            | 51*                                                          | 60*                                                          | 55*                                                                 |
| No        | 38                                                                               | 50                                                          | 41                                          | 51                                                                             | 47                                                           | 54                                                           | 49                                                                  |

Base: Whole sample.
Table 72: ICT for health consequences (D15) by socio-demographics (II)

| Agree (%) | Internet health services substitute some of my face-to-face consultations with the physicians | Internet health services complement some of my face-to-face consultations with the physicians | The quality of Internet health services is aligned with the quality of face-to-face services | I have concerns about the kind of personal information shared with physicians or health organizations through the Internet due to privacy and confidentiality issues | In case of need, I would feel more comfortable and safe at home with a remote monitoring system to track my health | I would be willing to pay to access Internet health services for myself or my relatives |
|-----------|---------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| Gender    |                                                                                             |                                                                                             |                                                                                             |                                                                                                                                                                                                 |                                                                                                                                                                                                             |                                                                                                                                                                                                       |
| Male      | 30                                                                                           | 50                                                                                           | 32                                                                                           | 54                                                                                                                                       | 42*                                                                                                                                             | 23*                                                                                                                                     |
| Female    | 29                                                                                           | 53*                                                                                           | 33                                                                                           | 58*                                                                                                                                       | 39                                                                                                                                             | 19                                                                                                                                     |
| Age group |                                                                                             |                                                                                             |                                                                                             |                                                                                                                                                                                                 |                                                                                                                                                                                                             |                                                                                                                                                                                                       |
| 16-24     | 33*                                                                                           | 49                                                                                           | 33*                                                                                           | 55                                                                                                                                       | 39                                                                                                                                             | 25*                                                                                                                                     |
| 25-54     | 30                                                                                           | 54*                                                                                           | 32                                                                                           | 56                                                                                                                                       | 41                                                                                                                                             | 21                                                                                                                                     |
| 55-74     | 24                                                                                           | 47                                                                                           | 30                                                                                           | 59                                                                                                                                       | 42*                                                                                                                                             | 15                                                                                                                                     |
| Level of education completed |                                                                                             |                                                                                             |                                                                                             |                                                                                                                                                                                                 |                                                                                                                                                                                                             |                                                                                                                                                                                                       |
| Primary or lower secondary education | 29                                                                                           | 45                                                                                           | 34                                                                                           | 52                                                                                                                                       | 39                                                                                                                                             | 18                                                                                                                                     |
| Upper secondary education | 29                                                                                           | 51                                                                                           | 31                                                                                           | 55                                                                                                                                       | 39                                                                                                                                             | 20                                                                                                                                     |
| Tertiary education | 31                                                                                           | 54                                                                                           | 32                                                                                           | 59*                                                                                                                                       | 43*                                                                                                                                             | 23                                                                                                                                     |
| Situation |                                                                                             |                                                                                             |                                                                                             |                                                                                                                                                                                                 |                                                                                                                                                                                                             |                                                                                                                                                                                                       |
| Employed or self-employed | 30                                                                                           | 53*                                                                                           | 32                                                                                           | 56                                                                                                                                       | 40                                                                                                                                             | 22*                                                                                                                                     |
| Unemployed | 32*                                                                                           | 49                                                                                           | 33*                                                                                           | 56                                                                                                                                       | 46*                                                                                                                                             | 20                                                                                                                                     |
| Student | 31                                                                                           | 50                                                                                           | 32                                                                                           | 54                                                                                                                                       | 36                                                                                                                                             | 23                                                                                                                                     |
| Other not in the labour force | 26                                                                                           | 48                                                                                           | 32                                                                                           | 59                                                                                                                                       | 41                                                                                                                                             | 15                                                                                                                                     |
| Type of locality |                                                                                             |                                                                                             |                                                                                             |                                                                                                                                                                                                 |                                                                                                                                                                                                             |                                                                                                                                                                                                       |
| Densely-populated area | 32*                                                                                           | 54*                                                                                           | 35*                                                                                           | 57                                                                                                                                       | 42*                                                                                                                                             | 24*                                                                                                                                     |
| Intermediate area | 31                                                                                           | 51                                                                                           | 32                                                                                           | 56                                                                                                                                       | 42                                                                                                                                             | 21                                                                                                                                     |
| Thinly-populated area | 25                                                                                           | 47                                                                                           | 28                                                                                           | 55                                                                                                                                       | 36                                                                                                                                             | 16                                                                                                                                     |
| Health status |                                                                                             |                                                                                             |                                                                                             |                                                                                                                                                                                                 |                                                                                                                                                                                                             |                                                                                                                                                                                                       |
| Bad       | 32                                                                                           | 56                                                                                           | 37                                                                                           | 59                                                                                                                                       | 41                                                                                                                                             | 21                                                                                                                                     |
| Neither good or bad | 28                                                                                           | 52                                                                                           | 33                                                                                           | 57                                                                                                                                       | 45*                                                                                                                                             | 19                                                                                                                                     |
| Good      | 30                                                                                           | 51                                                                                           | 32                                                                                           | 56                                                                                                                                       | 39                                                                                                                                             | 21*                                                                                                                                     |
| Long standing illness |                                                                                             |                                                                                             |                                                                                             |                                                                                                                                                                                                 |                                                                                                                                                                                                             |                                                                                                                                                                                                       |
| Yes       | 32                                                                                           | 55*                                                                                           | 35*                                                                                           | 60*                                                                                                                                       | 43*                                                                                                                                             | 21                                                                                                                                     |
| No        | 29                                                                                           | 49                                                                                           | 31                                                                                           | 53                                                                                                                                       | 39                                                                                                                                             | 21                                                                                                                                     |

Base: Whole sample.
On a per-country basis, clear data is obtained. Estonia, Spain, Slovakia and Slovenia clearly lead from the European countries with respect to the frequency of positive perceptions of the use of the Internet for health.

Table 73: Internet health information consequences (D15) by country

| Agree (%)                                                                 | AT | BE | DE | DK | EE | ES | FI | FR | IT | NL | SE | SK | SL | UK |
|--------------------------------------------------------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| I would be willing to pay to access Internet health services for myself or relatives | 19 | 15 | 19 | 17 | 33 | 31 | 19 | 15 | 30 | 17 | 22 | 30 | 35 | 18 |
| The quality of Internet health services is aligned with the quality of f2f services | 41 | 18 | 40 | 27 | 36 | 41 | 28 | 15 | 37 | 20 | 18 | 32 | 52 | 38 |
| Internet health services substitute some of my face-to-face consultations with the physicians | 30 | 17 | 30 | 34 | 31 | 41 | 35 | 18 | 32 | 20 | 29 | 44 | 54 | 36 |
| ICT for health could increase my use of the ICT in other fields of my daily life | 44 | 25 | 41 | 26 | 52 | 59 | 38 | 31 | 46 | 26 | 29 | 66 | 66 | 36 |
| I would feel more comfortable and safe at home with a remote monitoring system to track my health | 32 | 36 | 34 | 32 | 59 | 55 | 33 | 39 | 57 | 34 | 25 | 56 | 55 | 38 |
| ICT for health could improve my health status | 45 | 27 | 45 | 28 | 59 | 54 | 41 | 26 | 50 | 31 | 32 | 56 | 58 | 49 |
| ICT for health could change my behaviours towards a healthy lifestyle | 53 | 35 | 54 | 34 | 69 | 60 | 52 | 34 | 54 | 37 | 36 | 67 | 67 | 54 |
| Internet health services complement some of my face- | 55 | 40 | 55 | 42 | 73 | 60 | 53 | 41 | 56 | 43 | 48 | 57 | 69 | 53 |
|                                           |       |       |       |       |       |       |       |       |       |       |
|------------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| face consultations with the physicians  |       |       |       |       |       |       |       |       |       |       |
| ICT for health could improve the quality of health care services received | 57    | 36    | 54    | 36    | 66    | 66    | 56    | 38    | 63    | 46    |
|                                           |       |       |       |       |       |       |       |       |       |       |
|                                           | 60    | 33    | 53    | 39    | 68    | 65    | 56    | 36    | 59    | 35    |
| CT for health could lead to greater patients satisfaction                  |       |       |       |       |       |       |       |       |       |       |
|                                           | 60    | 37    | 57    | 38    | 73    | 65    | 56    | 40    | 61    | 36    |
| ICT for health could improve the ability to take care and monitor my own health |       |       |       |       |       |       |       |       |       |       |
|                                           | 60    | 55    | 58    | 41    | 68    | 65    | 64    | 59    | 43    | 50    |
| I have concerns about the kind of PI shared with physicians though internet due to privacy |       |       |       |       |       |       |       |       |       |       |
|                                           | 62    | 37    | 62    | 44    | 77    | 67    | 63    | 40    | 63    | 44    |
| ICT for health could avoid travelling expenses and time                       |       |       |       |       |       |       |       |       |       |       |
|                                           | 62    | 37    | 62    | 44    | 77    | 67    | 63    | 40    | 63    | 44    |

Base: Whole sample.
11. FROM QUESTIONNAIRE ITEMS TO CONCEPTUAL DIMENSIONS: MULTIVARIATE ANALYSIS:

11.1 ICT access dimensions

Following data analysis strategy defined in the Methodology section 2.4 a factor analysis was used to assess 14 Internet-related activities (see Section 5.2) correlations²³ and identify common relationships between similar items, allowing the items to be categorized into various dimensions.

Table 74: Factor analysis - Internet related activities

| Activity                                                                 | Web 2.0 uses | Tech uses | Individual uses | Basic uses |
|--------------------------------------------------------------------------|--------------|-----------|-----------------|------------|
| Use a social networking site                                            | .751         |           |                 |            |
| Instant messaging, chat websites                                        | .697         |           |                 |            |
| Post messages to chatrooms, newsgroups or an online discussion forum    | .663         |           |                 |            |
| Use websites to share pictures, videos, movies, etc.                    | .610         | .417      |                 |            |
| Online gaming and/or playing games console                               | .571         | .447      | - .421          |            |
| You use the Internet through your mobile phone                          | .414         | .406      |                 |            |
| Create a web page                                                       | .793         |           |                 |            |
| Keep a blog (also known as web-log)                                     | .754         |           |                 |            |
| Use the Internet to make telephone calls                                 | .604         |           |                 |            |
| Use peer-to-peer file sharing for exchanging movies, music,...           | .552         |           |                 |            |
| Do home banking                                                         | .742         |           |                 |            |
| Purchase goods or services online / online shopping                      | .584         |           |                 |            |
| Use online software                                                     | .459         |           |                 |            |
| Send e-mails with attached files                                        | .740         |           |                 |            |
| Use a search engine to find information                                  | .659         |           |                 |            |
| % Variance explained                                                    | 5.003        | 1.449     | 1.252           | .884       |
| Auto values                                                             | 33.351       | 9.661     | 8.348           | 5.895      |

Notes: Rotated components matrix; Sampling method: factor analysis by main components; Rotation method: Varimax with Kaiser–Meyer–Olkin 0.904; Bartlett’s test of sphericity p=0.000; Convergence in 8 iterations; Minimum eigenvalue 0.88.

The factor analysis helped identify the main underlying dimensions of Internet activities. Four factors have emerged: Basic uses; Individual uses; Web 2.0 uses and Tech uses. These factors represent a social gradient of Internet activities from the easiest use of the Internet (basic uses) to the most sophisticated activities (tech uses).

²³ See Annex 5: Table 89: Internet related activities - Correlation matrix.
11.2 ICT for Health Motivation dimensions

11.2.1 Triggers dimensions

Individuals were asked 9 questions about the triggers to utilise ICT for Health (see Section 7.1). Factor analysis was performed with all these items. From these items two factors have emerged: Individual oriented and Social and services oriented.

| Triggers                                                                 | Individual oriented | Social services oriented |
|-------------------------------------------------------------------------|---------------------|-------------------------|
| To better understand a health problem or disease                        | 0.848               |                         |
| To help a family member or friend who is ill                            | 0.786               |                         |
| To find a specific solution to treatment for a health problem           | 0.758               |                         |
| To develop one’s general knowledge or satisfy one’s curiosity           | 0.724               |                         |
| To find additional sources of information                                | 0.706               |                         |
| To prevent diseases by adopting a healthier lifestyle                    | 0.701               |                         |
| To obtain different points of view from those offered by mainstream medicine | 0.599               | 0.512                   |
| To participate in online discussions                                    |                     | 0.912                   |
| To access an online health service                                      |                     | 0.674                   |

**Table 75: Factor analysis – Triggers**

Auto values: 5.139
% Variance explained: 57.099

Notes: Rotated components matrix; Sampling method: factor analysis by main components; Rotation method: Varimax with Kaiser-Meyer-Olkin 0.932; Bartlett’s test of sphericity p=0.000; Convergence in 3 iterations; Minimum eigenvalue 0.8.

