



EUROPEAN COMMISSION
INFORMATION SOCIETY AND MEDIA DIRECTORATE-GENERAL

Report on the public consultation on eHealth Action Plan 2012-2020

EXECUTIVE SUMMARY

In December 2009, Member States adopted the Council Conclusions on Safe and efficient healthcare through eHealth¹, in which the Council specifically called on the Commission to "update the eHealth Action Plan". A public consultation is a mandatory exercise to give stakeholders the opportunity to give their opinion on any important European initiative. The public consultation was launched on 31 March 2011 and closed on 30 May 2011.

The consultation sought to validate four proposed objectives and to explore possible actions to be undertaken in next years. The four objectives proposed were:

Objective 1: Increase awareness of the benefits and opportunities of eHealth, and empower citizens, patients and healthcare professionals.

Objective 2: Address issues currently impeding eHealth interoperability

Objective 3: Improve legal certainty for eHealth

Objective 4: Support research and innovation in eHealth and development of a competitive European market.

239 participants contributed to the consultation representing different stakeholders including non-governmental organisations, academia, enterprises, health and social care providers and public authorities from many Member States.

The majority of respondents pointed out the main barriers impeding the deployment of eHealth that the European Commission should address:

- 1) The need to support systematic evaluation of the benefits and costs, effectiveness/usefulness of eHealth solutions;
- 2) Improving interoperability and strengthening the evidence-based approach; and
- 3) Facilitating cooperation between Member States and regions and, exploring innovative financing and reimbursement schemes.

Most of participants (around 90-95%) agreed or partially agreed with the four objectives mentioned above of the eHealth Action Plan (eHAP).

Regarding specific actions for every objective, the majority of respondents believed that the main instrument to increase patients' awareness and trust on eHealth is the information campaign. However, improving healthcare professionals' awareness and acceptance should be addressed through the inclusion of eHealth in the medical curricula and training at the workplace; organising information campaigns and supporting the dissemination of good practices and results at professional conferences both at national and international level and providing evidence-based input and research and encouraging promotion of eHealth benefits. According to 71% of respondents, ICT systems for clinical use (decision support systems, EHR, ePrescription, Radiology Information Systems etc.) should be supported by the Commission.

The main action for the second objective is taking steps to advance technical interoperability to facilitate de-fragmentation of the eHealth market. The most important area to support European cooperation is the harmonised standards, profiles and technical specifications used to ensure cross border eHealth Interoperability.

¹ <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2009:302:0012:0014:EN:PDF>

Regarding legal issues, most of the participants thought encouraging professional associations, scientific societies and civil society representatives to promote the best practices through the development of guidelines and/or codes of conduct for eHealth services is an important action for the EC. Data protection and liability are the areas to focus on.

The objectives should be supported by providing funding for the scaling up of innovative eHealth solutions, for example by facilitating deployment of research results and providing more flexible financing mechanisms to support research and innovation. More emphasis should be put on international cooperation to promote benchmarking and evaluation projects in order to provide evidence to support deployment of eHealth solutions and to support new innovative solutions such as Virtual Physiological Human, Personal Health Systems, ICT for Public Health.

Table of Contents

EXECUTIVE SUMMARY	2
1 INTRODUCTION.....	5
2 METHODOLOGY AND PROCEDURE	6
3 RESULTS.....	7
3.1 Demographic Data.....	7
3.2 Main Benefits of eHealth Solutions	7
3.3 Barriers to eHealth Deployment.....	10
3.3.1 <i>Main barriers preventing the large scale deployment of eHealth solutions</i>	10
3.3.2 <i>How to address main barriers and promote eHealth solutions</i>	12
3.4 Objective 1: Increase awareness of the benefits and opportunities of eHealth, and empower citizens, patients and healthcare professionals.	14
3.4.1 Agreement with the objective 1	15
3.4.2 Actions to address Objective 1.....	16
3.4.2.1 <i>Actions to improve awareness and empowerment of patients and citizens</i>	16
3.4.2.2 <i>Actions to improve healthcare professionals' awareness and acceptance</i>	18
3.4.2.3 <i>Areas in which European cooperation is most important</i>	19
3.5 Objective 2: Address issues currently impeding eHealth interoperability	20
3.5.1 Agreement with the objective	20
3.5.2 Actions to address Objective 2.....	21
3.5.2.1 <i>Areas in which European cooperation is most important</i>	22
3.5.2.2 <i>Development of a European Interoperability Framework to provide support to Member States and stakeholders to solve interoperability issues. Areas in which European cooperation is most important</i>	23
3.6 Objective 3: Improve legal certainty for eHealth.....	24
3.6.1 Agreement with the objective	24
3.6.2 Actions to address Objective 3.....	25
3.6.2.1 <i>How the EC should address legal issues related to eHealth</i>	25
3.6.2.2 <i>Areas in which European cooperation is most important</i>	26
3.7 Objective 4: Support research and innovation in eHealth and development of a competitive European market.....	27
3.7.1 Agreement with the objective	27
3.7.2 Actions to address objective 4.....	28
3.7.2.1 <i>How the EC should support innovation</i>	28
3.7.2.2 <i>International cooperation Areas</i>	29
4 LIMITATIONS	31
5 CONCLUSION	31
6 NEXT STEPS.....	33
ANNEXES	34

1 INTRODUCTION

In December 2009, the Member States adopted the Council Conclusions on Safe and Efficient Healthcare through eHealth². In these Conclusions, the Council recognised the contribution that eHealth can bring to healthcare systems, it underlined the common challenges all healthcare systems are facing and called upon the Commission for support in order "to bring forward eHealth deployment and actual use of Interoperable eHealth services within and between national healthcare systems". Finally, the Council specifically called on the Commission to "update the eHealth Action Plan".

A public consultation is a mandatory exercise to give stakeholders the opportunity to give their opinion on any important European initiative. The new eHealth Action will include the European initiatives on eHealth to develop from 2012 to 2020.

On 31 March 2011, the European Commission launched a public consultation³ on an eHealth Action Plan for the period 2012-2020 that would update the first eHealth Action Plan adopted in 2004 and the public consultation was closed on 30 May 2011. This public consultation seeks to ensure that the Commission's proposal reflects the needs and demands of stakeholders and that it takes into account their suggestions.

The new action plan's aim is to consolidate the actions which have been undertaken so far under the previous Action Plan, take them a step further while providing for a longer term vision for eHealth in Europe, in the context of the EU 2020 Strategy, the Digital Agenda for Europe, Innovation Union and its associated European Innovation Partnership on Active and Healthy Ageing. In this sense, the public consultation sought to validate the four proposed objectives and to explore the possible actions that need to be taken in the next few years.

The questionnaire of the public consultation was defined following discussions with experts in the field and was endorsed by the i2010 sub-group on eHealth.

The survey included three types of questions: 1) *closed questions*, where the respondents had to choose between several pre-defined answers; 2) *open questions* where the respondents had to provide a personal opinion; and 3) *mixed questions*, where the respondents could choose between pre-defined answers and add comments.

The European Commission announced the launch of this public consultation in the various medias, during conferences and working groups, inviting as many stakeholders as possible to participate in this open consultation.

This report summarizes the results of the public consultation (online version: http://ec.europa.eu/information_society/activities/health/docs/policy/ehap2012public-consult-report.doc).

² <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2009:302:0012:0014:EN:PDF>

³ http://ec.europa.eu/information_society/activities/health/ehhealth_ap_consultation/index_en.htm

2 METHODOLOGY AND PROCEDURE

215 surveys were filled out online, whereas 25 participants sent their answers by email. Contributions received outside the timeframe of the consultation were not taken into account. When inconsistencies or contradictory answers were detected, the respondents were contacted to clarify their responses. In one case there was an absence of any response which resulted in exclusion.

Submissions were analysed according to the type of questions. *Closed questions* were presented with the rate for every response. Comments associated to *mixed questions* were included in the report only when they provided new ideas or reasons for disagreement with the proposals. Answers to *open questions* were very heterogeneous and included different elements and considerations. The synthesis of all views was elaborated through a double review and by establishing different major categories. In the first review, categories or fields were identified. In the second review, every response was classified into major categories in order to provide a percentage. If the response included several points, every point was considered in its related categories. Finally, only the most significant comments from every category were included in the report.

The number of respondents for every question is expressed in absolute values and percentages. Due to the fact that most of the participants did not respond to all of the questions of the questionnaire, the data is presented in two sets of percentages: the first one relates to the number of respondents for each question and the second one relates to the global number of respondents. (Statistic data can be found in Annex 1)

3 RESULTS

3.1 Demographic Data

The analysed responses encompassed 239 contributions, most of them with a partial filling in of the questionnaire. The overwhelming majority of the participants was from the EU (97.5%). The highest participation rate registered came from the Netherlands (20.92%), Belgium (16.32%) and Germany (11.72%). Figure 1 shows this distribution.