11.2.2 Empowerment dimensions

Empowerment, broadly understood as the development of personal involvement and responsibility, is one of the goals of prevention, promotion and protection in health. This definition assumes that responsibility is a more active form of control while competence refers to aptitudes or qualities that make it possible to be more autonomous and take a role in decision-making. Moreover, there are three different perspectives of personal empowerment, which seems to coexist with respect to Health:

- An aptitude to comply with expert advice (professional perspective)
- Self-reliance through individual choice (consumer perspective)
- Social inclusion through the development of collective support (community perspective)

With these premise, factor analysis was carried out with 18 questions (see Section 7.2) related with empowerment.

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24 See Annex 5: Table 90: Triggers - Correlation matrix.
25 See Annex 5: Table 91: Empowerment - Correlation matrix.
Table 76: Factor analysis – Empowerment

| Competence | Control |
|------------|---------|
| ICT allow me to develop a better understanding of my personal health...by giving me access to recognized expert knowledge | .786 |
| ICT allow me to better understand my personal health...through my ability to determine what is relevant | .751 |
| ICT allow me to become better informed on what is available...so that I can make my own choices | .738 |
| ICT allow me to be better informed about how to follow the advice of the physician or professionals I consult | .723 |
| ICT allow me to know more about the opinions of people who are in similar situations or who are active in support groups | .720 |
| ICT allow me to better understand my personal health through online discussions or the opinions of people going through similar experiences | .710 |
| ICT allow me to play a more active role in my exchanges with my physician or the health professionals I consult | .675 |
| ICT helps me feel more confident in playing a more active role in my exchanges with my physician... | .589 .582 |
| ICT facilitates making decisions about my health on the basis of my preferences and means rather than only on the advice of my physician | .815 |
| ICT facilitates a more active role in my health by deciding which solutions I prefer...mainstream medicine or alternative approaches | .773 |
| ICT facilitates making decisions about my health by relying on the experiences...with the people with whom I talk | .769 |
| ICT facilitates making decisions on my health albeit without going against the advice of the physician... | .738 |
| ICT facilitates a more active role in my health by continuing to talk with the people in my life who could help me clarify my ideas | .707 |
| ICT helps me feel better equipped to make my own choices without being limited to the advice of a physician... | .691 |
| ICT helps me feel more confident about the choices I plan on making between the various possible treatments and solutions | .653 |
| ICT helps me feel better equipped to make positive changes to my situation through discussions and exchanges with others | .597 |
| ICT helps me feel better equipped to implement the advice of the physician or health professionals I consult | .583 |
| ICT helps me feel more confident in my discussions with the people in my life | .580 |

| Auto values | 11.033 | 10.47 |
| % Variance explained | 61.294 | 5.816 |

Notes: Rotated components matrix; Sampling method: factor analysis by main components; Rotation method: Varimax with Kaiser-Meyer-Olkin 0.975; Bartlett’s test of sphericity p=0.000; Convergence in 3 iterations; Minimum eigenvalue 1.
With all these items two underlying dimensions have emerged: **control**, which is related with responsibility; and **competence**, which is related with aptitudes and skills.

### 11.2.3 Barriers dimensions

Individuals were asked about 10 different types of barriers to utilise ICT for health (see Section 7.3). Factor analysis was performed with all these items. From these items two factors have emerged: **Lack of confidence** and **Lack of Readiness**.

#### Table 77: Factor analysis – Barriers

|                          | Lack of Confidence | Lack of Readiness |
|--------------------------|--------------------|-------------------|
| Lack of security         | .858               |                   |
| Lack of privacy          | .855               |                   |
| Lack of reliability      | .798               |                   |
| Lack of trust            | .785               |                   |
| Lack of liability        | .676               |                   |
| Lack of digital skills   |                    | .833              |
| Lack of access to ICT for health applications | .759 | |
| Lack of motivation and interest | .737 | |
| Lack of awareness        | .718               |                   |
| Lack of health literacy  | .637               |                   |
| Auto values              | 6.158              | 1.016             |
| % Variance explained     | 61.585             | 10.160            |

Notes: Rotated components matrix; Sampling method: factor analysis by main components; Rotation method: Varimax with Kaiser-Meyer-Olkin 0.946; Bartlett's test of sphericity p=0.000; Convergence in 3 iterations; Minimum eigenvalue 1.

### 11.3 Health information sources and trust dimensions

#### 11.3.1 Health information sources dimensions

Individuals were asked about the importance of 10 different information sources related with their health (see Section 6). These items were analysed using factor analysis. This analysis revealed three underlining dimensions: **Traditional media**, **Health professionals**, and **Social media**.

#### Table 78: Factor analysis – Importance of Health information sources

|                          | Traditional media | Health professionals | Social media |
|--------------------------|-------------------|----------------------|--------------|
| Courses and lectures     | .784              |                      |              |
| Radio                    | .677              |                      |              |
| Newspapers, magazines    | .655              |                      |              |
| Books, medical encyclopaedias and leaflets | .639 | | |

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26 See Annex 5: Table 92: Barriers – Correlation matrix.
27 See Annex 5: Table 93: Health information sources - Correlation matrix.
| Source                                | Variance Explained |
|--------------------------------------|--------------------|
| Direct face to face contact with doctors | .809               |
| Direct face to face contact with nurses    | .774               |
| Pharmacies                              | .666               |
| Family, friends and colleagues         | .737               |
| Internet                               | .727               |
| TV                                     | .580               |
| Auto values                            | 3.445              |
| % Variance explained                   | 34.445             |

Notes: Rotated components matrix; Sampling method: factor analysis by main components; Rotation method: Varimax with Kaiser-Meyer-Olkin 0.814; Bartlett’s test of sphericity p=0.000; Convergence in 6 iterations; Minimum eigenvalue 0.9

### Trust dimensions

Individuals were asked to what extend they trust 8 different actors to manage their personal health information (see Section 6). Factor analysis was carried out with all these items. This analysis revealed two main dimensions: **Companies Trust** and **Institutional Trust**.

**Table 79: Factor analysis – Importance of Health information sources**

| Source                             | Institutional trust | Companies trust |
|------------------------------------|---------------------|-----------------|
| National public authorities        | 0.850               |                 |
| European institutions              | 0.801               |                 |
| Health and medical institutions    | 0.705               |                 |
| Banks and financial institutions   | 0.628               |                 |
| Shops and department stores        |                     | 0.828           |
| Internet companies                 |                     | 0.818           |
| Phone companies, mobile phone companies and ISP |         | 0.811           |
| Pharmaceutical companies           |                     | 0.568           |
| Auto values                        | 3.789               | 1.304           |
| % Variance explained               | 47.358              | 16.303          |

Notes: Rotated components matrix; Sampling method: factor analysis by main components; Rotation method: Varimax with Kaiser-Meyer-Olkin 0.838; Bartlett’s test of sphericity p=0.000; Convergence in 3 iterations; Minimum eigenvalue 1

### ICT for Health access dimensions

#### ICT for Health readiness dimensions

Individuals were asked about 24 activities related with ICT for Health (see Section 8.1). Factor analysis was performed with all these items, excluding individuals who were not aware of these activities.

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28 See Annex 5: Table 94: Trust - Correlation matrix.
29 See Annex 5: Table 95: ICT for Health readiness - Correlation matrix.
types of activities. This analysis revealed two factors or dimensions: **ICT for Health Services and Devices** and **ICT for Health Information and Communication**.

### Table 80: Factor analysis – ICT for Health readiness

| Activity                                                                 | ICT for Health Services and Devices | ICT for Health Information and Communication |
|--------------------------------------------------------------------------|-------------------------------------|----------------------------------------------|
| Made an online consultation through videoconference with your doctor or nurse | .880                                |                                              |
| Accessed or uploaded your medical information or health record through an IP | .869                                |                                              |
| Accessed or uploaded your medical information or health record through an Internet application provided by your healthcare organization | .866                                |                                              |
| Received online the results of your clinical or medical test             | .851                                |                                              |
| Used a health/wellness application on your mobile phone                 | .809                                |                                              |
| Sent or received an email from your doctor, nurse or healthcare organization | .784                                |                                              |
| Used devices to transmit clinical information, received alarms, follow-up about your health anytime, anywhere | .784                                |                                              |
| Made, cancelled or changed an appointment with your family doctor, specialist or other health professionals online | .765                                |                                              |
| Used a game console to play games related with your health or your wellness | .757                                |                                              |
| Received any message about health promotion and/or health prevention      | .629                                |                                              |
| Looked for information about a physical illness or condition that you or someone you know has | .785                                |                                              |
| Looked for information about wellness or lifestyle                       | .773                                |                                              |
| Participated in Social Networking Sites talking about health and wellness | .737                                |                                              |
| Kept a health web site ‘bookmarked’, or saved as a ‘favourite place’, so you can go back to it regularly | .722                                |                                              |
| Described a medical condition or problem online in order to get advice from other online users | .714                                |                                              |
| Participated in an online support group for people who are concerned about the same health or medical issue | .708                                |                                              |
| Clicked on a health or medical web site’s privacy policy to read about how the site uses PI | .699                                |                                              |
| Described a medical condition or problem online in order to get advice from an online doctor | .681                                |                                              |
| Used email or gone to a web site to communicate with a doctor’s office | .638                                |                                              |
| Bought medicine or vitamins online                                       | .576                                |                                              |

**Auto values**: 12.825, 1.616  
**% Variance explained**: 64.124, 8.080

Notes: Rotated components matrix; Sampling method: factor analysis by main components; Rotation method: Varimax with Kaiser-Meyer-Olkin 0.980; Bartlett’s test of sphericity p=0.000; Convergence in 3 iterations; Minimum eigenvalue 1.
11.4.2 ICT for Health willingness dimensions

Individuals who answered they were not aware of the ICT for Health activities before mentioned and/or they never used were asked how likely it is that they would carry out these activities during the next year (see Section 8.2). These responses revealed their willingness to use ICT for Health. Factor analysis of these items was performed. The results of this analysis revealed three dimensions: Web 2.0 uses, Services and Devices uses; Internet Health Information uses.

Table 81: Factor analysis – ICT for Health willingness

| Activity                                                                 | Web 2.0 uses | Services and Devices uses | Internet Health Information uses |
|--------------------------------------------------------------------------|--------------|---------------------------|---------------------------------|
| disclose medical information on websites to share pictures, videos, movies| 0.916        |                           |                                 |
| describe a medical condition or problem online in order to get advice   | 0.908        |                           |                                 |
| participate in Social Networking Sites talking about health and wellness | 0.907        |                           |                                 |
| disclose medical information on Social Networking Sites                 | 0.904        |                           |                                 |
| look to see what company or organization is providing the advice or    | 0.876        |                           |                                 |
| information that appears on a health website                            |              |                           |                                 |
| participate in an online support group for people who are concerned    | 0.874        |                           |                                 |
| about the same health or medical issue                                  |              |                           |                                 |
| describe a medical condition or problem online in order to get advice   | 0.851        |                           |                                 |
| look for information about a mental health issue like depression or    | 0.838        |                           |                                 |
| anxiety                                                                  |              |                           |                                 |
| keep a health web site “bookmarked”, or save as a “favourite place”,   | 0.832        |                           |                                 |
| so you can go back to it regularly                                      |              |                           |                                 |
| click on a health or medical web site’s privacy policy to read about    | 0.796        |                           |                                 |
| how the site uses PI                                                    |              |                           |                                 |
| buy medicine or vitamins online                                         | 0.706        |                           |                                 |
| use email or go to a web site to communicate with a doctor’s office     | 0.702        |                           |                                 |
| look for information about wellness or lifestyle                        | 0.651        |                           |                                 |
| Access or upload your medical information or health record through an   | 0.877        |                           |                                 |
| IP                                                                       |              |                           |                                 |
| Receive any message about health promotion and/or health prevention     | 0.875        |                           |                                 |
| Use a health/wellness application on your mobile phone                  | 0.874        |                           |                                 |
| Make an online consultation through videoconference with your doctor   | 0.871        |                           |                                 |
| or nurse                                                                |              |                           |                                 |
| Use devices to transmit clinical information, receive alarms,          | 0.870        |                           |                                 |
| follow-up about your health anytime, anywhere                           |              |                           |                                 |
| Access or upload your medical information or health record through an   | 0.865        |                           |                                 |
| Internet application provided by                                        |              |                           |                                 |

See Annex 5: Table 96: ICT for Health willingness - Correlation matrix.
your healthcare organization

Use a game console to play games related with your health or your wellness 0.823
Receive online the results of your clinical or medical test 0.788 0.422
Send or receive an email from your doctor, nurse or healthcare organization 0.768 0.442
Make, cancel or change an appointment with your family doctor, specialist or other health professionals online 0.678 0.527

Look for information about a physical illness or condition that you or someone you know has 0.576

Auto values 14.229 3.994 1.026
% Variance explained 59.287 16.641 4.276

Notes: Rotated components matrix; Sampling method: factor analysis by main components; Rotation method: Varimax with Kaiser-Meyer-Olkin 0.958; Bartlett’s test of sphericity p=0.000; Convergence in 5 iterations; Minimum eigenvalue 1.

11.4.3 ICT for Health assessment dimensions

Individuals were asked about their preferences to evaluate a health website (see Section 9.2). Factor analysis was carried out with seven items included in this question. This analysis revealed two underling dimensions: Information and professionals and Interaction and organisations.

| Information and professionals | Interaction and organisation |
|-------------------------------|-------------------------------|
| Updated information           | 0.848                         | 0.899                         |
| Secure handling of PI         | 0.843                         |                               |
| Information in my own language| 0.799                         |                               |
| Health professionals are involved | 0.756                     |                               |
| Governments are involved      |                               | 0.677                         |
| Health organizations are involved |                      |                               |
| Clearly stated who is responsible for sponsoring the site | 0.625 |                               |
| Auto values                   | 3.918                         | 1.032                         |
| % Variance explained          | 55.973                        | 14.744                        |

Notes: Rotated components matrix; Sampling method: factor analysis by main components; Rotation method: Varimax with Kaiser-Meyer-Olkin 0.878; Bartlett’s test of sphericity p=0.000; Convergence in 3 iterations; Minimum eigenvalue 1

See Annex 5: Table 97: ICT for Health assessment - Correlation matrix.
ICT for Health impact dimensions

Individuals were asked 12 questions about their perception on ICT for Health impact (see Section 10). These items were analysed using Factor analysis. Results revealed two dimensions: **Quality of healthcare and Healthy behaviours** and **Healthcare access**

| ICT for health could improve the ability to take care and monitor my own health | Quality of healthcare and Healthy behaviours | .826 |
| ICT for health could improve the quality of health care services received | | .798 |
| ICT for health could lead to greater patients satisfaction | | .793 |
| ICT for health could change my behaviours towards a healthy lifestyle | | .775 |
| ICT for health could avoid travelling expenses and time | | .750 |
| ICT for health could improve my health status | | .722 |
| ICT for health could increase my use of the ICT in other fields of my daily life | | .646 |
| Internet health services complement some of my face-to-face consultations with the physicians | | .641 |
| I would feel more comfortable and safe at home with a remote monitoring system to track my health | | .487 |
| I would be willing to pay to access Internet health services for myself or relatives | | .846 |
| Internet health services substitute some of my face-to-face consultations with the physicians | | .749 |
| The quality of Internet health services is aligned with the quality of f2f services | | .643 |

**Table 83: Factor analysis – ICT for Health willingness**

| Auto values | Quality of healthcare and Healthy behaviours | .6808 |
| % Variance explained | Healthcare access | .943 |

Notes: Rotated components matrix; Sampling method: factor analysis by main components; Rotation method: Varimax with Kaiser-Meyer-Olkin 0.958; Bartlett’s test of sphericity p=0.000; Convergence in 3 iterations; Minimum eigenvalue 0.9

See Annex 5: Table 98: ICT for Health impact - Correlation matrix.
Factor analyses described in Section 11 were carried out following our conceptual framework: towards a social determinants of ICT for Health (see Section 1.3.) This analytical exercise has facilitated the synthesis of questionnaire items gathered into underlying dimensions or concepts. Figure 69 summarised all the dimensions:

**Figure 69: Dimensions of Social determinants of ICT for Health**

Structural and intermediary determinants of Health also produce different levels of **ICT usage** from Tech uses to Basis uses. This typology of uses represents an unequal access to ICT which will generate different levels of **ICT for Health Access** as well as different levels of **willingness to use ICT for Health**. Both blocks could be analysed in-depth detail. On the one hand, three different dimensions of willingness have been identified: Internet Health Information, Web 2.0 uses and Services and devices uses. These dimensions represent different level of complexity: from basic use of Internet Health information to the complex ecosystem of Services and devices. On the other hand, ICT for Health Access is comprised of three different blocks. Firstly, **ICT for Health Motivation** split up into three concepts with their related dimensions: Triggers (individual oriented and social services oriented); Empowerment (competence oriented and control oriented) and Barriers (lack of confidence and lack of readiness). Secondly, **ICT for Health Usage** made up of Information and Communication usage and Services and Devices usage. Thirdly, **ICT for Health Assessment** tackled how individuals evaluate websites paying special attention to information and professionals involved and interaction and organisation involved.

The interrelationship between these three blocks gave rise to different level of **Participatory Health** through the individual and social use of ICT for Health and their impacts perceived. These
impacts could be related with health management; healthcare demand or healthcare quality and, moreover, could have the potential to modify both structural and intermediary determinants and distribution of health and well-being.

All above mentioned unveiled the complexity of ICT for Health. To tackle this complexity, correlation analyses of all dimensions have been performed. The main results of these analyses are summarised in the following figure:

Figure 70: Complexity of Social determinants of ICT for Health dimensions

- Social determinants of Health (structural and intermediary), especially education and age, produces different levels of ICT readiness. Advance uses of the Internet such as Tech and Web 2.0 uses are more likely to be carried out by the young, the healthy and the well-educated population while basic uses are mostly performed by the elderly, therefore individuals with worse health status (chronic patients and individuals having reported higher numbers of health problems).

- Unequal ICT readiness generates different levels of motivation. Individuals making more advance uses are triggered by the potential of ICT to facilitate social interaction and services related to health while individuals whose uses are basic or individual are triggered mainly by Internet health information for personal proposes. Furthermore, individuals with the lowest level of readiness (basic uses) and having reported more health problems lack confidence in the use of ICT for Health. Nevertheless, this lack of confidence is counterbalanced by a higher level of empowerment (competence oriented).

- Both ICT for Health usages (Services and Devices and Information and Communication) are specially driven by social and services triggers while individual triggers are only slightly correlated with Information and Communication usages, therefore less advanced uses.

- Both dimensions of Empowerment push ICT for Health usage. Individuals who are more competence-oriented are more inclined to Information and Communication usage while individuals who are more control-oriented are more likely to use Services and Devices. Thus individuals who feel more responsible for their health status are more likely to use Services and Devices while individuals who want to be more autonomous (competence refers to aptitudes or qualities that make it possible to be more autonomous) are more likely to
utilise Information and Communication. If we consider individuals’ education, age and health status it looks like Services and Devices are related with well-being and wellness practice, therefore with health prevention and promotion while Information and Communication are more related with illness, therefore with cure and independent living.

- All individuals using ICT for Health faced the same barriers; therefore lack of confidence and lack of readiness are not correlated significantly with ICT for Health usages. Nevertheless, lack of confidence is negatively correlated with the ICT for Health impact on the access dimension. Individuals need a certain level of confidence in ICT for Health to go beyond information and communication and engage with services such as RMT, Personal Health Records or videoconference consultation.

- The utilisation of Services and devices is strongly correlated with the perception that ICT would have an impact on both healthcare access and quality and healthy behaviours while the utilisation of Information and Communication is slightly correlated with Quality and healthy behaviours only.

- The number of health problems reported by individuals is only slightly correlated with Information and Communication Usage and it is unrelated to Services and devices utilisation. Therefore, individuals who could take more advantage of Services and devices, due to their health status, are more likely to be oriented towards information and communication usage only.

The study reported here reveals the potential of ICT for Health to promote active and healthy individuals and increase empowerment. Even though our findings relate to Internet users, it is worth pointing out that new health inequalities are emerging due to the impact of the "traditional determinants of health" on ICT readiness.

Therefore, eInclusion policies related to ICT for Health are needed to ensure that individuals with low socio-economic status and more health problems are able to benefit from these types of technologies. These ICT for Health divides specially impact on the elderly. However, there is an opportunity for them to engage with the Information Society through ICT for Health due to the importance of health issues in their daily life.

The relationship between the different typologies of ICT readiness and ICT for Health Motivation and Impact reveal that:

- Young individuals are already using this type of technologies mostly in relation with wellness and healthy life style. These uses enable an entire world of possibilities related with health promotion and prevention, especially considering that young individuals are heavy Web 2.0 users.

- Middle age individuals are also active users of ICT for Health acting as gatekeepers of this type of technologies within the household. Therefore these individuals could act as enablers for others i.e. both for the elderly and the young within households

- The elderly are basically using ICT for Health for information and communication purposes. There is a gap between this type of use and services and devices uses which could be more effective in relation with cure and chronic conditions.

Individuals between 16-54 with chronic conditions, going under long-term treatment and with more than one health problems are more likely to use ICT for Health than individuals without these type of health problems. Individuals between 55-74 who are healthy are more likely to use ICT for Health, especially for Information and Communication, than individuals with worse health status. Therefore, in the short term, this group of individuals will be pushing for health systems to provide them with new solutions (services and devices) when they need to tackle a health problem. This pressure will increase during the next decade when middle age individuals become elderly. Therefore health systems are facing the challenge of having to promote further ICT
innovation to answer these new demands. While this is an opportunity to improve both sustainability and efficiency of healthcare system, it is associated with a number of challenges linked to eHealth deployment.

However, during this transition, health systems cannot leave out the elderly, who are not active and healthy. This group of individuals, who are the current intensive users of healthcare systems, cannot be omitted. There is an opportunity to include them in the Information Society by improving ICT readiness and ICT for Health willingness and awareness.
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ANNEXES

Annex 1. Questionnaire and coding manual

We are currently conducting an International research study on behalf of the Institute for Prospective Technological Studies (IPTS), one of the seven scientific institutes of the European Commission’s Joint Research Centre (JRC). The objective of the study is to analyze the use of Information and Communication Technologies (ICT), specially the Internet, for healthcare purposes. In this regard, we would like to ask for 20 minutes of your time to complete this survey. We would very much appreciate your opinion.

Please rest assured the survey is anonymous and the data gathered strictly confidential.

Block A: Health status and health care and social care services use

A1. How many times did you visit a doctor during the last 12 months? (include hospitalisation or visits to the outpatient department; do not include visits to the dentist)

| Number: ___________ | A1 |

A2. How many times have you received a doctor or a nurse at home during the last 12 months?

| Number: ___________ | A2 |

A3. How many times have did you visit or received a visit of a social care worker during the last 12 months?

| Number: ___________ | A3 |

A4. How is your health in general?

| A4 |   |
|----|---|
| Very good | 5 |
| Good | 4 |
| Neither good or bad | 3 |
| Bad | 2 |
| Very bad | 1 |

A5. Do you have any long-standing illness or health problem?

| A5 |   |
|----|---|
| Yes | 1 |
| No | 2 |
| Don't Know | 99 |
A6. Are you undergoing a long-term medical treatment?

|                  | A6 |
|------------------|----|
| Yes              | 1  |
| No               | 2  |
| Don’t Know       | 99 |

A7. Over the past 6 months, to what extent, if at all, have you been limited in activities people normally do, because of a health problem. Would you say you have been...

|                          | A7 |
|--------------------------|----|
| Severely limited         | 1  |
| Somewhat limited         | 2  |
| Not limited at all       | 3  |

A8. Do you have or have you ever had any of the following health problems?

| Health Problem                                                      | Yes | No | A8_1 |
|---------------------------------------------------------------------|-----|----|------|
| Diabetes                                                            | 1   | 2  |      |
| An allergy                                                          | 1   | 2  | A8_2 |
| Asthma                                                              | 1   | 2  | A8_3 |
| Hypertension (high blood pressure)                                  | 1   | 2  | A8_4 |
| Long-standing troubles with your muscles, bones and joints (rheumatism, arthritis) | 1   | 2  | A8_5 |
| Cancer                                                              | 1   | 2  | A8_6 |
| Cataract                                                            | 1   | 2  | A8_7 |
| Migraine or frequent headaches                                      | 1   | 2  | A8_8 |
| Chronic bronchitis, emphysema                                       | 1   | 2  | A8_9 |
| Osteoporosis                                                        | 1   | 2  | A8_10|
| Stroke, cerebral haemorrhage                                        | 1   | 2  | A8_11|
| Peptic ulcer (gastric or duodenal ulcer)                            | 1   | 2  | A8_12|
| Chronic anxiety or depression                                       | 1   | 2  | A8_13|

A9. Is someone close to you, currently experiencing long-term illness or disability?

|                | A9 |
|----------------|----|
| Yes            | 1  |
| No             | 2  |
| Don’t know     | 99 |
If A9 = 1 -> A10
If A9 =2 or A9 =99 -> A11

A10. Are you taking care of such a person?

|      | A10 |
|------|-----|
| Yes  | 1   |
| No   | 2   |

A11. In general, how often does your usual source of care (doctor or nurse)...

|                                      | Always | Often | Sometimes | Rarely | Never |
|--------------------------------------|--------|-------|-----------|--------|-------|
| ...explain to you the results of     | 5      | 4     | 3         | 2      | 1     | A11_1 |
| medical exams (laboratory,           |        |       |           |        |       |       |
| radiology, etc.)?                   |        |       |           |        |       |       |
| ...explain to you different treatment| 5      | 4     | 3         | 2      | 1     | A11_2 |
| options?                            |        |       |           |        |       |       |
| ...listen to your opinion and take   | 5      | 4     | 3         | 2      | 1     | A11_3 |
| your preferences into account to     |        |       |           |        |       |       |
| choose treatments?                   |        |       |           |        |       |       |

A12. In general, how often do you ask your usual source of care (doctor or nurse)...

|                                      | Always | Often | Sometimes | Rarely | Never |
|--------------------------------------|--------|-------|-----------|--------|-------|
| ... to explain to you the results of | 5      | 4     | 3         | 2      | 1     | A12_1 |
| the medical exams?                   |        |       |           |        |       |       |
| ... to explain to you the different  | 5      | 4     | 3         | 2      | 1     | A12_2 |
| treatment options?                   |        |       |           |        |       |       |
| ... to consider your opinion and     | 5      | 4     | 3         | 2      | 1     | A12_3 |
| your preferences when choosing       |        |       |           |        |       |       |
| treatments?                          |        |       |           |        |       |       |
Block B: Health attitude and Health information sources

B1. For each of the following statements regarding the use of Information and Communication Technologies, specially the Internet, could you please tell me whether you agree or disagree?