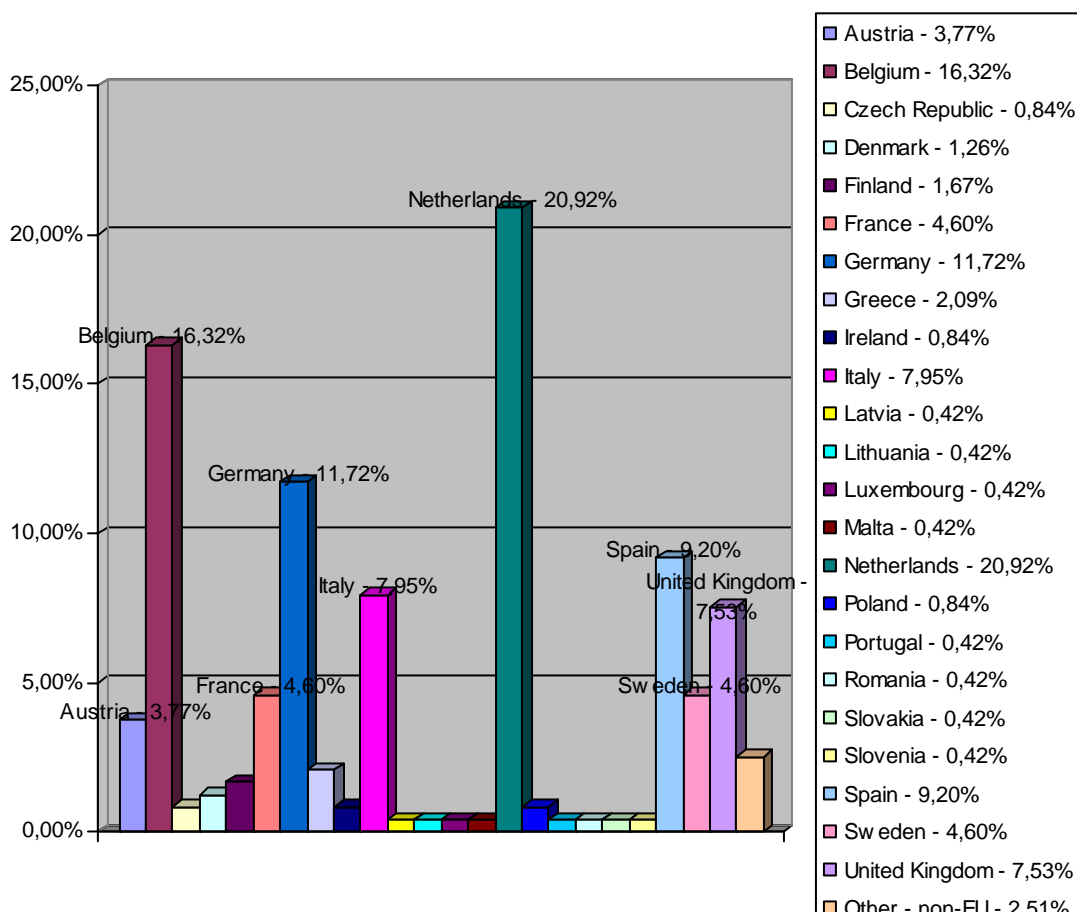


Figure 1: Total contributions received by country

The largest number of contributions (47.2 %) was provided by individuals (17 of them were anonymous), 41% participants provided responses on behalf of "my employer". Most of them were sent by representatives of associations and/or NGOs, closely followed by other categories such as trade, industries and enterprises, consultancies, health insurers and carers' organisations. More so, 11.72% of participants replied on behalf of "a public authority".

Finally, there were also contributions from large enterprises (14), research and academic circles (9), health and social care providers (8) and small and medium size enterprises (SMEs)(5). (See Annex 1)

3.2 Main Benefits of eHealth Solutions

Question: In your view, what are the main benefits you expect from the large scale deployment of eHealth solutions?

204 respondents answered this question. Following the methodology described above, the responses to this open question were classified into 5 major categories:

- a) Improving the quality of healthcare services;
- b) Reducing costs and contributing to the sustainability of healthcare systems;
- c) Ensuring a wider access to information related to health by patients, health care professionals and stakeholders;
- d) eHealth solutions having the potential to provide a tangible benefit to society as a whole; and
- e) No benefit

The contributions on this question are summarised below:

- **Improving the quality of healthcare services - 63.2%** - Most of the respondents believe that Information and Communication Technology (ICT) plays an important role in the quality of healthcare services. Every user of a health system could obtain direct benefit from eHealth:
 - organisations
 - guaranteeing healthcare assistance continuity;
 - increasing access to healthcare services (19% participants);
 - ensuring a better management of chronic diseases and personalised care;
 - improving patient safety; allowing a global vision of the process and enable a better integration of the primary care and the secondary care sector; and
 - improving of healthcare systems equity (9% participants).
 - patients
 - increasing patients' quality of life and outcome;
 - facilitating the exchange of personal data while increasing their security and confidentiality and supporting patient empowerment and the continuity of care;
 - providing remote access to services, reducing patients' care at hospitals and clinics; and
 - guaranteeing services availability and immediate response.
 - professionals
 - facilitating professionals' tasks , and reducing performance timings;
 - providing quick access to the information and knowledge; and
 - ensuring a quick and effective consultation between professionals.
- **Reducing costs and contributing to the sustainability of healthcare systems - 53.4%** - The respondents that identified the reduction of costs as a potential benefit underlined that eHealth:

- increases productivity facilitating performance timings and availability of information wherever is needed. in e the exchange of information across health communities, while ensuring that the relevant information is available in the right place, at the right time;
- provides access to high quality care in hospitals and specialist centres without the additional physical and economic burdens associated with travelling long distances;
- can improve the rational use of resources (e.g. avoiding duplications of tests);
- can compensate the lack of experienced employees in the healthcare sector,
- reduces administrative tasks; and
- ensures the re-use of primary information for service planning, clinical audit and research improving timing and cost.

▪ **Ensuring a wider access to information related to health by patients, health care professionals and stakeholders – 43.13%**

The respondents that considered that eHealth can contribute to a wider access to health information by patients also underlined that it can ensure in particular:

- a rapid access to evidence based information and decision support (for patients and professionals);
- a better access to knowledge and more opportunities to increase health education while increasing patients' empowerment so that they better take care of their own health and follow a healthy lifestyle;
- a better cooperation between stakeholders as well as a stronger networking and a better dissemination of information; and
- improved research data, better monitoring (e.g. in studies/trials) and quality control.

▪ **eHealth solutions having the potential to provide a tangible benefit to the society as a whole – 10.8%**

This tangible benefit to the society as a whole manifests in:

- helping to support the necessary reform of healthcare systems in order to face upcoming key challenges. Respondents underlined that necessary reforms will require important changes in the role of actors and organizations (stakeholders);
- maintaining a healthy and active population of elderly and preferably out of hospitals and nursing homes;
- helping ICT companies to place their products on a new market, while bringing a positive change in the way health services are delivered to citizens; and
- increasing employment opportunities in the European ICT industry while contributing to the competitiveness of the EU economy: eHealth is the fastest growing health sector in Europe and contributes to the creation of jobs and to the innovation capacity of the European economy, as recognised by the EU2020 strategy.

- **No benefit:** 3 respondents (1.7%) said that eHealth does not provide any benefit at all.

3.3 Barriers to eHealth Deployment

3.3.1 Main barriers preventing the large scale deployment of eHealth solutions

Question: What do you consider to be the main barriers preventing the large scale deployment of eHealth solutions? (Please choose maximum 5)

- a. Lack of large scale evidence for potential improvements to healthcare processes*
- b. Budgetary constraints*
- c. Lack of leadership (policy makers, local managers)*
- d. Lack of users' (i.e. patients' and/or healthcare professionals') awareness*
- e. Limited users' (i.e. patients' and/or healthcare professionals') skills in using ICT*
- f. Health professionals' acceptance*
- g. Inappropriate legal frameworks and lack of reimbursement schemes*
- h. Lack of interoperability*
- i. Inappropriate organization of the healthcare process*
- j. Access to standards*
- k. Lack of cross-sectoral coordination / integrated healthcare schemas*
- l. Other (please specify)*

Only 51 participants provided comments to this question. Some respondents considered that most of the barriers are interconnected, i.e. the lack of patients' awareness would be interconnected with the lack of users' involvement in the research process.

Due to the great diversity and length of the answers it is difficult to provide a short synthesis of all views on this question.

Indeed as 58% of the respondents chose "others" as an answer, their comments were analysed in depth and when possible, aggregated into the already identified barriers.

The most significant comments on this question are summarised below.

- **Lack of users' (i.e. patients' and/or healthcare professionals') awareness and confidence – 35%**

Most people prefer to see their doctor face to face and do not trust the safety of stored information.

This lack of trust relates to the way other parties handle their personal data as well as to the accuracy of that data. eHealth should not seek to replace face-to-face contacts.

- **Lack of interoperability – 31%**

Fragmentation within healthcare systems is a major barrier to eHealth deployment on a large scale. There are particular challenges in relation to health and social care informatics. The small size of the buying entities such as GPs and single hospitals does not attract major commercials that tend to focus on large clients and cover smaller organisations via business partner models.

The standardisation of the eHealth systems is essential to achieve technical and semantic interoperability which underpins cross-border interoperability. Such standardisation would ensure continuity of healthcare and treatment – thus improving patient safety, health treatment while paving the way to cost effective and interactive healthcare.

These systems are not yet wide spread and interoperability still remains a barrier in particular, between health and social care.

- **Lack of large scale evidence for potential improvements of healthcare processes – 29.4%**

- That there are still evidence gaps on the benefits of ICT, particularly it's potential to improve care and deliver savings. Without data to demonstrate that a system works, improves standards of care, can be used efficiently and easily, and is cost-effective to implement, then such a system is unlikely to win the confidence of policy makers and users;
- The lack of a consolidated and systematic approach to monitor and benchmark the adoption and use of the whole spectrum of eHealth solutions; and
- The lack of agreed metrics for measuring success, including the time period over which to look at costs/benefits and the comparability of different implemented systems.

- **Inappropriate legal frameworks and lack of reimbursement schemes – 29.4%**

Lack of security, guaranteed privacy and data protection and of a truly informed consent are examples of barriers to the wider deployment of eHealth.

- **Budgetary constraints – 23.5%**

Lack of funding for large scale project and long term sustained investment.

- **Inappropriate organization of the healthcare process – 23.5%**

In spite of the complexity inherent to healthcare organizations, the system must adapt to the new challenges.

- **Lack of leadership (policy makers, local managers) - 14%**

Several of the respondents stressed the lack of leadership as one of the most important barriers to the large scale deployment of eHealth solutions.

- **Lack of cross-sectorial coordination / integrated healthcare schemes – 17.6%**

Respondents underlined the lack of a systematic debate at national and European level. The Ministerial Conferences / WoHIT, the MIE conference, the e-practice portal, the several communities (e.g. EUROREC, EHTEL, Calliope, IHE, CEN, Continua, etc), with a large number of workshops and conferences, do not provide a framework coherent enough, proactive and systematic for an incremental building of the eHealth community at the speed required by the tumultuous evolution of the eHealth phenomenon, they said.