Information and Communication Technologies, specially the Internet, allow me to...

| Statement                                                                 | Totally agree | Somewhat agree | Neither agree nor disagree | Somewhat disagree | Totally disagree |
|---------------------------------------------------------------------------|---------------|----------------|----------------------------|-------------------|-----------------|
| Be better informed about how to follow the advice of the physician or professionals I consult | 5             | 4              | 3                          | 2                 | 1               |
| Develop a better understanding of my personal health or that of a family member or friend by giving me access to recognized expert knowledge | 5             | 4              | 3                          | 2                 | 1               |
| Become better informed on what is available, such as the available solutions and treatments, so that I can make my own choices | 5             | 4              | 3                          | 2                 | 1               |
| Better understand my personal health or that of a family member or friend through my ability to determine what is relevant | 5             | 4              | 3                          | 2                 | 1               |
| Know more about the opinions of people who are in similar situations or who are active in support groups | 5             | 4              | 3                          | 2                 | 1               |
| Better understand my personal health or that of a family member or friend through online discussions or the opinions of people going through similar experiences | 5             | 4              | 3                          | 2                 | 1               |
| Play a more active role in my exchanges with my physician or the health professionals I consult | 5             | 4              | 3                          | 2                 | 1               |
B2. For each of the following statements regarding the use of Information and Communication Technologies, specially the Internet, could you please tell me whether you agree or disagree? ICT, specially the Internet, helps me feel ...

| Statement                                                                 | Totally agree | Somewhat agree | Neither agree nor disagree | Somewhat disagree | Totally disagree |
|---------------------------------------------------------------------------|---------------|----------------|---------------------------|-------------------|-----------------|
| better equipped to implement the advice of the physician or health professionals I consult | 5             | 4              | 3                         | 2                 | 1               |
| better equipped to make my own choices, without being limited to the advice of a physician or health professionals, which I believe is the best approach | 5             | 4              | 3                         | 2                 | 1               |
| better equipped to make positive changes to my situation or that of a family member or friend through discussions and exchanges with others (in my family, at work, on the Internet, etc.) | 5             | 4              | 3                         | 2                 | 1               |
| more confident in playing a more active role in my exchanges with my physician or the health professionals I consult | 5             | 4              | 3                         | 2                 | 1               |
| more confident about the choices I plan on making, on my own, between the various possible treatments and solutions | 5             | 4              | 3                         | 2                 | 1               |
| more confident in my discussions with the people in my life (my family, people at work or on the Internet, etc.) | 5             | 4              | 3                         | 2                 | 1               |

B3. For each of the following statements regarding the use of Information and Communication Technologies, specially the Internet, could you please tell me whether you agree or disagree? ICT, specially the Internet, facilitates...

| Statement                                                                 | Totally agree | Somewhat agree | Neither agree nor disagree | Somewhat disagree | Totally disagree |
|---------------------------------------------------------------------------|---------------|----------------|---------------------------|-------------------|-----------------|
| making decisions on my health albeit without going against the advice of the physician or | 5             | 4              | 3                         | 2                 | 1               |

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the health professionals I have consulted
a more active role in my health by deciding which solutions I prefer, whether from mainstream medicine or alternative approaches
making decisions about my health on the basis of my preferences and means rather than only on the advice of my physician
a more active role in my health by continuing to talk with the people in my life who could help me clarify my ideas
making decisions about my health by relying on the experiences and points of view of the people with whom I talk (on the Internet, at work, in my family, etc.)

| Source of Information                                      | Very important | Somewhat important | Not so important | Not important at all |
|------------------------------------------------------------|----------------|--------------------|------------------|----------------------|
| Internet                                                   | 4              | 3                  | 2                | 1                    | B4_1               |
| TV                                                         | 4              | 3                  | 2                | 1                    | B4_2               |
| Radio                                                      | 4              | 3                  | 2                | 1                    | B4_3               |
| Books, medical encyclopaedias and leaflets                 | 4              | 3                  | 2                | 1                    | B4_4               |
| Courses and lectures                                       | 4              | 3                  | 2                | 1                    | B4_5               |
| Newspapers, magazines                                     | 4              | 3                  | 2                | 1                    | B4_6               |
| Family, friends and colleagues                             | 4              | 3                  | 2                | 1                    | B4_7               |
| Pharmacies                                                 | 4              | 3                  | 2                | 1                    | B4_8               |
| Direct face-to-face contact with doctors                    | 4              | 3                  | 2                | 1                    | B4_9               |
| Direct face-to-face contact with nurses                     | 4              | 3                  | 2                | 1                    | B4_10              |
B5. Different authorities (government departments, local authorities, agencies) and private companies could offer health information and online services related with your health. To what extent do you trust the following institutions to protect your personal information?

| Institution                                      | Trust fully | Trust somewhat | Trust little | Do not trust |
|--------------------------------------------------|-------------|----------------|--------------|--------------|
| National public authorities (e.g. tax authorities, social security authorities) | 4           | 3              | 2            | 1            | B5_1        |
| European institutions (European Commission, European Parliament, etc.)             | 4           | 3              | 2            | 1            | B5_2        |
| Banks and financial institutions                   | 4           | 3              | 2            | 1            | B5_3        |
| Health and medical institutions                    | 4           | 3              | 2            | 1            | B5_4        |
| Shops and department stores                        | 4           | 3              | 2            | 1            | B5_5        |
| Internet companies (Search Engines, Social Networking Sites, E-mail Services)      | 4           | 3              | 2            | 1            | B5_6        |
| Phone companies, mobile phone companies and Internet Services Providers         | 4           | 3              | 2            | 1            | B5_7        |
| Pharmaceutical companies                          | 4           | 3              | 2            | 1            | B5_8        |

**Block C: Internet and Information and Communication Technologies, uses**

C1. Could you tell me if...?

| Activity                                      | Every day or almost every day | At least once a week (but not every day) | At least once a month (but not every week) | Less than once a month | Never |
|-----------------------------------------------|-------------------------------|------------------------------------------|--------------------------------------------|------------------------|-------|
| You use the Internet in your home             | 5                             | 4                                        | 3                                          | 2                      | 1     | C1_1 |
| You use the Internet at your place of work    | 5                             | 4                                        | 3                                          | 2                      | 1     | C1_2 |
| You use the Internet somewhere else (school, university, cyber-café, etc.) | 5                             | 4                                        | 3                                          | 2                      | 1     | C1_3 |
C2. Which of the following Internet related activities have you already carried out?

| Activity                                                                 | Every day or almost every day | At least once a week (but not every day) | At least once a month (but not every week) | Less than once a month | Never |
|---------------------------------------------------------------------------|-------------------------------|------------------------------------------|--------------------------------------------|------------------------|-------|
| Use a search engine to find information                                   | 5                             | 4                                        | 3                                          | 2                      | 1     |
| Send e-mails with attached files (documents, pictures, etc.)              | 5                             | 4                                        | 3                                          | 2                      | 1     |
| Post messages to chatrooms, newsgroups or an online discussion forum      | 5                             | 4                                        | 3                                          | 2                      | 1     |
| Use the Internet to make telephone calls                                  | 5                             | 4                                        | 3                                          | 2                      | 1     |
| Use peer-to-peer file sharing for exchanging movies, music, etc.          | 5                             | 4                                        | 3                                          | 2                      | 1     |
| Create a web page                                                         | 5                             | 4                                        | 3                                          | 2                      | 1     |
| Use websites to share pictures, videos, movies, etc.                      | 5                             | 4                                        | 3                                          | 2                      | 1     |
| Use a social networking site                                              | 5                             | 4                                        | 3                                          | 2                      | 1     |
| Purchase goods or services online / online shopping (e.g. travel & holiday, clothes, books, tickets, films, music, software, food) | 5                             | 4                                        | 3                                          | 2                      | 1     |
| Keep a blog (also known as weblog)                                        | 5                             | 4                                        | 3                                          | 2                      | 1     |
| Instant messaging, chat websites                                         | 5                             | 4                                        | 3                                          | 2                      | 1     |
| Do home banking                                                           | 5                             | 4                                        | 3                                          | 2                      | 1     |
| Use online software                                                       | 5                             | 4                                        | 3                                          | 2                      | 1     |
| Use the Internet through your mobile phone                                | 5                             | 4                                        | 3                                          | 2                      | 1     |
| Online gaming and/or playing games console                                | 5                             | 4                                        | 3                                          | 2                      | 1     |
### Block D: Health related use of Information and Communication Technologies, and the Internet

D1a. Regarding health, wellness and the Internet, how often have you....?

| Activity                                                                 | Every day or almost every day | At least once a week (but not every day) | At least once a month (but not every week) | Less than once a month | Never | I was not aware of it |
|--------------------------------------------------------------------------|------------------------------|-----------------------------------------|---------------------------------------------|------------------------|-------|-----------------------|
| looked for information about a physical illness or condition that you or someone you know has | 5                            | 4                                       | 3                                           | 2                      | 1     | 9                     | D1a_1  |
| looked for information about wellness or lifestyle                        | 5                            | 4                                       | 3                                           | 2                      | 1     | 9                     | D1a_2  |
| bought medicine or vitamins online                                        | 5                            | 4                                       | 3                                           | 2                      | 1     | 9                     | D1a_3  |
| participated in an online support group for people who are concerned about the same health or medical issue | 5                            | 4                                       | 3                                           | 2                      | 1     | 9                     | D1a_4  |
| participated in Social Networking Sites talking about health and wellness | 5                            | 4                                       | 3                                           | 2                      | 1     | 9                     | D1a_5  |
| used email or gone to a web site to communicate with a doctor or a doctor's office | 5                            | 4                                       | 3                                           | 2                      | 1     | 9                     | D1a_6  |
| clicked on a health or medical web site's privacy policy to read about how the site uses personal information | 5                            | 4                                       | 3                                           | 2                      | 1     | 9                     | D1a_7  |
| described a medical condition or problem online in order to get advice from an online doctor | 5                            | 4                                       | 3                                           | 2                      | 1     | 9                     | D1a_8  |
| described a medical condition or problem online in order to get advice from other online users (peers) | 5                            | 4                                       | 3                                           | 2                      | 1     | 9                     | D1a_9  |
| kept a health web site "bookmarked", or saved as                          | 5                            | 4                                       | 3                                           | 2                      | 1     | 9                     | D1a_10 |
a “favourite place”, so you can go back to it regularly

| looked to see what company or organization is providing the advice or information that appears on a health web site | 5 | 4 | 3 | 2 | 1 | 9 | D1a_11 |
| looked for information about a mental health issue like depression or anxiety | 5 | 4 | 3 | 2 | 1 | 9 | D1a_12 |
| disclosed medical information on Social Networking Sites | 5 | 4 | 3 | 2 | 1 | 9 | D1a_13 |
| disclosed medical information on websites to share pictures, videos, movies, etc. | 5 | 4 | 3 | 2 | 1 | 9 | D1a_14 |

For each reply where D1a_x=1 or 9 do the same for D1b_x

If D1a_1 = 1 and D1a_2 = 1 -> D10
If D1a_1 = (2 to 5) or D1a_2 = (2 to 5) -> D2

D1b. Assuming that you were provided the possibility, state how likely it is that you would do the following during the next year?

| Activity                                                   | Very likely | Very unlikely | D1b_x |
|------------------------------------------------------------|-------------|---------------|-------|
| look for information about a physical illness or condition that you or someone you know has | 4           | 3             | 2     | 1     | D1b_1 |
| look for information about wellness or lifestyle           | 4           | 3             | 2     | 1     | D1b_2 |
| buy medicine or vitamins online                            | 4           | 3             | 2     | 1     | D1b_3 |
| participate in an online support group for people who are concerned about the same health or medical issue | 4           | 3             | 2     | 1     | D1b_4 |
| participate in Social Networking Sites talking about health and wellness | 4           | 3             | 2     | 1     | D1b_5 |
| use email or gone to a web site to communicate with a doctor or a doctor’s office | 4           | 3             | 2     | 1     | D1b_6 |
| click on a health or medical web site’s privacy policy to read | 4           | 3             | 2     | 1     | D1b_7 |
| Activity                                                                 | Yes | No |      |      | D1b_9 |
|-------------------------------------------------------------------------|-----|----|------|------|-------|
| describe a medical condition or problem online in order to get advice   | 4   | 2  | 1    |      | D1b_9 |
| from an online doctor                                                    |     |    |      |      |       |
| describe a medical condition or problem online in order to get advice    | 4   | 2  | 1    |      |       |
| from other online users (peers)                                          |     |    |      |      |       |
| keep a health web site "bookmarked", or saved as a "favourite place",  | 4   | 2  | 1    |      |       |
| so you can go back to it regularly                                      |     |    |      |      |       |
| look to see what company or organization is providing the advice or     | 4   | 2  | 1    |      |       |
| information that appears on a health web site                           |     |    |      |      |       |
| look for information about a mental health issue like depression or     | 4   | 2  | 1    |      |       |
| anxiety                                                                  |     |    |      |      |       |
| disclose medical information on Social Networking Sites                 | 4   | 2  | 1    |      |       |
| disclose medical information on websites to share pictures, videos,     | 4   | 2  | 1    |      |       |
| movies, etc.                                                             |     |    |      |      |       |

D2. Were you looking for health and/or wellness information for yourself or for others? (multiple choice)

|          | Yes | No |
|----------|-----|----|
| Yourself | 1   | 2  | D2_1 |
| Child    | 1   | 2  | D2_2 |
| Parent   | 1   | 2  | D2_3 |
| Another relative | 1 | 2 | D2_4 |
| Someone else        | 1  | 2  | D2_5 |

If D2_1 = 1 -> D3
If D2_2 =1 or D2_3=1 or D2_4=1 or D2_5=1 ->D4

D3. Did you happen to go looking for this health information for yourself...?

|                                      | D3 |
|--------------------------------------|----|
| Before visiting a doctor or clinic   | 1  |
| After visiting a doctor or clinic    | 2  |
### D4. Did you happen to go looking for this health information for another person...?  

| Description                                      | Count |
|--------------------------------------------------|-------|
| Before visiting a doctor or clinic               | 1     |
| After visiting a doctor or clinic                | 2     |
| Instead of visiting a doctor or clinic            | 3     |
| Unrelated to visiting a doctor or clinic          | 4     |

### D5. Overall, how USEFUL was the health information you got online  

| Description         | Count |
|---------------------|-------|
| Very useful         | 4     |
| Somewhat useful     | 3     |
| Not too useful      | 2     |
| Not at all useful   | 1     |

### D6. Did you learn anything NEW from the information you got online, or not?  

| Description | Count |
|-------------|-------|
| Yes         | 1     |
| No          | 2     |
| Don’t know  | 99    |

### D7. Did you later talk to a doctor or nurse about the information you got online?  

| Description         | Count |
|---------------------|-------|
| Yes                 | 1     |
| No                  | 2     |
| Don’t know          | 99    |
D8. Did the information you got online affect any of your decisions about health treatments or the way you take care of yourself?

|       | D8 |
|-------|----|
| Yes   | 1  |
| No    | 2  |

D9. Did the information you got online affect the way you eat or exercise?

|       | D9 |
|-------|----|
| Yes   | 1  |
| No    | 2  |
| Don't know | 99 |

D10a. Regarding health and Information and Communication Technologies, specially the Internet, how often have you....?

|                                                  | Every day or almost every day | At least once a week (but not every day) | At least once a month (but not every week) | Less than once a month | Never | I was not aware of it | D10_X |
|--------------------------------------------------|------------------------------|------------------------------------------|--------------------------------------------|------------------------|-------|----------------------|-------|
| Made, cancelled or changed an appointment with your family doctor, specialist or other health professionals online | 5                            | 4                                        | 3                                          | 2                      | 1     | 9                    | D10_1  |
| Sent or received an email from your doctor, nurse or health care organization | 5                            | 4                                        | 3                                          | 2                      | 1     | 9                    | D10_2  |
| Made an online consultation through videoconference with your doctor or nurse | 5                            | 4                                        | 3                                          | 2                      | 1     | 9                    | D10_3  |
| Received online the results of your clinical or medical test | 5                            | 4                                        | 3                                          | 2                      | 1     | 9                    | D10_4  |
| Accessed or uploaded your (or any other family member) medical information or health record through an Internet provider (ex. Google Health, Microsoft Vault..) | 5                            | 4                                        | 3                                          | 2                      | 1     | 9                    | D10_5  |
| Accessed or uploaded your medical information or health record through an Internet provider (ex. Google Health, Microsoft Vault..) | 5                            | 4                                        | 3                                          | 2                      | 1     | 9                    | D10_6  |
(or any other family member) medical information or health record through an Internet application provided by your healthcare organization

|                          | 5 | 4 | 3 | 2 | 1 | 9 | D10_7 |
|--------------------------|---|---|---|---|---|---|-------|
| Used a game console to play games related with your health or your wellness | 5 | 4 | 3 | 2 | 1 | 9 | D10_8 |
| Used a health/wellness application on your mobile phone | 5 | 4 | 3 | 2 | 1 | 9 | D10_9 |
| Used devices (as pulse meter, glucose meter...) to transmit vital signs or other clinical information and/or received alarms or follow-up about your health anytime, anywhere | 5 | 4 | 3 | 2 | 1 | 9 | D10_10 |
| Received any message about health promotion and/or health prevention | 5 | 4 | 3 | 2 | 1 | 9 | D10_10 |

For each reply where D10a_1=1 or 9 do the same for D10b_1

D10b. Assuming that you were provided the possibility, state how likely it is that you would do the following during the next year?

|                                         | Very likely | Very unlikely |
|-----------------------------------------|-------------|---------------|
| Make, cancel or change an appointment with your family doctor, specialist or other health professionals online | 4 | 3 | 2 | 1 | D10b_1 |
| Send or receive an email from your doctor, nurse or health care organization | 4 | 3 | 2 | 1 | D10b_2 |
| Make an online consultation through videoconference with your doctor or nurse | 4 | 3 | 2 | 1 | D10b_3 |
| Receive online the results of your clinical or medical test. | 4 | 3 | 2 | 1 | D10b_4 |
| Access or upload your medical information or health record through an Internet provider (ex. Google Health, Microsoft Vault...) | 4 | 3 | 2 | 1 | D10b_5 |
| Access or upload your medical information or health record through an Internet provider (ex. Google Health, Microsoft Vault...) | 4 | 3 | 2 | 1 | D10b_6 |
### Information or Health Record through Internet Application Provided by Your Healthcare Organization

| Use a game console to play games related with your health or your wellness | 4 | 3 | 2 | 1 | D10b_7 |
| --- | --- | --- | --- | --- | --- |
| Use a health/wellness application on your mobile phone | 4 | 3 | 2 | 1 | D10b_8 |
| Use devices (as pulse meter, glucose meter...) to transmit vital signs or other clinical information and/or received alarms or follow-up about your health anytime, anywhere | 4 | 3 | 2 | 1 | D10b_9 |
| Receive any message about health promotion and/or health prevention | 4 | 3 | 2 | 1 | D10b_10 |

### D11. Regardless of whether you have used Information and Communication Technologies for healthcare or wellness purposes, can you tell me how important you believe the following uses of Information and Communication Technologies and the Internet for health or wellness purposes might be?

| To prevent diseases by adopting a healthier lifestyle | Very important | Somewhat important | Not so important | Not important at all | D11_1 |
| --- | --- | --- | --- | --- | --- |
| To obtain different points of view from those offered by mainstream medicine | 4 | 3 | 2 | 1 | D11_2 |
| To better understand a health problem or disease | 4 | 3 | 2 | 1 | D11_3 |
| To find a specific solution to or treatment for a health problem | 4 | 3 | 2 | 1 | D11_4 |
| To find additional sources of information (addresses, references or links) | 4 | 3 | 2 | 1 | D11_5 |
| To participate in online discussions | 4 | 3 | 2 | 1 | D11_6 |
| To develop one’s general knowledge or satisfy one’s curiosity | 4 | 3 | 2 | 1 | D11_7 |
| To help a family member or friend who is ill | 4 | 3 | 2 | 1 | D11_8 |
| To access an online health service | 4 | 3 | 2 | 1 | D11_9 |
D12. Regardless of whether you have used Information and Communication Technologies or the Internet for healthcare or wellness purposes, would you tell us how important the following factors are when evaluating an internet health site?

| Factor                                                                 | Very important | Somewhat important | Not so important | Not important at all |
|----------------------------------------------------------------------|----------------|--------------------|------------------|----------------------|
| Secure handling of personal information                              | 4              | 3                  | 2                | 1                    |
| Information in my own language                                       | 4              | 3                  | 2                | 1                    |
| Updated information                                                  | 4              | 3                  | 2                | 1                    |
| Interactivity, e.g. Question-and-answer service, discussion groups, chat | 4              | 3                  | 2                | 1                    |
| Health professionals are involved                                    | 4              | 3                  | 2                | 1                    |
| Clearly stated who is responsible for sponsoring the site             | 4              | 3                  | 2                | 1                    |
| Health organizations are involved                                    | 4              | 3                  | 2                | 1                    |
| Governments are involved                                             | 4              | 3                  | 2                | 1                    |

D13. Regardless of whether you have used Information and Communication Technologies for healthcare or wellness purposes, would you tell us how important the following barriers are in using these technologies for health or wellness purposes?

| Barrier                                                                 | Very important | Somewhat important | Not so important | Not important at all |
|------------------------------------------------------------------------|----------------|--------------------|------------------|----------------------|
| Lack of digital skills                                                 | 4              | 3                  | 2                | 1                    |
| Lack of access to ICT for health applications                          | 4              | 3                  | 2                | 1                    |
| Lack of motivation and interest                                        | 4              | 3                  | 2                | 1                    |
| Lack of awareness                                                      | 4              | 3                  | 2                | 1                    |
| Lack of health literacy                                                | 4              | 3                  | 2                | 1                    |
| Lack of trust                                                          | 4              | 3                  | 2                | 1                    |
| Lack of liability                                                      | 4              | 3                  | 2                | 1                    |
| Lack of privacy                                                        | 4              | 3                  | 2                | 1                    |
| Lack of security                                                       | 4              | 3                  | 2                | 1                    |
| Lack of reliability                                                    | 4              | 3                  | 2                | 1                    |

D14. Assuming that you were provided the possibility of looking for health information on the Internet, would information on health or illness which you had obtained from the Internet lead to any of the following?
|                                      | Yes | No | Do not know |
|--------------------------------------|-----|----|-------------|
| Feelings of anxiety                  | 1   | 2  | 99          |
| Feelings of reassurance or relief    | 1   | 2  | 99          |
| Willingness to change diet or other lifestyle habits | 1   | 2  | 99          |
| Suggestions or queries on diagnosis or treatment to your family doctor, specialist or other health professional | 1   | 2  | 99          |
| Changing of use of medicine without consulting your family doctor, specialist or other health professional | 1   | 2  | 99          |
| Making, cancelling or changing an appointment with family doctor, specialist or other health professional | 1   | 2  | 99          |

D15. To what extent do you agree with the following statements?

| Statement                                                                 | Totally agree | Somewhat agree | Neither agree nor disagree | Somewhat disagree | Totally disagree |
|---------------------------------------------------------------------------|---------------|----------------|----------------------------|-------------------|------------------|
| ICT for health could increase my use of the ICT in other fields of my daily life | 5             | 4              | 3                          | 2                 | 1                |
| ICT for health could lead to greater patients satisfaction                 | 5             | 4              | 3                          | 2                 | 1                |
| ICT for health could improve my health status                              | 5             | 4              | 3                          | 2                 | 1                |
| ICT for health could improve the ability to take care and monitor my own health | 5             | 4              | 3                          | 2                 | 1                |
| ICT for health could change my behaviours towards a healthy lifestyle       | 5             | 4              | 3                          | 2                 | 1                |
| ICT for health could avoid travelling expenses and time                     | 5             | 4              | 3                          | 2                 | 1                |
| ICT for health could improve the quality of health care services received  | 5             | 4              | 3                          | 2                 | 1                |
| Statement                                                                                                                                  | 5 | 4 | 3 | 2 | 1 | D15_8   |
|------------------------------------------------------------------------------------------------------------------------------------------|---|---|---|---|---|---------|
| Internet health services substitute some of my face-to-face consultations with the physicians                                           |   |   |   |   |   |         |
| Internet health services complement some of my face-to-face consultations with the physicians                                            |   |   |   |   |   |         |
| The quality of Internet health services is aligned with the quality of face-to-face services                                               |   |   |   |   |   |         |
| I have concerns about the kind of personal information shared with physicians or health organizations through the Internet due to privacy and confidentiality issues |   |   |   |   |   |         |
| In case of need, I would feel more comfortable and safe at home with a remote monitoring system to track my health                       |   |   |   |   |   |         |
| I would be willing to pay to access Internet health services for myself or my relatives                                                 |   |   |   |   |   |         |

**Block E: Socio demographic profile of participants**

**E1. Gender**

|     | E1 |
|-----|----|
| Male| 1   |
| Female| 2 |

**E2. How old are you?**

| Age:_____________ | E2 |
|-------------------|----|

**E3. Which is your country of citizenship?**

| National to UK | E3 |
|----------------|----|
|                | 1  |
National of other EU member state 2
National of non-EU country 3

E4. Which is your country of birth?

| E4 |                          |
|----|-------------------------|
| 1  | UK Native               |
| 2  | Born in another EU member state |
| 3  | Born in non-EU country |

E5. What is your highest level of education completed?

| E5 |                                                |
|----|------------------------------------------------|
| 1  | Primary or lower secondary education [ISCED 0,1 or 2] |
| 2  | Upper secondary education [ISCED 3 or 4]          |
| 3  | Tertiary education [ISCED 5 or 6]                |

E6. Which of these descriptions best describes your situation or applies to what you have been doing for the last month?

| E6 |                                                  |
|----|--------------------------------------------------|
| 1  | Employed or self-employed (incl. family workers) |
| 2  | Unemployed                                       |
| 3  | Student (not in the labour force)                |
| 4  | Other not in the labour force (retired, inactive, in compulsory military service, etc.) |

If E6 = 1 -> E7
If E6 = (2 to 4) -> E8

E7. What is your occupation?