- **Limited users' (i.e. patients' and/or healthcare professionals') skills in using ICT – 14%**

Digital Literacy is the key to enhance users' acceptance of ICT tools, in particular of older people.

- **Health professionals' acceptance – 14%**

Clinical engagement in the deployment of eHealth is central but is not easy to obtain. In particular, developing common systems and standardisation should be done to respond to the needs of professionals and thus we should involve them in shaping those systems. In practice, eHealth system design and implementation often fails to win over clinicians. Failure to engage with people in health management roles in charge of implementing new systems is also a significant barrier.

The acceptance of health professionals depends on their understanding of the whole picture. That is why it is essential to raise their awareness, notably through appropriate trainings.

Opportunities offered by eHealth should be introduced in a consensual way. It should be clear for whom eHealth is mostly intended and for what kind of activities or services it is not appropriate. In the case of doctors and other health professionals, it should be determined for what kind of duties it will represent a helpful solution.

- **Other responses:**

- four respondents stressed the lack of incentives for healthcare providers and the industry to invest into eHealth;
- lack of willingness to be transparent towards other healthcare professionals, and patients; and
- not all patients have access to the Internet.

3.3.2. How to address main barriers and promote eHealth solutions

Question: In your view, how should the European Commission contribute to addressing the barriers you selected above, and provide incentives to promote eHealth solutions? (Please choose maximum 5)

a. Propose legislation

- b. *Facilitate cooperation between Member States and/or regions to address common challenges*
- c. *Support systematic evaluation of the benefits and costs, effectiveness/usefulness of eHealth solutions*
- d. *Provide guidance on planning, implementation, and change management processes*
- e. *Support deployment of eHealth services/solutions based on evidence*
- f. *Explore innovative financing, reimbursement and incentive schemes to promote innovation in eHealth*
- g. *Provide guidance for achieving EU wide interoperability, for example use of common standards, profiles, terminologies etc.*
- h. *Enhance awareness of benefits and opportunities of eHealth*
- i. *Improve ICT skills of users (citizens/patients/health professionals)*
- j. *Other (please specify)*

229 respondents replied to this question. The majority pointed out that the most important means to address the main barriers impeding the deployment of eHealth solutions are the following:

- 1) the need to support systematic evaluation of the benefits and costs, effectiveness/usefulness of eHealth solutions;
- 2) improve interoperability and strengthening the evidence-based approach; and
- 3) facilitate cooperation between Member States and regions, and explore innovative financing and reimbursement schemes.

Most of the comments were made by NGOs and representatives of the large industry. These comments are summarized below.

- **Support systematic evaluation of the benefits and costs, effectiveness/usefulness of eHealth solutions – 58.95%**

NGOs considered that the European Commission should have a leading role in gathering **evidence** of the benefits of eHealth, while promoting best practices.

Having robust evidence on the **costs and benefits** of eHealth deployment was also recognised as a very important aspect. As evidence data are often difficult to compare, particularly between different health systems, the Commission should support the development of comparable research approaches with agreed metrics for measuring success.

Building business models that take an integrated view of costs and benefits across the system and identify savings and investment will be crucial in moving research evidence into practice. As most countries have already implemented eHealth solutions, the Commission should promote and make possible the exchange of experiences and transferability of practices.

- **Interoperability and common standards – 52.84%**

Common EU standards would be the best way to enhance e-accessibility and ensure that ICT products marketed in the EU are accessible for all. The latter would in addition promote and support a “Design for All” approach. The Commission could contribute by providing guidance on common standards and terminologies to promote future **interoperability**. Public authorities pointed out the need to promote uniform ICT standards at both national and European level.

- **Innovative financing mechanisms – 40.17%**

NGOs broadly support the Commission's approach in exploring innovative **financing** for improving ICT skills for users through the use of Social Cohesion Funds for example. The society needs organisational and educational support that would increase confidence in the use of new technologies. Training on the use of eHealth solutions should be provided by healthcare professionals

The EU should provide guidance and control for the allocation and use of Structural Funds in the field of healthcare. The slow uptake of these Funds can be explained by the lack of awareness of the potential beneficiaries, lack of resources to identify the opportunities, and lack of experts to prepare sound projects and/or realistic tenders. When revising the new financial period, the EU should also include some form of control, auditing, accountability on the tenders published and how the Funds are being allocated and used.

In the context of the economic crisis, Member States are likely to be reluctant to invest in eHealth solutions, often perceived as new and costly technologies which may not bring the expected improvements and savings on the short term. As budgetary constraints represent an important obstacle for the implementation of eHealth, the Commission should propose innovative financing schemes.

Finding new ways of financing eHealth deployment and reimbursing eHealth-based services (including telemedicine), is a pre-requisite for the sustainability of eHealth programmes. However, other participants underlined that it is necessary to ensure that the long-term care system is adapted so that sufficient attention is paid to incentives for care innovations. Identifying medical/legal issues and uncertainties would help change the existing regulations in the right direction.

- **Legal issues – 26.64%**

Regarding the legal issues, NGOs expressed the view that providing the right level of security will reassure citizens that their personal data is safe. Providing a legal framework for eHealth is a good way to secure its use, adoption, reimbursement and deployment. However, the European legal framework should not be too stringent on Member States, but should rather encourage their cooperation on common challenges.

- **Other – 14.41%**

International **cooperation** and cross-border collaboration are seen by associations as a basic element in the strategy of the European Commission to cooperate with the Member States for the deployment of eHealth.

Large industries supported a bottom-up approach by providing incentives to implement regional solutions by elaborating guidelines on how to scale them up a national or international level.

Representatives from the research and academic field also considered that eHealth services should meet the needs of patients. Educating policy makers and healthcare managers to become informed decision makers on eHealth problems and solutions and involving health care stakeholders in multidisciplinary projects are considered possible ways of addressing barriers.

3.4 Objective 1: Increase awareness of the benefits and opportunities of eHealth, and empower citizens, patients and healthcare professionals.

Question: Taking into consideration the background described in the introduction and existing policy developments made since 2004, do you agree with the four objectives of the Action Plan (listed below)?

- a. *Yes, I agree*
- b. *Yes, I partially agree*
- c. *No, I disagree*
- d. *I don't know*

3.4.1. Agreement with the objective 1

- Participants who **fully agree** with objective 1.

174 (78.85%) respondents agreed with the objective of increasing the awareness of the benefits and opportunities of eHealth. Most of them believe that this objective is fundamental for the wide acceptance of eHealth by citizens, patients and healthcare professionals.

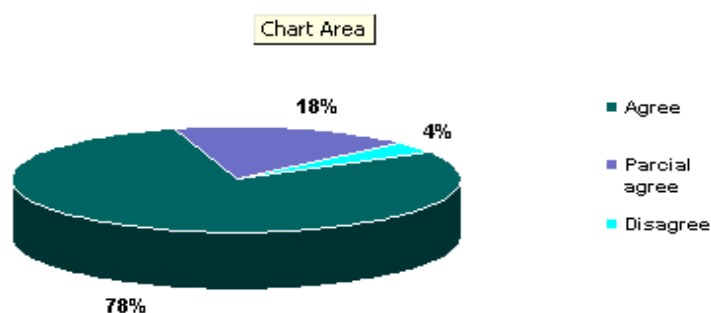


Figure 2: Agreement with Objective 1 – Increase awareness of the benefits and opportunities of eHealth, and empower citizens, patients and healthcare professionals.

- Respondents who **partially agree** with objective 1.

40 (17.87%) respondents partially agreed with the objective. However, most of them based this partial agreement on different actions which should complement Objective 1, such as training to develop health professionals' skills and competences in eHealth.

Users have the right to comprehensive and unbiased information and need to be informed, not only about the benefits, but also about the potential threats and risks associated with eHealth solutions, so that they can freely decide on the opportunity of using them. These risks are mainly related to the lack of data protection, confidentiality issues or unequal access to health care. Respondents also underlined the importance to provide patients with direct knowledge on how the diagnosis process is performed and to ensure that they have the right to have a say in the process of their treatment.

Social and health care providers and NGOs called for a stronger involvement of professionals in major European projects, for the development of a long-term EU vision in the field complementary to national and regional e-Health strategies, and for more EU funding for large scale e-Health deployment initiatives. Information sharing among stakeholders was stressed as essential.

Another respondent considered that this objective should be achieved through stronger involvement of decision-makers, who have to recognise the potentials of widespread eHealth applications.

Other respondents stressed that, to be successful, the process of raising awareness and empowering should not only rely on the opportunities offered by the IT industry, but should

also be based on the collaboration between governments and caregivers, in order to achieve the necessary European info-structure.

- Respondents who **disagreed** with objective 1.

There were eight respondents who disagreed with the objective. Four of them thought that increasing awareness on the benefits and opportunities of eHealth is only useful if there is sufficient evidence on the effectiveness and usefulness of eHealth solutions.

One respondent claimed that users (patients and professionals) are already aware of the benefits of eHealth, therefore, the real target group should be decision makers.

Finally, one respondent criticised the use of awareness campaigns arguing that marketing issues should not play a role in the health sector.

3.4.2. Actions to address Objective 1

3.4.2.1 Actions to improve awareness and empowerment of patients and citizens

Question: In your view, what actions should the European Commission consider to improve awareness and empowerment of citizens and patients?

Only 144 participants responded to this question saying that it should be clear that awareness raising and empowerment are two different concepts. While awareness is important and focuses on the citizens' knowledge, empowerment means the capacity to use the technology and to get its maximum benefit.

Following the methodology described above, this open question was classified in 9 main categories:

▪ **The necessity of organising and financing information - 61,1%**

61.1% of the respondents underlined the need to improve the information available on the benefits of eHealth solution and on the legal framework of eHealth. This should be done, notably through the use of information technologies.

Concerning the **content**, most of the respondents considered that the information should focus on the dissemination of the benefits. They also suggested that the European Commission supports Member States in the organizations of targeted awareness campaign at regional or national levels to ensure a wide dissemination of evidence.