(Recoded into at least 2-digit ISCO-88 categories)

E8. Region of residence:

| Description:________________(Recoded) | E8 |
|---------------------------------------|----|

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E9. Type of locality:

| Type of locality                                      | E9 |
|-------------------------------------------------------|----|
| Densely-populated area (Cities and Large towns)       | 1  |
| Intermediate area (Towns)                             | 2  |
| Thinly-populated area (Villages and Rural)            | 3  |

E10. Number of members in the household?

Number: ___________  E10

E11. Of which, number of children under 16 years?

Number: ___________  E11

E12. Of which, number of members over 65 years?

Number: ___________  E12

E13. Which is your average net monthly income?

| GBP: ________________ | E13 |
|------------------------|-----|
| 1                      |     |
| Do not want to answer  | 99  |
Annex 2. Online panel providers

Cint is a privately owned software company that produces and sells market leading, innovate online research products for businesses, organizations and individuals involved in market research. The company specializes in SaaS, web-based software solutions offering efficient, user friendly online sample management and access, as well as online panel management products that are accessible worldwide 24/7. Headquartered in Stockholm, Sweden, Cint has offices across Europe and the USA. The company has an extensive list of clients and partners spanning most of the large market research groups, media and web-based companies, branding and advertising agencies, plus medium and small market research agencies and other organisations involved in market research. Cint’s goal is to be the main provider of sampling solutions for online research, through efficient solutions that improve accuracy and reduce both time and cost. The company has launched a whole series of industry firsts that have dramatically reduced clients operating costs and raised standards in transparency and quality. Cint’s products comply with ESOMAR, MRS, CASRO, MRA&ARF quality and personal integrity standards, as well as offering additional functions designed to enhance quality. All publicized panels operate within this controlled framework. Cint’s Survey Quality Assurance Program ensures all projects by sample buyers are set up correctly and that the questionnaire is of the required standard. Since most data errors in research are made in the survey creation phase, Cint puts an emphasis on quality checking every survey reaching the Cint Panel Exchange network. All major and most minor languages issues are forced to be corrected before the project is launched. Cint’s Quality Features:

- Panellist rating: all panellists are scored by their level of survey activity. A high score shows active behaviour, while a lower score shows lower levels of activity. If a score drops to a certain agreed level, panel owners can use this scoring system to automatically clean their panels.
- Automatic cleaning: all panels in Cint Panel Exchange are automatically cleaned on hard bounces, where the email address is proven not to function.
- Random & Stratified Sampling: within the required targets, sample is randomly generated as well as being stratified by high, medium and low responders.
- Quarantine settings: Both panellists and panel owners can set the maximum number of surveys received.
- Exclusions: Panellists are automatically excluded from taking part in surveys in the same subject category or project regardless of panel they belong to.
- Re-invitations: Re-minder send outs to non-participants increase response and sampling efficiency.
- De-duping: Cint de-duping technology is able to detect and remove duplicates when inviting respondents to complete a specific survey.
- Professional panellists: At the registration stage personal information including name, address and other specific information is collected to assist in the validation process. Depending on incentive method used, unique identification data is required to redeem incentives such as: id number, home address and bank details.
- Panel Blending: Sample can be drawn from multiple panels simultaneously to reach hard to find target groups and eliminate source bias, and therefore reaching panellists with different motivation factors. It also allows users to benefit from selecting sample generated by different recruitment methods from CATI recruited panels to panels built from natural online communities, where members have a relationship with the panel owner’s brand.
- Panellists survey rating: Panellist can rate every survey on length, language and logic and other errors in surveys. Panellist longevity is reached by respecting their feedback and their experience in taking surveys. This feedback can help buyers to improve the quality of their surveys, which in turn generates high quality results.
• Increased performance and security: As user of a SaaS system all users will get continuous updates and security patches and monitoring.

• Independent study on panel quality: Cint is a contributor to a major industry study on panel quality, conducted by Mkting Inc. The objective of the study is measure panel quality from different providers through asking panellists about their survey behaviour and to measure how buying behaviour results correlates between panels. The early findings are showing that a blended sample, using multiple panel sources, is a more reliable way to conduct online research.

Furthermore, CINT provides the following software and hardware security features:

• All users require username and password secure logins

• The ASP environment has been designed with security, high-availability and performance in mind.

• All servers, services and network are monitored 24/7 by both Cint and the hosting partner with operation teams on stand-by.
Annex 3. Pilot study

A pilot test was conducted to ensure the questionnaire functioned correctly. The test was carried out between July 1 and July 6, 2011. In the end, a total of 231 interviews were completed in Spain and the UK (116 in Spain and 115 in the UK).

The reliability and validity of the questionnaire was tested. The reliability of the questionnaire was assessed in terms of consistency (using Cronbach’s α (alpha) analysis as a coefficient of reliability). Cronbach’s α (alpha) varies from zero to 1. Higher alpha values are more desirable. It is commonly accepted that a reliability of 0.70 or higher is required before using a tool. Table 11 shows Cronbach’s α (alpha) values for the selected variables.

### Table 84. Cronbach’s α (alpha) values

| Name          | Question                                                                 | Cronbach’s Alpha Value | Conc. |
|---------------|--------------------------------------------------------------------------|-------------------------|-------|
| A11_A_1 to A11_A_3 | In general, how often does your usual source of care (doctor or nurse)… | 0.928                   | Valid |
| A12_A_1 to A12_A3 | In general, how often do you ask your usual source of care (doctor or nurse)… | 0.962                   | Valid |
| B1_A_1 to B1_A_4 | For each of the following statements regarding the use of Information and Communication Technologies, specially the Internet, could you please tell me whether you agree or disagree? ICT allows me to… | 0.927                   | Valid |
| B2_A_1 to B2_A_3 | For each of the following statements regarding the use of Information and Communication Technologies, specially the Internet, could you please tell me whether you agree or disagree? ICT helps me … | 0.926                   | Valid |
| B3_A_1 to B3_A_5 | For each of the following statements regarding the use of Information and Communication Technologies, specially the Internet, could you please tell me whether you agree or disagree? CT facilitates… | 0.752                   | Valid |
| B4_A_1 to B4_A_10 | Below you can find a list of various sources of information about health, illness or wellness, and we would like to know how important these are to you… | 0.936                   | Valid |
| B5_A_1 to B5_A_8 | Different authorities (government departments, local authorities, agencies) and private companies could offer health information and online services related with your health. To what extent do you trust the following institutions to protect your personal information? | 0.875                   | Valid |
| C2_A_1 to C2_A_15 | Which of the following Internet related activities have you already carried out? | 0.872                   | Valid |
| D1_A_1 to D1_A_14 | Regarding health, wellness and the Internet, how often you ….? | 0.960                   | Valid |
| D10A_1 to D10A_10 | Regarding health and Information and Communication Technologies, specially the Internet, how often have you….? | 0.970                   | Valid |
| D11_1 to D11_10 | Regardless of whether you have used Information and Communication Technologies for healthcare or | 0.923                   | Valid |
| D11_9 | wellness purposes, can you tell me how important you believe the following uses of Information and Communication Technologies and the Internet for health or wellness purposes might be |
|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| D12_1 to D12_8 | Regardless of whether you have used Information and Communication Technologies or the Internet for healthcare or wellness purposes, would you tell us how important the following factors are when evaluating an internet health site? |
|       | 0.858 | Valid |
|       | D13_1 to D13_10 | Regardless of whether you have used Information and Communication Technologies for healthcare or wellness purposes, would you tell us how important the following barriers are in using these technologies for health or wellness purposes |
|       | 0.958 | Valid |
|       | D15_1 To D15_13 | To what extent do you agree with the following statements? |
|       | 0.910 | Valid |

The validity is the degree to which the questionnaire actually measures what is expected, or serves the purpose for which it has been prepared, and the analysis was carried out according to the content validity, construct validity, and criterion-related validity. After telephone contact with (approximately) 10% of the pilot study sample, the following conclusions were reached:

- The questionnaire is rather long and repetitive due to the use of many scales
- The questionnaire deals with an interesting topic that motivates the respondent to answer.
- There are no relevant problems of understanding

In this sense, the only significant change remarkable in the final questionnaire in relation to the pilot questionnaire is:

- The inclusion of the option “I was not aware of it” to avoid forcing an answer that would not reflect the real circumstances.
Annex 4. Internet activities comparison

Table 85: Internet access (C2) comparison

| Country | Sample | Universe |
|---------|--------|----------|
| AT      | 90     | 91       |
| BE      | 95     | 92       |
| DK      | 92     | 92       |
| EE      | 92     | 92       |
| ES      | 94     | 89       |
| FI      | 89     | 93       |
| FR      | 93     | 95       |
| GR      | 96     | 95       |
| IE      | 95     | 93       |
| NL      | 95     | 93       |
| NO      | 95     | 93       |
| SE      | 93     | 95       |
| SK      | 95     | 96       |
| UK      | 93     | 93       |

Source: Special Eurobarometer 359.

Table 86: Internet activities (C3) comparison

| Activity                          | Sample | Universe |
|-----------------------------------|--------|----------|
| Purchase goods or services...     |        |          |
| Use a social networking site     |        |          |
| Do home banking                   |        |          |
| Use websites to share...         |        |          |
| Instant messaging, chat...       |        |          |
| Use online software              |        |          |
| Use the Internet to make...      |        |          |
| Use peer-to-peer file...         |        |          |
| Create a web page                |        |          |
| Keep a blog (also known as...)   |        |          |

Source: Special Eurobarometer 359.
### Table 87: Internet activities (C3) comparison

| Yes (%)                                                                 | AT   | BE   | DE   | DK   | EE   | ES   | FI   | Sample | Universe | Sample | Universe | Sample | Universe | Sample | Universe | Sample | Universe | Sample | Universe |
|------------------------------------------------------------------------|------|------|------|------|------|------|------|--------|----------|--------|----------|--------|----------|--------|----------|--------|----------|--------|----------|
| Use the Internet to make telephone calls                               | 57   | 28   | 45   | 22   | 52   | 20   | 44   | 33     | 55       | 35     | 48       | 19     | 51       | 26     |          |
| Use peer-to-peer file sharing for exchanging movies, music, etc.       | 36   | 20   | 40   | 16   | 30   | 6    | 34   | 23     | 58       | 14     | 56       | 25     | 46       | 10     |          |
| Create a web page                                                     | 38   | 13   | 27   | 10   | 39   | 6    | 36   | 12     | 35       | 6      | 39       | 6      | 37       | 10     |          |
| Use websites to share pictures, videos, movies, etc.                  | 69   | 45   | 68   | 43   | 60   | 32   | 65   | 40     | 81       | 49     | 77       | 53     | 66       | 35     |          |
| Use a social networking site                                          | 76   | 49   | 78   | 52   | 80   | 37   | 80   | 63     | 89       | 59     | 88       | 56     | 66       | 51     |          |
| Purchase goods or services online / online shopping (e.g. travel & holiday, clothes, books, tickets, films, music, software, food) | 95   | 62   | 86   | 53   | 97   | 72   | 96   | 81     | 86       | 43     | 88       | 39     | 95       | 69     |          |
| Keep a blog (also known as web-log)                                   | 33   | 9    | 29   | 8    | 35   | 3    | 27   | 6      | 26       | 7      | 47       | 8      | 25       | 8      |          |
| Instant messaging, chat websites                                      | 69   | 31   | 68   | 37   | 69   | 26   | 62   | 39     | 75       | 46     | 80       | 69     | 72       | 34     |          |
| Do home banking                                                       | 85   | 59   | 88   | 64   | 81   | 47   | 89   | 86     | 97       | 69     | 78       | 40     | 95       | 89     |          |
| Use online software                                                   | 80   | 34   | 71   | 28   | 78   | 29   | 71   | 40     | 88       | 44     | 73       | 17     | 75       | 29     |          |
## Table 88: Internet activities (C3) comparison

| Yes (%) | FR Sample | FR Universe | IT Sample | IT Universe | NL Sample | NL Universe | SE Sample | SE Universe | SK Sample | SK Universe | SL Sample | SL Universe | UK Sample | UK Universe |
|---------|-----------|-------------|-----------|-------------|-----------|-------------|-----------|-------------|-----------|--------------|-----------|-------------|-----------|-------------|
| Use the Internet to make telephone calls | 45 | 33 | 61 | 21 | 42 | 28 | 49 | 28 | 69 | 43 | 57 | 23 | 38 | 18 |
| Use peer-to-peer file sharing for exchanging movies, music, etc | 36 | 16 | 57 | 18 | 43 | 18 | 35 | 26 | 49 | 15 | 68 | 30 | 36 | 11 |
| Create a web page | 24 | 8 | 40 | 5 | 33 | 12 | 32 | 13 | 35 | 4 | 40 | 7 | 26 | 6 |
| Use websites to share pictures, videos, movies, etc. | 60 | 39 | 71 | 47 | 64 | 46 | 61 | 42 | 80 | 58 | 73 | 50 | 58 | 49 |
| Use a social networking site | 73 | 50 | 80 | 48 | 72 | 53 | 77 | 58 | 86 | 66 | 88 | 53 | 75 | 57 |
| Purchase goods or services online / online shopping (e.g. travel & holiday, clothes, books, tickets, films, music, software, food) | 93 | 66 | 85 | 35 | 90 | 81 | 96 | 78 | 91 | 52 | 90 | 39 | 98 | 79 |
| Keep a blog (also known as web-log) | 26 | 8 | 43 | 6 | 30 | 7 | 36 | 10 | 24 | 4 | 31 | 2 | 21 | 4 |
| Instant messaging, chat websites | 72 | 52 | 76 | 45 | 57 | 25 | 69 | 39 | 83 | 58 | 67 | 47 | 53 | 33 |
| Do home banking | 84 | 58 | 72 | 27 | 89 | 84 | 95 | 80 | 79 | 41 | 73 | 38 | 85 | 44 |
| Use online software | 63 | 31 | 75 | 15 | 71 | 29 | 74 | 37 | 72 | 16 | 79 | 33 | 69 | 19 |
### Annex 5: Correlation matrix

| Activity                                                                 | Mean | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  | 13  | 14  |
|--------------------------------------------------------------------------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Use a search engine to find information                                   | 4.54 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Send e-mails with attached files                                         | 4.00 | .357|     |     |     |     |     |     |     |     |     |     |     |     |     |
| Post messages to chatrooms, newsgroups or an online discussion forum    | 2.59 | .180| .205|     |     |     |     |     |     |     |     |     |     |     |     |
| Use the Internet to make telephone calls                                 | 2.11 | .101| .218| .305|     |     |     |     |     |     |     |     |     |     |     |
| Use peer-to-peer file sharing for exchanging movies, music,...           | 1.88 | .098| .172| .410| .371|     |     |     |     |     |     |     |     |     |     |
| Create a web page                                                        | 1.64 | .036| .161| .356| .381| .434|     |     |     |     |     |     |     |     |     |
| Use websites to share pictures, videos, movies, etc.                     | 2.50 | .181| .227| .501| .326| .473| .383|     |     |     |     |     |     |     |     |
| Use a social networking site                                            | 3.42 | .231| .188| .472| .178| .263| .205| .466|     |     |     |     |     |     |     |
| Purchase goods or services online / online shopping                      | 2.93 | .188| .269| .266| .261| .258| .301| .275| .159|     |     |     |     |     |     |
| Keep a blog (also known as web-log)                                     | 1.71 | .044| .144| .437| .371| .426| .581| .431| .286| .269|     |     |     |     |     |
| Activity                                      | n   | .177 | .200 | .27 | .327 | .350 | .299 | .458 | .465 | .174 | .364 |
|----------------------------------------------|-----|------|------|-----|------|------|------|------|------|------|------|
| Instant messaging, chat websites             | 2.85|      |      |     |      |      |      |      |      |      |      |
| Do home banking                              | 3.36| .153 | .247 | .081| .174 | .134 | .141 | .104 | .065 | .315 | .096 | .060 |
| Use online software                          | 2.67| .213 | .264 | .394| .355 | .410 | .362 | .419 | .270 | .321 | .366 | .355 | .231 |
| You use the Internet through your mobile phone| 2.44| .165 | .194 | .319| .304 | .360 | .298 | .363 | .334 | .285 | .293 | .321 | .192 | .356 |
| Online gaming and/or playing games console   | 2.67| .089 | .041 | .302| .190 | .291 | .217 | .293 | .237 | .157 | .249 | .301 | .066 | .310 | .233 |

*p<0.001
Table 90: Triggers - Correlation matrix

|                                | Mean  | 1    | 2    | 3    | 4    | 5    | 6    | 7    | 8    |
|--------------------------------|-------|------|------|------|------|------|------|------|------|
| To prevent diseases by adopting | 2.99  |      |      |      |      |      |      |      |      |
| a healthier lifestyle         |       |      |      |      |      |      |      |      |      |
| To obtain different points of | 2.84  | .512 |      |      |      |      |      |      |      |
| view from those offered by    |       |      |      |      |      |      |      |      |      |
| mainstream medicine           |       |      |      |      |      |      |      |      |      |
| To better understand a health | 3.22  | .579 | .574 |      |      |      |      |      |      |
| problem or disease            |       |      |      |      |      |      |      |      |      |
| To find a specific solution to | 2.98  | .565 | .581 | .639 |      |      |      |      |      |
| treatment for a health problem|       |      |      |      |      |      |      |      |      |
| To find additional sources of | 3.15  | .487 | .556 | .632 | .552 |      |      |      |      |
| information                   |       |      |      |      |      |      |      |      |      |
| To participate in online      | 2.32  | .367 | .484 | .346 | .386 | .405 |      |      |      |
| discussions                   |       |      |      |      |      |      |      |      |      |
| To develop one's general      | 3.12  | .494 | .532 | .637 | .519 | .610 | .389 |      |      |
| knowledge or satisfy one's    |       |      |      |      |      |      |      |      |      |
| curiosity                     |       |      |      |      |      |      |      |      |      |
| To help a family member or    | 3.06  | .578 | .525 | .621 | .627 | .522 | .339 | .518 |      |
| friend who is ill             |       |      |      |      |      |      |      |      |      |
| To access an online health    | 2.74  | .507 | .503 | .473 | .516 | .493 | .500 | .444 | .485 |
| service                       |       |      |      |      |      |      |      |      |      |

*p<0.001
### Table 91: Empowerment – Correlation matrix

|                                                                                   | Mean | 1    | 2    | 3    | 4    | 5    | 6    | 7    | 8    | 9    | 10   | 11   | 12   | 13   | 14   | 15   | 16   | 17   |
|----------------------------------------------------------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| ICT allow me to be better informed about how to follow the advice of the physician or professionals I consult | 3.75 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| ICT allow me to develop a better understanding of my personal health...by giving me access to recognized expert knowledge | 3.89 | .659 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| ICT allow me to become better informed on what is available...so that I can make my own choices | 3.94 | .639 | .672 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| ICT allow me to better understand my personal health...through my ability to determine what is relevant | 3.81 | .650 | .696 | .654 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| ICT allow me to know more about the opinions of people who are in similar situations or who are active in support groups | 3.90 | .511 | .596 | .579 | .560 |      |      |      |      |      |      |      |      |      |      |      |      |      |
| ICT allow me to better understand my personal health through online discussions or the opinions of people going through similar experiences | 3.69 | .551 | .599 | .577 | .608 | .673 |      |      |      |      |      |      |      |      |      |      |      |
| ICT allow me to play a more active role in my exchanges with my physician or the health professionals I consult | 3.59 | .633 | .595 | .590 | .605 | .499 | .541 |      |      |      |      |      |      |      |      |      |      |
| ICT helps me feel better equipped to implement the advice of the physician or health professionals I consult | 3.73 | .644 | .616 | .603 | .605 | .515 | .547 | .605 |      |      |      |      |      |      |      |      |      |
| ICT helps me feel better equipped to make my own choices without being limited to the advice of a physician... | 3.60 | .569 | .552 | .586 | .580 | .465 | .505 | .553 | .662 |      |      |      |      |      |      |      |      |
| ICT helps me feel better equipped to make positive changes to my situation       | 3.69 | .567 | .596 | .591 | .607 | .584 | .608 | .578 | .676 | .647 |      |      |      |      |      |      |      |      |
through discussions and exchanges with others

| ICT helps me feel more confident in playing a more active role in my exchanges with my physician... | 3.70  | .612 | .614 | .603 | .610 | .530 | .543 | .667 | .727 | .657 | .678 |
| ICT helps me feel more confident about the choices I plan on making between the various possible treatments and solutions | 3.71  | .592 | .613 | .631 | .620 | .533 | .560 | .581 | .704 | .704 | .699 | .718 |
| ICT helps me feel more confident in my discussions with the people in my life | 3.69  | .561 | .578 | .547 | .591 | .534 | .553 | .566 | .655 | .608 | .704 | .684 | .684 |
| ICT facilitates making decisions on my health albeit without going against the advice of the physician... | 3.61  | .519 | .519 | .508 | .529 | .455 | .479 | .502 | .593 | .580 | .571 | .571 | .599 | .550 |
| ICT facilitates a more active role in my health by deciding which solutions I prefer...mainstream medicine or alternative approaches | 3.67  | .551 | .568 | .592 | .563 | .496 | .518 | .543 | .632 | .659 | .627 | .643 | .673 | .579 | .664 |
| ICT facilitates making decisions about my health on the basis of my preferences and means rather than only on the advice of my physician | 3.50  | .510 | .500 | .520 | .520 | .439 | .485 | .501 | .572 | .660 | .576 | .579 | .629 | .540 | .635 | .716 |
| ICT facilitates a more active role in my health by continuing to talk with the people in my life who could help me clarify my ideas | 3.63  | .543 | .558 | .532 | .574 | .553 | .576 | .551 | .621 | .567 | .659 | .624 | .632 | .652 | .624 | .669 | .636 |
| ICT facilitates making decisions about my health by relying on the experiences...with the people with whom I talk | 3.47  | .497 | .489 | .493 | .512 | .497 | .553 | .488 | .559 | .597 | .608 | .564 | .604 | .584 | .607 | .650 | .664 | .697 |

*p<0.001
### Table 92: Barriers - Correlation matrix

|                          | Mean | 1    | 2    | 3    | 4    | 5    | 6    | 7    | 8    | 9    |
|--------------------------|------|------|------|------|------|------|------|------|------|------|
| Lack of digital skills   | 2.73 |      |      |      |      |      |      |      |      |      |
| Lack of access to ICT for health applications | 2.93 | .603 |      |      |      |      |      |      |      |      |
| Lack of motivation and interest | 2.94 | .555 | .563 |      |      |      |      |      |      |      |
| Lack of awareness        | 3.03 | .570 | .605 | .644 |      |      |      |      |      |      |
| Lack of health literacy  | 3.06 | .526 | .550 | .587 | .631 |      |      |      |      |      |
| Lack of trust            | 3.25 | .436 | .516 | .552 | .592 | .597 |      |      |      |      |
| Lack of liability        | 3.11 | .487 | .526 | .550 | .594 | .587 | .663 |      |      |      |
| Lack of privacy          | 3.32 | .388 | .473 | .469 | .522 | .529 | .688 | .630 |      |      |
| Lack of security         | 3.31 | .423 | .495 | .500 | .559 | .556 | .717 | .659 | .772 |      |
| Lack of reliability      | 3.28 | .422 | .512 | .527 | .590 | .579 | .705 | .630 | .689 | .733 |
*p<0.001

### Table 93: Health information sources - Correlation matrix

|                          | Mean | 1    | 2    | 3    | 4    | 5    | 6    | 7    | 8    | 9    |
|--------------------------|------|------|------|------|------|------|------|------|------|------|
| How important...Internet | 3.10 |      |      |      |      |      |      |      |      |      |
| How important...TV       | 2.50 | .379 |      |      |      |      |      |      |      |      |
| How important...Radio    | 2.17 | .226 | .542 |      |      |      |      |      |      |      |
| How important...Books, medical | 2.91 | .331 | .285 | .284 |      |      |      |      |      |      |
| encyclopaedias and leaflets |
| How important...Courses and lectures | 2.52 | .206 | .289 | .365 | .470 |      |      |      |      |      |
| How important...Newspapers, magazines | 2.46 | .325 | .505 | .475 | .399 | .396 |      |      |      |      |
| How important...Family, friends and colleagues | 2.92 | .312 | .321 | .268 | .233 | .209 | .334 |      |      |      |
| How important...Pharmacies | 3.11 | .127 | .235 | .230 | .277 | .284 | .242 | .260 |      |      |
| Direct face to face contact with doctors | 3.69 | .076 | .049 | .000 | .184 | .136 | .054 | .134 | .358 |      |
| Direct face to face contact with nurses | 3.17 | .070 | .143 | .182 | .238 | .237 | .121 | .180 | .414 | .442 |
*p<0.001
|                                    | Mean | 1   | 2   | 3   | 4   | 5   | 6   | 7   |
|------------------------------------|------|-----|-----|-----|-----|-----|-----|-----|
| National public authorities       | 2.71 |     |     |     |     |     |     |     |
| European institutions             | 2.53 | .626|     |     |     |     |     |     |
| Banks and financial institutions  | 2.31 | .508| .447|     |     |     |     |     |
| Health and medical institutions   | 3.04 | .480| .440| .333|     |     |     |     |
| Shops and department stores       | 2.07 | .302| .314| .418| .260|     |     |     |
| Internet companies                | 2.16 | .195| .247| .210| .252| .563|     |     |
| Phone companies, mobile phone     | 1.94 | .330| .318| .477| .237| .634| .549|     |
| companies and ISP                 |      |     |     |     |     |     |     |     |
| Pharmaceutical companies          | 2.35 | .380| .382| .398| .432| .489| .417| .460|