The information should be validated, easily available and understandable by all citizens. In that respect, health professionals, governments and insurance have an important role to play in delivering adequate information to patients and citizens.

Concerning **how** this information should be made accessible, several respondents supported the creation of a European platform where healthcare providers, IT developers and users can store, archive and exchange data and information in a uniform way, while also favouring the networking between stakeholders. It was suggested to use the already existing European health portal (www.health.eu) and to extend it to eHealth. In every Member State there could be a national contact point in which is responsible for setting up local portals, with a link to the Commission's website.

Other respondents recommended classical information campaigns targeted at patients (e.g. via paper or television) or campaigns using existing social media.

Some respondents supported the incentives as an annual award programme in order to recognise leaders who adopted good practice rather than new R&D projects.

Concerning **when** the delivery of the information is made and the target population, some respondents recommended starting from the schools, others in the waiting rooms of GP offices, hospitals, medical centres, laboratory centres, medico-social care centres.

- **Citizen education - 20%**

eHealth literacy should be promoted in order to increase awareness of the benefits and opportunities eHealth can provide.

20% of the respondents pleaded for more investment in educative and training programmes for citizens to facilitate the use of e-Health technology. This could be done by proposing eHealth courses at school, university or in lifelong learning programmes.

Who. Respondents suggested that such training should be conducted by the main users' organisations, which could initiate a pan-European education campaign, online and on big broadcasting channels, with the same material in all Member States.

When. Some respondents supported education programme at school (primary and secondary school) about the usage of “e-Health” European programme. eHealth literacy should be promoted to increase awareness of the benefits and opportunities provided by eHealth

- **Patient involvement in every step of the process –13%**

Patients must be involved in the design of eHealth solutions right from the start in order to ensure that these solutions respond to their needs.

- **Supporting research – 9.5%**

9.5% of the respondents underlined the importance of supporting research and large scale pilots to ensure a wide dissemination of evidence and results of successful initiatives. Some also recommended carrying out qualitative research to better understand the needs of the wider public, which would in turn help design the information campaigns.

- **Comfortable, easy-to-use and needed technology for citizen – 9%**

Respondents considered that e-health solutions should be driven by users' needs rather than by technology - e-health should not be an end in itself but it should be a mean to achieve good health for all.

- **Increased cooperation between responsible authorities at local, regional and municipality levels – 8%**

8% of the respondents supported cooperation and coordination among every responsible authorities (i.e. Member States, regions, local authorities and municipalities) to share best practices, exchange information among themselves to facilitate the deployment of eHealth.

Some respondents called on the National Ministries of each Member State to consider the issue as a priority. Other respondents called for more binding actions such as European legislations (e.g. European Directives), the setting-up of a European Agency on Semantic interoperability in Healthcare that would be responsible for the info structure for all European languages. The EC should take the leadership to define a

common legislation that protects citizens' privacy and that punishes misuse of their personal data. This legislation should be adapted to the new challenges of eHealth and clarify the division of responsibilities among the various eHealth actors (e.g. the responsibility of family doctor, health ministry, industry, etc.).

Other supported the deployment of regional and national eHealth roadmaps and the setting-up of common indicators to ease benchmarking and follow-up activities (at national and EU-level).

- **Using Electronic Health Records (EHR) – 6%**

Nine respondents underlined the importance of giving citizens a full and interactive online access to their health records. This means that they could also have access to some health services and treatments online. This will enable citizens to better understand, and take part in the management of their health and it is therefore the most useful instrument to increase the awareness and empowerment of patients.

- **Other responses** recommended providing universal access to the Internet.

- **Nothing:** Only 5 citizens (3.5%) found it unnecessary to launch awareness activities on eHealth.

3.4.2.2 Actions to improve healthcare professionals' awareness and acceptance

Question: In your view, what actions should the European Commission consider to improve healthcare professionals' awareness and acceptance?

147 participants replied to this question. According to the methodology described above, the results to this open question were classified into 7 major categories:

- **Promoting inclusion of eHealth in the medical curricula and training at the workplace – 35%**

51 respondents considered that a knowledge society relies on human capital and it is therefore necessary to promote eHealth with specific training programs as part of pre and post-grade education and continuous training. In addition, it is critical to consider ICT skills for healthcare an important personal skill of all healthcare professionals as this will ensure their efficient use of digital tools.

- **Organising information campaigns and supporting the dissemination of good practices and results in professional conferences at national and international level – 32%**

47 respondents expressed the view that the EC could support the dissemination of information on eHealth benefits and could support the organisation of events at local level on eHealth implementation. The EC could also improve the dissemination of information related to its ongoing research and development projects (i.e. the ones that could have an impact on healthcare professionals).

- **Providing evidence-based input and research and encouraging promotion of eHealth benefits – 20%**

30 respondents considered that it is important to continue to fund research so that there is strong evidence that eHealth is an effective, efficient and equitable method of achieving health gain. Also, communication about real successful cases showing practical benefits (e.g. better care, lower delay, less expensive) is important.

Healthcare professionals need to be convinced that new paradigms of eHealth offer them better and more efficient workflow and should facilitate and improve patient management. They need to see the added value of eHealth for their daily practice.

- **Involving health professionals in the design and implementation of eHealth solutions – 14%**
- **Finding incentives for using eHealth solutions or even making it compulsory – 9.5%**

According to the respondents, healthcare providers who are not rewarded for adopting new technologies will most likely not make the switch. Therefore, professionals should receive economic compensation for adopting new methods for treating patients.

The main hurdle in gaining acceptance among health professionals is finding ways to compensate the possible decrease of income as a result of eHealth solutions.

- **Providing reimbursement for using eHealth – 4%**

Some respondents underlined the importance to encourage and facilitate a discussion on the reimbursement of eHealth-based services in the Member States. Reimbursement will undoubtedly motivate medical professionals to invest in eHealth systems and to use them.

- **Improving interoperability – 3.5%**

Five respondents considered that promoting interoperability for eHealth solution throughout the whole EU can have a positive effect on the acceptance of eHealth solutions by health professionals.

- **Other suggestions – 23%**

- Users' acceptance would raise if the legal framework of eHealth was clarified, in particular as to the security/privacy rules applicable to health professionals;
- eHealth should become part of the standard of care; and
- Professional associations should have an active role in promoting eHealth.

3.4.2.3 Areas in which European cooperation is most important

Question: In your view, in which of the areas listed below European cooperation is most important? (Please choose maximum 3 options)

- a. *ICT systems for clinical use (decision support systems, EHR, ePrescription, Radiology Information Systems etc.)*
- b. *ICT systems for non clinical use (administrative software, booking, statistic applications, professional education etc.)*
- c. *Information systems for Public Health (patient registries, other data bases for public health, research etc.)*
- d. *ICT systems for patients / individuals (lifestyle, prevention, monitoring)*
- e. *Other (please specify)*

217 participants responded to this question. The majority of the respondents who provided comments agreed that all the areas proposed in the question are important, because they are interlinked, and therefore influence each other. They also all agreed that European cooperation has an added value in these areas.

The objective should be to define a suitable progression within each area to deploy a set of homogeneous solutions that would enhance cooperation and facilitate the exchange of best practices and to solve or progress on interoperability issues.

- **ICT systems for clinical use (decision support systems, EHR, ePrescription, Radiology Information Systems etc.)- 71.43%;**

Some responders also underlined that EHR adequate data storage and non clinical ICT are a precondition for internal quality management

- **ICT systems for patients / individuals (lifestyle, prevention, monitoring).- 68.20%**
- **ICT systems for Public Health (patient registries, other data bases for public health, research etc.)-56.22%**
- **ICT systems for non clinical use (administrative software, booking, statistic applications, professional education etc.). -27.19%**

16% of respondents identified "other areas" suggesting that European cooperation would be useful in order to connect health and social care; and developing ICT-systems such as home devices for elderly people. Other respondents stressed that the interoperability driven by the end users needs and connecting the fields of "Medical Research", "Patient Care" and "Public Health Surveillance" are also important aspects.

Some participants also point out that the unification of drug and healthcare material registries would be useful as healthcare materials have little, if any, coding standardisation, which in return makes it complicated for any IT system around e-procurement to manage.

Finally, a representative of a health and social care provider considered that European cooperation is not necessary as it rarely improves the context.

3.5 Objective 2: Address issues currently impeding eHealth interoperability

3.5.1 Agreement with the objective

- Participants who fully agree with the objective.

174 (76.32%) respondents agree with the objective of addressing issues currently impeding eHealth interoperability. Most of them believe that interoperability (in particular, the European Health Records) and, open standards are key elements to the successful development and deployment of eHealth solutions.

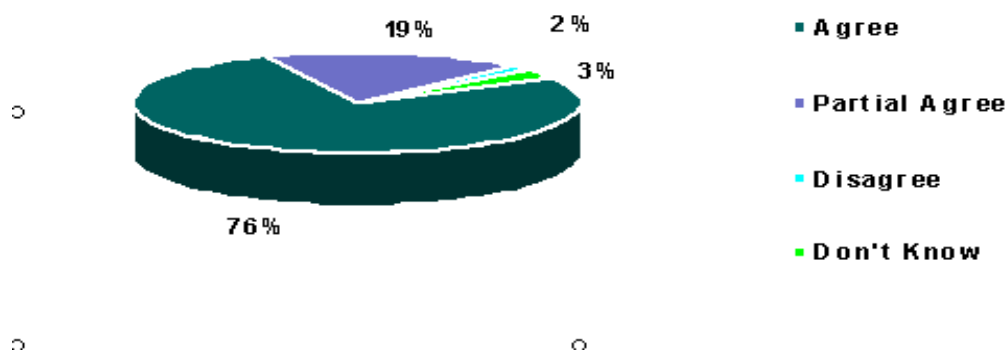


Figure 3: Objective 2: Address issues to achieve eHealth interoperability

- Participants that partially agree with objective

43 (18.86%) respondents partially agreed with Objective 2. Most of the comments expressed by respondents are provided by Associations and/or NGOs.

One of the concerns relates to the fact that the establishment of standards would create a gap between large businesses, which could afford them, and SMEs, which could not. One challenge would be to enable the access to standards by all type of actors or to use open source interoperability to ensure the participation of innovative SMEs.

Others recognised that there has been considerable progress in resolving technical aspects of interoperability in recent years. However, semantic interoperability remains an issue that may restrict patient records and large scale data sharing. On the other hand, other respondents identified as challenges mainly the legal (e.g., certification and interoperability conformity), financial (e.g., reimbursement), and organizational (e.g., management processes) aspects of interoperability. Interoperability of existing eGovernment services and health care systems also needs to be addressed jointly by the European Commission and Member States, taking duly into account existing regional efforts to roll out eGovernment services, including eHealth, and enable user access to these services.

Large industries also emphasised the need for a robust approach to security as part of the solution, both to the challenges paused by interoperability and to its implementation. Security is a key enabler for public acceptance of widespread large-scale adoption of eHealth and is essential to protect critical infrastructures from malicious attacks.

Other respondents considered that to achieve interoperability, it is essential to adopt platform neutral, internationally accepted security standards as opposed to national or EU standards. The need for a closer relationship between industries, academics and policy makers in the context of interoperability, in particular at the stage of defining the regulatory framework, was also pointed out.

3.5.2 Actions to address Objective 2

3.5.2.1 Areas in which European cooperation is most important

Question: In your view, in which of the areas listed below European cooperation is most important? (Please choose maximum 3 options.)

- a. Taking steps to achieve secure, unambiguous and portable electronic identification of EU citizens*
- b. Taking steps to advance technical interoperability to facilitate de-fragmentation of the eHealth market*
- c. Taking steps to advance semantic interoperability to lay the foundation for a European level info-structure, to facilitate the access to and the reuse of common semantic interoperability resources-*
- d. Taking steps to address legal barriers to interoperability*
- e. Taking steps to address lack of financial resources - through coordination, support actions, pilots, knowledge sharing, etc.*
- f. Other (please specify)*

219 participants answered this question, their most important suggestion included:

- **taking steps to advance technical interoperability to facilitate de-fragmentation of the eHealth market – 50.68%;**
- **achieving secure, unambiguous and portable electronic identification of EU citizens – 46.58%;**

Including the need to promote the use of an electronic signature for doctors, nurses and citizens and the introduction of a European electronic personal smart card (e.g. electronic social security card) readable in all Member States and containing the most relevant clinical data such as blood type, allergies, chronic diseases, prescribed medications, etc

- **advancing semantic interoperability to lay the foundation for a European level info-structure, facilitating the access to and the re-use of common semantic interoperability resources – 45.21%;**
- **taking steps to address legal barriers to interoperability – 41.4%; and**
- **taking the necessary steps to address the lack of financial resources - through coordination, support actions, pilots, knowledge sharing, etc. – 41.1%.** Some responders suggested that one major step in the right direction would be the establishment of an international platform or social network for eHealth developers, in order to provide a single forum for them to meet and exchange ideas and experiences.

12.79% of respondents chose 'Other areas' as an answer. Those who provided comments identified the following areas as requiring European cooperation: supporting of development of regional initiatives; critical review of existing approaches; carrying out peer reviews with the aim of exchanging experience and best practices.

A proposal for introducing a sustainable European Agency on Semantic Interoperability in Healthcare responsible for the INFO structure (common Archetypes, Coding systems, Ontology) for all European languages was also mentioned by one SME.

3.5.2.2 Development of a European Interoperability Framework to provide support to Member States and stakeholders to solve interoperability issues. Areas in which European cooperation is most important

Question: A European Interoperability Framework could be developed to provide support to Member States and stakeholders to solve interoperability issues. In your view, in which of the areas listed below is European cooperation most important? (Please choose maximum 3 options.)

- a. the harmonised standards, profiles and technical specifications to be used to ensure cross border eHealth Interoperability*
- b. the harmonised interoperability testing and conformance systems to be put in place*
- c. the harmonised medical terminologies, ontology, classifications and codification systems that need to be used at EU level*
- d. defining common interoperability use cases for cross-border healthcare*
- e. defining measures to achieve convergence of national eHealth interoperability frameworks*
- f. Other (please specify)*

208 participants answered this question. They pointed out the following areas as the most important areas in which European cooperation should be fostered:

- **the harmonised standards, profiles and technical specifications to be used to ensure cross-border eHealth Interoperability – 74.04%;**

The increasing trend to use Open Source software to support integration is once again mentioned as a means of reducing duplication, increasing standardisation levels and reducing costs and time for implementation. The need for a definition of a European Interoperability Framework is pointed out on several occasions. However, a **health and social care provider** claims that if an eHealth interoperability framework is not used by other partners (USA, China, India, Brazil, etc.) there is no need to create one at EU level.

- **the harmonised medical terminologies, ontology, classifications and codification systems that need to be used at EU level – 52.4%;**
- **defining measures to achieve convergence of national eHealth interoperability frameworks – 38.46%;**
- **defining common interoperability use cases for cross-border healthcare – 37.5%;**
- **the harmonised interoperability testing and conformance systems to be put in place – 25.48%.**

Respondents, who identified other areas in which European cooperation could be useful (10.58%), provided the following comments:

- ensuring that the interoperability framework should cover recommendations for security standards;
- adopting common criteria so that the interoperability framework be practical and focused on implementation approaches;
- using recognised global industry-led standards providing incentives for developing new, innovative services and technologies for the benefit of consumers and businesses in a global environment, as indicated in the EC Communication on “A strategic vision for

European standards: Moving forward to enhance and accelerate the sustainable growth of the European economy by 2020⁴”;

- creating an interoperability test centre, which can be used for testing interoperability between Member States as well as all new services to come; and exchanging experiences and best practices.

3.6 Objective 3: Improve legal certainty for eHealth

3.6.1 Agreement with the objective

- Participants that agree with the objective

169 (73.80%) respondents agreed with the objective of improving legal certainty for eHealth. The idea of legal certainty, as applied to eHealth, is usually understood to essentially include issues of data protection, cross-border data transfer, and provider liability and ethic issues.

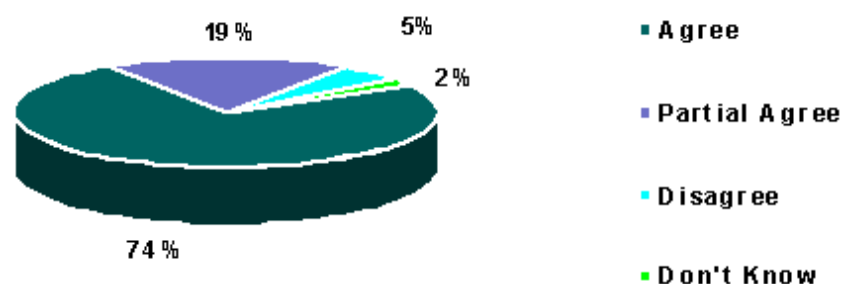


Figure 4: Objective 3 – Improve legal certainty for eHealth

- Participants that partially agree with objective 3

43 (18%) respondents partially agreed with the objective. Even though the group of individuals was by far the largest group of stakeholders who partially agreed with the objective, most of the comments were provided by Associations and/or NGOs.

Most of the participants indicated that a European framework providing legal certainty for eHealth is mainly needed and justified in the case of cross-border eHealth activities⁵, because at national and local level the organisation and regulation of eHealth is within the competence of the Member States. Better clarity on common definitions for terms such as eHealth and patient/medical data, would also be useful. Most importantly, including the harmonisation of reimbursement schemes would improve the current situation, taking into account the fact that they vary greatly from one health care system to another, which causes major uncertainty, and does not create a predictable environment for investments.

⁴ <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0311:FIN:EN:PDF>

⁵ Those rights are enshrined in the recently adopted Directive 2011/24/EU of the European Parliament and of the Council of 9 March 2011 on the application of patients' rights in cross-border healthcare that also covers eHealth.

Some respondents pointed out as a current major uncertainty, the use of electronic health records and called for a common European framework on how health data can be legally processed, used and stored in EHR and clinical systems as well as legally transferred to a third party both for the patient's individual benefit and for the larger benefit of society. For instance, in research and epidemiological studies. Preventing the use of anonymous and aggregated data through overly-restrictive national legislation could drive back private and public sector investments in medical research. Finally, associations also called for further harmonisation of the rules on sensitive health data at international level to support the growing mobility for medical reasons. Other participants underlined, that there already exists a sound framework on data protection at EU level, which also applies to sensitive data, such as health-related data.

They also suggested that the current review of the EU data protection framework should focus on deepening harmonisation of existing national regulations and administrative requirements⁶. A common, simple, and more balanced framework at the EU level would both strengthen citizens' and health care professionals' trust and, create incentives for private and public sector investment.

On the other hand other respondents considered that ethical issues as well as differences among national legislations of the Member States should be taken into account. The use of self-regulation was also mentioned.

- Participants that disagree with objective 3.

11 respondents disagreed with Objective 3. Two of them considered that addressing legal issues depends on the will of decision-makers and should be dealt with concurrently by regional, national and European legislators.

3.6.2 Actions to address Objective 3

3.6.2.1 How the EC should address legal issues related to eHealth

Question: In your view, how should the European Commission address legal issues related to eHealth? (Please choose maximum 3 options.)

- a. Encourage and support Member States in addressing relevant legal and organisational issues in a coordinated manner*
- b. Propose a European legal framework to cover the rights of users of eHealth services in cross-border situations*
- c. Encourage professional associations, scientific societies and civil society representatives to promote best practices through the development of guidelines and/or codes of conduct for eHealth services*
- d. Other (please specify)*

215 respondents answered this question. Most of them indicated that it was the most important action that the Commission should undertake – i.e. the promotion of exchange of best practices through the development of guidelines and/or codes of conduct for ehealth (68.37%). Other actions were indicated:

- **proposing a European legal framework to cover the rights of users of eHealth services in cross-border situations – 57.67%**

⁶ The European Commission is currently reviewing Directive 95/46 on the general rules applying to the processing of personal data and has adopted a Commission strategy on data protection COM(2010) 609.