*p<0.001
| Activity                                                                 | Mean | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  | 13  | 14  | 15  | 16  | 17  | 18  | 19  |
|-------------------------------------------------------------------------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Looked for information about a physical illness or condition that you or | 2.41 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| someone you know has                                                   |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Looked for information about wellness or lifestyle                     | 2.37 | 0.673 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Bought medicine or vitamins online                                     | 1.62 | 0.472 | 0.462 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Participated in an online support group for people who are concerned | 1.56 | 0.554 | 0.532 | 0.668 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| about the same health or medical issue                                 |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Participated in Social Networking Sites talking about health and wel | 1.63 | 0.567 | 0.577 | 0.633 | 0.791 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| lness                                                                  |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Used email or gone to a web site to communicate with a doctor's office | 1.59 | 0.524 | 0.494 | 0.634 | 0.718 | 0.703 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Clicked on a health or medical web site's privacy policy to read about | 1.71 | 0.555 | 0.530 | 0.597 | 0.658 | 0.678 | 0.665 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| how the site uses PI                                                   |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Described a medical condition or problem online in order to get advice | 1.54 | 0.534 | 0.532 | 0.668 | 0.768 | 0.757 | 0.762 | 0.700 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| from an online doctor                                                  |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Described a medical condition or problem online in order to get advice | 1.60 | 0.568 | 0.542 | 0.653 | 0.783 | 0.782 | 0.717 | 0.693 | 0.799 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| from other online users                                                |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Item                                                                 | Value |
|----------------------------------------------------------------------|-------|
| Kept a health web site "bookmarked", or saved as a "favourite place", so you can go back to it regularly | 1.93  |
| Made, cancelled or changed an appointment with your family doctor, specialist or other health professionals online | 1.53  |
| Sent or received an email from your doctor, nurse or healthcare organization | 1.49  |
| Made an online consultation through videoconference with your doctor or nurse | 1.32  |
| Received online the results of your clinical or medical test | 1.38  |
| Accessed or uploaded your medical information or health record through an IP | 1.34  |
| Accessed or uploaded your medical information or health record through an Internet application provided by your healthcare organization | 1.36  |
| Used a game console to play games related with your health or your wellness | 1.46  |
| Used a health/wellness application on your mobile phone | 1.40  |
Used devices to transmit clinical information, received alarms, follow-up about your health anytime, anywhere

Received any message about health promotion and/or health prevention

| Table 96: ICT for Health willingness - Correlation matrix |
|---------------------------------------------------------|
| Mean | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|---------------------------------------------------------|
| look for information about a physical illness or condition that you or someone you know has | 1.93 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| look for information about wellness or lifestyle | 1.87 | .712 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| buy medicine or vitamins online | 1.56 | .447 | .453 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| participate in an online support group for people who are concerned about the same health or medical issue | 1.59 | .588 | .638 | .611 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| participate in Social Networking Sites talking | 1.59 | .562 | .638 | .644 | .898 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

| Activity                                                                 | Value1 | Value2 | Value3 | Value4 | Value5 | Value6 | Value7 | Value8 | Value9 |
|--------------------------------------------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| about health and wellness                                               |        |        |        |        |        |        |        |        |        |
| use email or go to a web site to communicate with a doctor's office     | 1.76   | .598   | .558   | .517   | .706   | .694   |        |        |        |
| click on a health or medical web site's privacy policy to read about how the site uses PI | 1.65   | .609   | .589   | .560   | .752   | .759   | .777   |        |        |
| describe a medical condition or problem online in order to get advice from an online doctor | 1.64   | .611   | .581   | .616   | .800   | .813   | .768   | .815   |        |
| describe a medical condition or problem online in order to get advice from other online users | 1.58   | .554   | .607   | .634   | .833   | .869   | .708   | .808   | .882   |
| keep a health web site "bookmarked", or save as a "favourite place", so you can go back to it regularly | 1.66   | .596   | .607   | .591   | .769   | .791   | .743   | .769   | .800   | .811   |
| look to see what company or                                             | 1.65   | .619   | .622   | .626   | .818   | .837   | .735   | .801   | .860   | .872   | .834   |
| Activity                                                                 | Mean | Median | Mode | Q1    | Q2    | Q3    | Q4    |
|-------------------------------------------------------------------------|------|--------|------|-------|-------|-------|-------|
| organization is providing the advice or information that appears on a   |      |        |      |       |       |       |       |
| health website                                                          |      |        |      |       |       |       |       |
| look for information about a mental health issue like depression or     | 1.66 | .643   | .643 | .595  | .782  | .793  | .642  |
| anxiety                                                                 |      |        |      |       |       |       |       |
| disclose medical information on Social Networking Sites                 | 1.55 | .533   | .606 | .647  | .817  | .842  | .667  |
| disclose medical information on websites to share pictures, videos,     | 1.54 | .536   | .612 | .661  | .839  | .852  | .646  |
| movies, etc.                                                            |      |        |      |       |       |       |       |
| Make, cancel or change an appointment with your family doctor,          | 1.97 | .449   | .347 | .267  | .368  | .326  | .483  |
| specialist or other health professionals online                         |      |        |      |       |       |       |       |
| Send or receive an email from your doctor, nurse or healthcare          | 1.88 | .476   | .384 | .314  | .408  | .382  | .519  |
| organization                                                              |      |        |      |       |       |       |       |
| Activity                                                                 | 1.65 | .414 | .341 | .323 | .426 | .409 | .491 | .483 | .530 | .482 | .491 | .481 | .408 | .430 | .414 | .669 | .755 |
|-------------------------------------------------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Make an online consultation through videoconference with your doctor or nurse | 1.69 | .401 | .307 | .282 | .388 | .366 | .429 | .461 | .434 | .416 | .408 | .393 | .410 | .400 | .661 | .749 | .799 | .782 |
| Receive online the results of your clinical or medical test              | 1.71 | .459 | .360 | .275 | .396 | .372 | .478 | .472 | .456 | .444 | .428 | .433 | .442 | .441 | .692 | .787 | .800 | .822 | .895 |
| Access or upload your medical information or health record through an IP| 1.59 | .361 | .373 | .293 | .427 | .441 | .387 | .409 | .421 | .483 | .481 | .448 | .430 | .483 | .472 | .525 | .597 | .785 | .588 | .708 | .690 |
| Use a game console to play games related with your health or your wellness | 1.60 | .355 | .384 | .315 | .446 | .449 | .412 | .440 | .450 | .501 | .471 | .470 | .445 | .504 | .505 | .593 | .658 | .822 | .657 | .781 | .765 | .859 |
| Use devices to transmit clinical information, receive alarms, follow-up about your health anytime, anywhere | 1.66  | .387  | .374  | .253  | .419  | .394  | .409  | .440  | .443  | .474  | .444  | .449  | .447  | .424  | .601  | .726  | .790  | .720  | .785  | .808  | .755  | .808  |
|-------------------------------------------------------------------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Receive any message about health promotion and/or health prevention | 1.67  | .437  | .407  | .302  | .454  | .426  | .491  | .486  | .470  | .492  | .474  | .466  | .439  | .462  | .455  | .660  | .751  | .826  | .758  | .810  | .805  | .779  | .832  | .842  |
| *p<0.001                                                                                       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
### Table 97: ICT for Health assessment – Correlation matrix

|                                | Mean | 1    | 2    | 3    | 4    | 5    | 6    |
|--------------------------------|------|------|------|------|------|------|------|
| Secure handling of PI         | 3.58 |      |      |      |      |      |      |
| Information in my own language| 3.49 | .604 |      |      |      |      |      |
| Updated information           | 3.50 | .673 | .622 |      |      |      |      |
| Health professionals are involved | 3.39 | .620 | .560 | .673 |      |      |      |
| Clearly stated who is responsible for sponsoring the site | 3.04 | .422 | .370 | .464 | .485 |      |      |
| Health organizations are involved | 3.11 | .480 | .461 | .537 | .629 | .512 |      |      |
| Governments are involved      | 2.57 | .210 | .230 | .235 | .312 | .387 | .493 |      |

* *p<0.001

### Table 98: ICT for Health impact – Correlation matrix

|                                | Mean | 1    | 2    | 3    | 4    | 5    | 6    | 7    | 8    | 9    |
|--------------------------------|------|------|------|------|------|------|------|------|------|------|
| ICT for health could increase my use of the ICT in other fields of my daily life | 3.19 |      |      |      |      |      |      |      |      |      |
| ICT for health could lead to greater patients satisfaction | 3.48 | .595 |      |      |      |      |      |      |      |      |
| ICT for health could improve my health status | 3.25 | .618 | .642 |      |      |      |      |      |      |      |
| ICT for health could improve the ability to take care and monitor my own health | 3.50 | .597 | .668 | .689 |      |      |      |      |      |      |
| ICT for health could change my behaviours towards a healthy lifestyle | 3.40 | .608 | .615 | .672 | .698 |      |      |      |      |      |
| ICT for health could avoid travelling expenses and time | 3.57 | .522 | .622 | .554 | .601 | .560 |      |      |      |      |
| ICT for health could improve the quality of health care services received | 3.47 | .583 | .692 | .625 | .663 | .623 | .639 |      |      |      |
| Internet health services substitute some of my face-to-face consultations with the physicians | 2.76 | .473 | .471 | .526 | .451 | .439 | .454 | .474 |      |      |
| Internet health services complement some of my face-to-face consultations with the | 3.40 | .494 | .583 | .545 | .574 | .534 | .534 | .585 | .513 |      |
| physicians                                                                 | 2.99 | .502 | .516 | .530 | .492 | .489 | .477 | .522 | .570 | .511 |
|---------------------------------------------------------------------------|------|------|------|------|------|------|------|------|------|------|
| The quality of Internet health services is aligned with the quality of f2f services | 3.16 | .490 | .494 | .502 | .512 | .480 | .456 | .495 | .418 | .441 | .414 |
| I would feel more comfortable and safe at home with a remote monitoring system to track my health | 2.46 | .447 | .384 | .440 | .368 | .392 | .330 | .374 | .504 | .359 | .458 | .447 |
* p<0.001
Abstract
The Citizen Panel Survey carried out in SIMPHS2 to better assess users and patients’ needs and expectations with regard to ICT for health, directly supports the objectives of the Digital Agenda in the area of eHealth which are to both cope with societal challenges and create opportunities for innovation and economic growth by reducing health inequalities, promoting active and healthy ageing and increasing empowerment. It also contributes to the goals of the European Innovation Partnership on Active and Healthy Aging which addresses the societal challenge of an ageing population focusing on the main areas of life events (Prevention, Care and cure and Independent living) with the following expected results:

- An improvement of the health status and quality of life of Europeans, especially older people;
- An improvement of the sustainability and efficiency of health and social care systems;
- Boosted EU competitiveness through an improved business environment for innovation.

In this policy context the analysis of users’ demand undertaken through the SIMPHS2 Citizen panel survey aims to:

- develop typologies of digital healthcare users and measure the impact of ICT and the Internet on health status, health care demand and health management.
- identify factors that can enhance or inhibit the role and use of Personal Health Systems from a citizen’s perspective with special emphasis on mHealth, RMT, disease management, Telecare, Telemedicine and Wellness.

To reach these objectives, we started by defining a theoretical framework for policy-making, which was used to design and gather relevant information. A multivariate statistical analysis was subsequently carried out to identify the underlying conceptual dimensions emerging from the data collected. Key relationships between concepts (underlying dimensions) were identified to understand ICT for Health as a complex ecosystem. We concluded with some lessons learned.
As the Commission’s in-house science service, the Joint Research Centre’s mission is to provide EU policies with independent, evidence-based scientific and technical support throughout the whole policy cycle.

Working in close cooperation with policy Directorates-General, the JRC addresses key societal challenges while stimulating innovation through developing new standards, methods and tools, and sharing and transferring its know-how to the Member States and international community.

Key policy areas include: environment and climate change; energy and transport; agriculture and food security; health and consumer protection; information society and digital agenda; safety and security including nuclear; all supported through a cross-cutting and multi-disciplinary approach.