- **encouraging and supporting Member States in addressing relevant legal and organisational issues – 52.09%.**

Finally, 12.56% of the respondents indicated 'other' as an answer. They underlined the need of an in-depth debate on complex legal issues.

One respondent commented that no actions should be undertaken on health (including eHealth) at EU level given that it mainly remains a matter of national competence.

3.6.2.2 Areas in which European cooperation is most important

Question: In your view, which areas should the European Commission focus on? (Please choose maximum 3 options.)

- Liability*
- Reimbursement*
- Data protection*
- Licensing and accreditation of professionals and healthcare providers*
- Other (please specify)*

▪ **Data protection – 74.53%**

Information should only be collected once, within a strong ethical and legal framework and stored and transmitted securely. The European Commission should contribute to safeguarding citizens' privacy with mandatory standards for managing confidential information. Bringing clarity to privacy and security requirements and taking up clear legal commitments to guarantee users' legal certainty would promote confidence and assist healthcare providers. By placing a clear obligation on healthcare organisations to take the appropriate measures to protect patient identifiable information through the adoption of approaches such as privacy by design, the EC would help build confidence within the wider public and among healthcare professionals.

▪ **Liability - 51.41%**

For cross-border situations a coordinated approach is necessary to guarantee a high degree of data protection.

Regulatory requirements referring to patients' safety and liability are very important in telemedicine, where the remote delivery of healthcare often brings legal uncertainty about whose jurisdiction is taken into account in the event of harm.

▪ **Licensing and accreditation of professionals and healthcare providers – 47.64%**

▪ **Reimbursement – 37.74%**

Respondents suggested that the Commission could encourage Member States to look at how to amend financing structures to ensure that services offered remotely are reimbursable in public insurance systems and that the role of healthcare professionals delivering these services is recognised.

Finally, **11.79%** of the respondents indicated 'other' as an answer. They underlined that a uniform regulatory requirement for eHealth and conventional health care services is needed; facilitating the internal market; and governance of the software, services and the European info-structure could be very important.

Only one representative of a health and social care provider deemed that no actions should be taken.

3.7 Objective 4: Support research and innovation in eHealth and development of a competitive European market

3.7.1 Agreement with the objective

- Participants who fully agree with Objective 4

160 (70.5%) respondents agreed with the objective. It is a common opinion among all categories of stakeholders that initiatives undertaken to support research and innovation should benefit all citizens. It is important to have a balanced debate, taking into account views of all stakeholders to ensure that eHealth developments favour all interested parties. Promotion of new cutting edge tools should be carefully undertaken so that they do not lead to an increase of inequalities in healthcare accessibility.

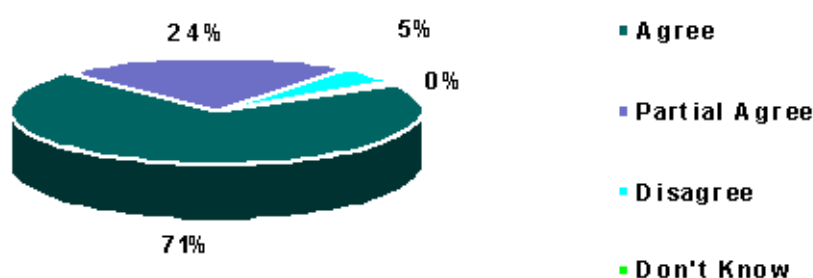


Figure 5: Objective 4 - Support research and innovation in eHealth and development of a competitive European market

- Participants who partially agree with objective 4.

55 (24.25%) participants partially agreed with the objective. They acknowledged that the EU is providing an effective support to research and innovation through valuable funding programmes. The potential of structural and social funds could be used, especially in cross-border regions where the added value of better and further collaboration in the health sector is important. The importance of the transnational dimension is also mentioned. However, other respondents stressed the need to foster cooperation with third countries, such as the US and the BRICs (Brazil, Russia, India, and China), which would in turn be positive for enhancing the competitiveness of the European market. Regarding a competitive market, most of the opinions expressed were carefully formulated. In general, competition is perceived as important but should be regulated. Improving the functioning of an existing process was recognised as a priority to support the development of a competitive eHealth European market.

The development of the market was seen as a consequence of an increased quality from the demand side by each care provider organization. More so, clarified care objectives were proposed in order to comply with the evolution on health and social care provisions within each jurisdiction and each provider organisation. Further more, an intervention to stimulate the development of a systematic classification and comparable quality assurance and certification of eHealth products/manufacturers could contribute to standardise and enforce essential requirements and create confidence among customers. In this respect, they deem

Action 77 in the Digital Agenda, which aims to foster EU-wide standards, interoperability testing and certification of eHealth systems, an important milestone.

- Participants who disagree with Objective 4

12 respondents disagreed with the objective. Responders considered that funds for research and innovation in eHealth should not first and foremost be used to develop a competitive market. More importantly, the funds should be used for research and innovation for eHealth solutions, which improve patient safety and interoperability and facilitate the professionals' daily work.

On the other hand, other participants believed that the EU should focus on elaborating a Europe-wide framework which would boost eHealth and give private companies the incentives and security to invest more in eHealth applications. The development of new solutions must be user oriented and therefore requires involving end users early in the development process in order to develop a solution adapted to users, instead of being only technology and market driven. Take up in eHealth is limited, therefore, less research and more aligned innovation with healthcare organisations should be undertaken, instead of funding research projects that are not implemented after being completed. Cost-benefit analysis studies for innovative eHealth should be carried out, and there should be more innovation in the related business models.

3.7.2 Actions to address objective 4

3.7.2.1 How the EC should support innovation

Question: In your view, how should the European Commission support innovation? (Please choose maximum 3 options.)

- Provide strategic recommendations to Member States and stakeholders*
- Provide funding for the scaling up of innovative eHealth solutions, for example by facilitation deployment of research results*
- Provide more flexible financing mechanisms to support research and innovation*
- Support collection, dissemination and analysis of information on innovative healthcare services*
- Support user-driven research through use of appropriate financial instruments (for example use of CSO or similar instruments)*
- Other (please specify)*

219 respondents answered this question. Their ideas and suggestions related to:

- **Provide funding for the scaling up of innovative eHealth solutions, for example by facilitation deployment of research results (67.12%)**

The aspect mentioned above refers to bridging the research gaps. This could be facilitated by carrying out evidence-based evaluations of planned services, taking into account the differences between the organisations and funding schemes in the different Member States and their added value compared to existing e-services or non-electronic delivery of the same services. Long-term projects and large scale research is also necessary to evaluate and assess the impact of eHealth solutions including effectiveness and cost-effectiveness. Such assessments are necessary to decide whether a given service should be reimbursed by health insurers or national health services. In particular, pilot projects will need to be able to provide evidence based evaluation of the added value of the eHealth intervention that will demonstrate its sustainability for scale up. Only on the grounds of clear evidence-based clinical and cost-benefit-analysis of the projects, including data on the relative cost effectiveness, questions of

enlarging, scaling up or even reimbursement of eHealth services can be answered. A similar position is expressed by representatives of the large industry, indicating that focus should be on taking the best examples of eHealth innovation and achieving progress across health system tiers (acute, primary, community, and patient home) with demonstrable, outcomes based results.

- **Provide more flexible financing mechanisms to support research and innovation (52.97%)**

Some respondents stressed the redistribution of Cohesion policy for innovation purposes a priority of the next financial framework period, especially in the field of eHealth where national budgets are currently under pressure, which could seriously damage take-up of innovative solutions. Creating a European eHealth Competence Control to coordinate and synchronise research, to disseminate research results in a fast and effective manner, to create economies of scale for international and pan-European research projects is also mentioned.

- Other responders suggested that the establishing a funding mechanism to encourage the deployment of eHealth solutions could also be needed. Furthermore, there is a need to **support the collection, dissemination and analysis of information on innovative healthcare services (48.86%)**
- **Support user-driven research through use of appropriate financial instruments (for example use of CSO or similar instruments) (33.79%)**

Research and innovation in eHealth must be supported by social innovation and include the essential human and cultural context that will allow technological innovation to be implemented successfully. The technology should respond to the daily life of European citizens and user-driven demand. Therefore, the new eHealth Action Plan needs to stress that the efforts on innovation will be done from a social perspective with the aim to address areas such as community care, promotion of health, integrated care, self-management of chronic conditions and disease prevention and promotion of independent living.

- **Provide strategic recommendations to Member States and stakeholders (30.14%)**

Finally, 12.33% respondents indicated 'other areas' as an answer. Most of the comments mainly suggested to:

- focus on legal framework issues to boost private companies investment and remove legal barriers that prevent the use of innovative solutions;
- develop a European Infrastructure to be used by all IT systems in healthcare;
- facilitate the access of innovative SMEs to eHealth projects; and
- develop a common vocabulary describing job profiles and functions in the area of eHealth in a comparable way.

3.7.2.2 International cooperation Areas

Question: In your view, in which of the areas listed below should the European Commission cooperate with international partners? (Please choose maximum 3 options.)

- Stimulate the international policy dialogue to facilitate the deployment of ehealth solutions.*
- Taking steps to advance interoperability*
- Support R&D to advance new innovative solutions (incl. Virtual Physiological Human, Personal Health Systems, ICT for Public Health)*

- d. *Promote benchmarking and evaluation projects in order to provide evidence to support deployment of ehealth solutions.*
- e. *Promote the use of EHR*
- f. *Promote deployment of telemedicine services*
- g. *Other (please specify)*

219 participants answered this question. Most of the comments were provided by associations and individuals. Their ideas and suggestions were the following:

- **Promote benchmarking and evaluation projects in order to provide evidence to support deployment of eHealth solutions. (50%)**

It was suggested that there is a need to conduct further research on effectiveness and cost-effectiveness. Some respondents suggested promoting uniformed international terminologies and classifications

- **Support R&D to advance new innovative solutions (incl. Virtual Physiological Human, Personal Health Systems, ICT for Public Health) 47.25%**
- **Promote deployment of telemedicine services 43.12%**
- **Taking steps to advance interoperability 42%**

Some respondents suggested supporting cross-border interoperability and involving all relevant stakeholders in the research and development efforts while others suggested cooperating for the development of worldwide open standards for eHealth

- **Stimulate the international policy dialogue to facilitate the deployment of eHealth solutions. 36.99%**
- **Promote the use of EHR 27.98%**

Finally, 5.5% responders indicated 'other areas' as an answer. Most of the comments suggested to:

- use the experience of managers and healthcare leaders in non-European systems (e.g. US, Singapore, Hong Kong, Canada) to build capacity for implementation within the EU;
- support European companies in the process of identification of good local partners in countries with a need of eHealth expertise outside Europe (USA, Latin America, Asia);
- facilitate the overall coordination and implementation of eHealth solutions;
- involve organisations, such as clusters, technological centres, foundations, living labs, etc. in the process of channelling information from international demand to their local offer; and
- promote greater use of Internet-based social networks.

4 LIMITATIONS

The primary limitation of the public consultation is related to the low number of participants. In addition, most of the participants did not respond to every question in the consultation. The final result is a heterogeneous map of responses in numbers and opinions. More so, some participants seem to have misunderstood the type of employer (i.e. some organisations clicked on public authority), which was not possible to verify due to the number of participants. Therefore, the affiliation data regarding the type of employer should be considered with certain limitations.

5 CONCLUSION

Most of the participants (around 90-95%) agreed or partially agreed with the four main objectives of the eHAP. Indeed, most of the participants believed that the main benefit of ehealth solution is to improve the **quality**, the **efficiency** and the **sustainability** of the available healthcare services.

Moreover, the main barriers preventing the large scale deployment of eHealth solutions are the (1) **lack of users'** (i.e. patients' and/or healthcare professionals') **awareness**; (2) the **lack of interoperability**; (3) the **inappropriate legal frameworks** and (4) **lack of reimbursement schemes**.

However, when citizens were consulted about how the European Commission should contribute in order to address those barriers, most of participants cited the following as the most appropriate contributions: (1) supporting systematic evaluation of the benefits and costs; (2) effectiveness/usefulness of eHealth solutions; (3) providing guidance for achieving EU wide interoperability -(e.g. the use of common standards, profiles, terminologies); (4) supporting deployment of eHealth services/solutions based on evidence; (5) and facilitating cooperation between Member States and/or regions to address common challenges.

Regarding specific actions for every objective, the majority of respondents believed that the **information campaign** was the main instrument to increase patients' eHealth awareness and increase their level of trust in the matter. However, **improving healthcare professionals'** awareness and acceptance should be addressed through promoting inclusion of eHealth in the medical curricula and training at the workplace; organising information campaigns and supporting the dissemination of good practices and results at professional conferences at national and international level; and providing evidence-based input and research and encouraging promotion of eHealth benefits.

The eHealth area with lower interest seemed to be ICT systems for non clinical use (administrative software, booking, statistic applications, professional education etc.). However, ICT systems for clinical use (decision support systems, EHR, ePrescription, Radiology Information Systems etc.) should be supported by the EC according to 71% of respondents.

The main action for the second objective is taking the necessary steps to advance technical interoperability to facilitate the de-fragmentation of the eHealth market. The most important area to support European cooperation is the harmonised standards, further the profiles and technical specifications are to be used to ensure cross border eHealth Interoperability.

Regarding legal issues, most of the participants thought it important that the EC should encourage professional associations, scientific societies and, civil society representatives to promote best practices through the development of guidelines and/or codes of conduct for eHealth services. Indeed, data protection and liability are the areas to be focusing on. Finally, the objective 4 should be supported by providing funding for the scaling up of innovative eHealth solutions, for example by facilitating the deployment of research results; and providing more flexible financing mechanisms to support such research and innovation. International cooperation should be addressed to promote benchmarking and evaluation projects in order to provide evidence to support the deployment of eHealth solutions and to support R&D in order to advance new innovative solutions (incl. Virtual Physiological Human, Personal Health Systems, ICT for Public Health).

6 NEXT STEPS

The Commission had foreseen to adopt a new eHAP by the end of 2011, however in the last year a number of initiatives relevant to the development of the eHealth agenda at European level have been launched and/or are expected to produce first results in the coming months. These include:

- The European Innovation Partnership on Active and Healthy Ageing⁷ has adopted its Strategic Implementation Plan on 7th of November 2011.
- The eHealth Governance Initiative⁸ will propose its priority document and possible specific recommendations in May 2012. The Task Force⁹ on eHealth will agree on its final report in spring 2012. Furthermore, the eHealth network set up under the Directive on patients rights for cross border care will be established early 2012.

In view of this, and also considering that the results of this public consultation indicate that the objectives the Commission proposed to be address in the eHealth Action plan are not considered controversial - on the contrary they are widely shared by stakeholders - the Commission intends to postpone the adoption of the eHealth Action plan to 2012.

Such postponement, while it will unfortunately delay new actions, is considered essential to ensure that all relevant synergies and complementarities can be achieved and that all the initiatives mentioned above and any relevant recommendations and results can be adequately reflected in the new eHealth Action Plan.

The Plan is a key document which is expected to pave the way forward for eHealth in Europe therefore it is essential that it builds on well consolidated views and visions from Member States representatives, stakeholders and experts. In view of that, any delay that may results in such change of schedule is in our view well justified as it will increase the quality, the effectiveness and ultimately strengthen the implementation of the actions proposed in the Plan.

⁷ For more information please visit the website for the pilot European innovation Partnership on Active and Healthy Ageing: http://ec.europa.eu/research/innovation-union/index_en.cfm?section=active-healthy-ageing

⁸ For more information please visit the eHealth Governance Initiative website: http://ec.europa.eu/information_society/activities/health/policy/ehealth_governance_initiative/index_en.htm

⁹ The established task force will advise the Commission on how to tap into the potential of eHealth for safer, better and more efficient health care across Europe. This task force is comprised of healthcare professionals, representatives of patients and of the medical, pharmaceutical and ICT industries, all suggesting ways for ICT to speed up innovation in healthcare for the benefit of all.

ANNEXES

Response statistics for Public consultation on the eHealth Action Plan (eHAP) 2012 - 2020				
Date open : 2011-03-28				
End date : 2011-05-30				
There are 239 responses				
Respondent information				
Please provide your country of residence				
	Number of requested records	% Requested records (239)		
Austria	9	3,77%		
Belgium	39	16,32%		
Bulgaria	0	0,00%		
Cyprus	0	0,00%		
Czech Republic	2	0,84%		
Denmark	3	1,26%		
Estonia	0	0,00%		
Finland	4	1,67%		
France	11	4,60%		
Germany	28	11,72%		
Greece	5	2,09%		
Hungary	0	0,00%		
Ireland	2	0,84%		
Italy	19	7,95%		
Latvia	1	0,42%		
Lithuania	1	0,42%		
Luxembourg	1	0,42%		
Malta	1	0,42%		
Netherlands	50	20,92%		
Poland	2	0,84%		
Portugal	1	0,42%		
Romania	1	0,42%		
Slovakia	1	0,42%		
Slovenia	1	0,42%		
Spain	22	9,20%		
Sweden	11	4,60%		
United Kingdom	18	7,53%		
Turkey	1	0,42%		
Switzerland	3	1,25%		
Asia	2	0,84%		
I reply on behalf of:				
	Number of requested records	% all respondents (239)		
Myself	113	47,28%		
My employer (other than a public authority)	98	41,00%		

A public authority	28	11,72%	
Please indicate the sector(s):			
	Number of requested records	% of respondents replying on behalf of "My employer" (98)	% all respondents (239)
Industry - Large Enterprise	14	14,29%	5,86%
Industry - Small-Medium Enterprise	5	5,10%	2,08%
Health and social care provider	8	8,16%	3,33%
Research/academic	9	9,18%	3,75%
Associations and/or NGO (please specify)	42	42,86%	17,50%
Other (please specify)	20	20,41%	8,33%
Please indicate scope:			
	Number of requested records	% respondents replying on behalf of Public Authority (28)	% of total number of respondents (239)
international	0	0,00%	0,00%
EU	6	21,42%	2,50%
national	13	46,43%	5,42%
regional	4	14,29%	1,67%
local	0	0,00%	0,00%
Other (please specify)	5	17,86%	2,08%
Main benefits of eHealth solutions			
	Number of requested records	% provided responses (204)	% of total number records (239)
a. improve the quality of healthcare services	129	63.23%	53.9%
b. reduce costs and contribute to the sustainability of healthcare systems	109	53.43%	45.6%
c. enhance learning opportunities for health care professionals	44	21.56%	18.4%
d. ensuring a wider access to information related to health by patients, health care professionals and stakeholders	88	43.13%	3.8%
e. using eHealth's potential to provide a tangible benefit in the society as a whole	22	10,23%	9.9%
f. equity	17	8.33%	7.7%
g. access to health services	39	19,11%	16.3%

h. no benefits	3	1,72%	1.25%	
MAIN BARRIERS				
What do you consider to be the main barriers preventing the large scale deployment of eHealth solutions? (Please choose maximum 5)				
	Number of requested records	% provided responses (51)	% of total number records (239)	
a. Lack of large scale evidence for potential improvements to healthcare processes	13	24.9%	5.4%	
b. Budgetary constrains	12	23.5%	5,00%	
c. Lack of leadership (policy makers, local managers)	7	14,00%	2.9%	
d. Lack of users' (i.e. patients' and/or healthcare professionals') awareness	18	35,00%	7.5%	
e. Limited users' (i.e. patients' and/or healthcare professionals') skills in using ICT	7	14,00%	2.9%	
f. Health professionals' acceptance	7	14,00%	2.9%	
g. Inappropriate legal frameworks and lack of reimbursement schemes	13	29.4%	5.4%	
h. Lack of interoperability	16	31,00%	6.7%	
i. Inappropriate organization of the healthcare process	12	23.5%	5,00%	
j. Access to standards	0	0,00%	0,00%	
k. Lack of cross-sectoral coordination / integrated healthcare schemas	9	17.6%	3.8%	
l. Other (please specify)	12	23.8%	5,00%	
In your view, how should the European Commission contribute to addressing the barriers you selected above, and provide incentives to promote eHealth solutions? (Please choose maximum 5)				
	Number of requested records	% provided responses (229)	% of total number records (239)	
a. Propose legislation	61	26,64%	25,42%	
b. Facilitate cooperation between Member States and/or regions to address common challenges	103	44,98%	42,92%	

c. Support systematic evaluation of the benefits and costs, effectiveness/usefulness of eHealth solutions	135	58,95%	26,25%	
d. Provide guidance on planning, implementation, and change management processes	82	35,81%	34,67%	
e. Support deployment of eHealth services/solutions based on evidence	111	48,47%	46,25%	
f. Explore innovative financing, reimbursement and incentive schemes to promote innovation in eHealth	92	40,17%	38,33%	
g. Provide guidance for achieving EU wide interoperability, for example use of common standards, profiles, terminologies etc.	121	52,84%	50,42%	
h. Enhance awareness of benefits and opportunities of eHealth	85	37,12%	35,42%	
i. Improve ICT skills of users (citizens/patients/health professionals)	63	27,52%	27,08%	
j. Other (please specify)	33	14,41%	13,75%	

<i>The four objectives of the Action Plan</i>				
Objective 1: Increase awareness of the benefits and opportunities of eHealth, and empower citizens, patients and healthcare professionals.				
Do you agree?				
	Number of requested records	% provided responses (227)	% of total number records (239)	
a. Yes, I agree	179	78,85%	74,89%	
b. Yes, I partially agree	40	17,62%	16,74%	
c. No, I disagree	8	3,52%	3,33%	
d. I don't know	0	0,00%	0,00%	
N/A	12	5,29%	5,02%	
In your view, what actions should the european Commission consider to improve awareness and empowerment of citizens and patients?				
	Number of records requested	% provided responses (144)	% of total number records (239)	

a. The necessity of organising and financing information	88	61.1 %	36.8%	
b. Citizen education	29	20%	12.1%	
c. Patient involvement in every step of the process	19	13%	8%	
d. Supporting research	14	9.5%	5.9%	
e. Comfortable, easy and needed technology for citizen	13	9%	5.4%	
f. Increase cooperation between different Authorities acting on local, regional and municipality levels	12	8%	5%	
g. Using of electronic health records	9	6%	3.8%	
h. Other responses	5	3.5%	2.1%	
i. No actions.	5	3.5%	2.1%	
In your view, what actions should the European Commission consider to improve healthcare professionals' awareness and acceptance?				
	Number of records requested	% provided responses (147)	% of total number records (239)	
a. Promoting inclusion of eHealth in the medical curricula and training at the workplace	51	35,00%	27,08%	
b. Organising information campaigns and supporting the dissemination of good practices and results at professional conferences at national and international level	47	32,00%	20,00%	
c. Providing evidence-based input and research and encouraging promotion of eHealth benefits	30	20%	12.6%	
d. Finding incentives for using eHealth solutions or even making it compulsory is noted as a possibility	14	9.5%	5.9%	
e. Providing reimbursement for using eHealth	6	4%	2.5%	
f. Improving interoperability	5	3.5%	2.1%	
g. Involving health professionals in the design and implementation of eHealth solutions	21	14%	8.8%	
h. Other suggestions	35	23%	14.6%	
In your view, in which of the areas listed below European Cooperation is most important? (Please choose maximum 3 options)				

	Number of requested records	% provided responses (217)	% of total number records (239)	
a. ICT systems for clinical use (decision support systems, EHR, ePrescription, Radiology Information Systems etc.)	155	71,43%	64,85%	
b. ICT systems for non clinical use (administrative software, booking, statistic applications, professional education etc.)	59	27,19%	24,58%	
c. Information systems for Public Health (patient registries, other data bases for public health, research etc.)	122	56,22%	50,83%	
d. ICT systems for patients / individuals (lifestyle, prevention, monitoring)	148	68,20%	61,67%	
e. Other (please specify)	35	16,12%	14,58%	

Objective 2: Address issues currently impeding eHealth interoperability				
Agreement with the objective				
	Number of requested records	% provided responses (228)	% of total number records (239)	
a. Yes, I agree	174	76,32%	72,50%	
b. Yes, I partially agree	43	18,86%	17,92%	
c. No, I disagree	5	2,22%	2,50%	
d. I don't know	6	2,63%	2,50%	
N/A	11	4,82%	4,58%	
In your view, in which of the areas listed below European cooperation is most important? (Please choose maximum 3 options.)				
	Number of requested records	% provided responses (219)	% of total number records (239)	
a. Taking steps to achieve secure, unambiguous and portable electronic identification of EU citizens	102	46,58%	42,50%	
b. Taking steps to advance technical interoperability to facilitate de-fragmentation of the	111	50,68%	46,25%	

eHealth market				
c. Taking steps to advance semantic interoperability to lay the foundation for a European level info-structure , to facilitate the access to and the reuse of common semantic interoperability resources	99	45,21%	41,25%	
d. Taking steps to address legal barriers to interoperability	90	41,10%	37,50%	
e. Taking steps to address lack of financial resources - through coordination, support actions, pilots, knowledge sharing, etc.	90	41,10%	37,50%	
f. Other (please specify)	28	12,79%	11,67%	
A European Interoperability Framework could be developed to provide support to Member States and stakeholders to solve interoperability issues. In your view, in which of the areas listed below is European cooperation most important? (Please choose maximum 3 options.)				
	Number of requested records	% provided responses (208)	% of total number records(240)	
a. the harmonised standards, profiles and technical specifications to be used to ensure cross border eHealth Interoperability	154	74,04%	64,17%	
b. the harmonised interoperability testing and conformance systems to be put in place	53	25,48%	22,08%	
c. the harmonised medical terminologies, ontology, classifications and codification systems that need to be used at EU level	109	52,40%	45,42%	
d. defining common interoperability use cases for cross-border healthcare	78	37,50%	32,50%	

e. defining measures to achieve convergence of national eHealth interoperability frameworks	80	38,46%	33,33%	
f. Other (please specify)	22	10,58%	9,17%	

Objective 3: Improve legal certainty for eHealth				
Agreement with the objective				
	Number of requested records	% provided responses (228)	% of total number records (239)	
a. Yes, I agree	169	73,80%	70,42%	
b. Yes, I partially agree	43	18,78%	17,92%	
c. No, I disagree	11	4,82%	4,60%	
d. I don't know	5	2,19%	2,09%	
N/A	11	4,82%	4,60%	
In your view, how should the European Commission address legal issues related to eHealth? (Please choose maximum 3 options.)				
	Number of requested records	% provided responses (215)	% of total number records (239)	
a. Encourage and support Member States in addressing relevant legal and organisational issues in a coordinated manner	112	52,09%	46,67%	
b. Propose a European legal framework to cover the rights of users of eHealth services in cross-border situations	124	57,67%	51,67%	
c. Encourage professional associations, scientific societies and civil society representatives to promote best practices through the development of guidelines and/or codes of conduct for eHealth services	147	68,37%	61,25%	
d. Other (please specify)	27	12,56%	11,25%	

In your view, which areas should the European Commission focus on? (Please choose maximum 3 options.)

	Number of requested records	% provided responses (212)	% of total number records (239)	
a. Liability	109	51,41%	45,42%	
b. Reimbursement	80	37,74%	33,33%	
c. Data protection	158	74,53%	66,10%	
d. Licensing and accreditation of professionals and healthcare providers	101	47,64%	42,26%	
e. Other (please specify)	25	11,79%	10,46%	

Objective 4: Support research and innovation in eHealth and development of a competitive European market.

Agreement with the objective

	Number of requested records	% provided responses (228)	% of total number records (239)	
a. Yes, I agree	160	70,18%	66,95%	
b. Yes, I partially agree	55	24,12%	23,01%	
c. No, I disagree	12	5,26%	5,02%	
d. I don't know	1	0,44%	0,42%	
N/A	11	4,82%	4,58%	

In your view, how should the European Commission support innovation? (Please choose maximum 3 options.)

	Number of requested records	% provided responses (219)	% of total number records (239)	
a. Provide strategic recommendations to Member States and stakeholders	66	30,14%	27,62%	
b. Provide funding for the scaling up of innovative eHealth solutions, for example by facilitation deployment of research results	147	67,12%	61,51%	
c. Provide more flexible financing mechanisms to support research and innovation	116	52,97%	48,54%	

d. Support collection, dissemination and analysis of information on innovative healthcare services	107	48,86%	44,77%	
e. Support user-driven research through use of appropriate financial instruments (for example use of CSO or similar instruments)	74	33,79%	30,96%	
f. Other (please specify)	27	12,33%	11,30%	
In your view, in which of the areas listed below should the European Commission cooperate with international partners? (Please choose maximum 3 options.)				
	Number of requested records	% provided responses (218)	% of total number records (239)	
a. Stimulate the international policy dialogue to facilitate the deployment of ehealth solutions.	81	37.16%	33.9%	
b. Taking steps to advance interoperability	92	42.2%	38,50%	
c. Support R&D to advance new innovative solutions (incl. Virtual Physiological Human, Personal Health Systems, ICT for Public Health)	103	47,25%	43,10%	
d. Promote benchmarking and evaluation projects in order to provide evidence to support deployment of ehealth solutions.	109	50,00%	45,61%	
e. Promote the use of EHR	61	27,98%	25,52%	
f. Promote deployment of telemedicine services	94	43,12%	39,33%	
g. Other (please specify)	12	5,50%	5,02%	