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eHealth in internationaler Perspektive

Beiträge der eHealth Conference 2007 „From Strategies to Applications“

Mit eHealth wird der integrierte Einsatz von Informations- und Kommunikationstechnologien (IKT) im Gesundheitswesen bezeichnet. eHealth- Entwicklung und -Anwendungen sind an der Schnittstelle von Gesundheitsreformpolitik, Wissenschaft, Versorgungspraxis zu situieren, und sie sind nicht zuletzt ein bedeutsamer Faktor in einer wachsenden Gesundheits- und Informationswirtschaft.

In der aktuellen bundesdeutschen Debatte wird eHealth in erster Linie mit der Einführung der elektronischen Gesundheitskarte verknüpft – einem „Leuchtturmprojekt“, das nach Anlaufschwierigkeiten nun mit ersten Anwendungen in sogenannten Modellregionen getestet wird. Die begleitende Diskussion fokussiert vor allem auf Wirtschaftlichkeitsfragen: die Kosten, die durch die Einführung der Karte entstehen, die Kosten, die durch die erhofften Effizienzgewinne der in den nächsten Jahren folgenden Anwendungen eingespart werden können. Der gesundheitsökonomische Imperativ überdeckt dabei zuweilen, dass es um die Gestaltung einer umfassenden Telematik-Infrastruktur für das Gesundheitswesen geht, mit der das sozialpolitische Anliegen einer Modernisierung und Qualitätsverbesserung der Gesundheitsversorgung verbunden wird. eHealth soll positive Effekte bei der Bereitstellung von Gesundheitsdiensten und hochwertigen medizinischen Diagnoseleistungen über telemedizinische Verfahren haben, einen zugleich vereinfachten wie auch sicheren elektronischen Zugriff auf wichtige Gesundheitsinformationen und sensible Patientendaten gewährleisten, die Arzneimittelsicherheit erhöhen, insgesamt Prozesse im Gesundheitssektor optimieren und vereinfachen.

Ein wichtiger Aspekt ist hierbei die Gesundheitsversorgung mobiler Bürger; IKT-Unterstützung und -Vernetzung im Gesundheitsbereich müssen deshalb auch grenzüberschreitend funktionieren. Wichtige Voraussetzung hierfür ist es, Interoperabilitäts- und Standardisierungsfragen kontinuierlich abzustimmen und zu beraten. Hierfür bieten die eHealth-Konferenzen seit Jahren ein international anerkanntes Forum.

Wir dokumentieren in diesem soFiD Beiträge der diesjährigen eHealth Conference, die vom 17. bis 19. April 2007 im Rahmen der deutschen EU-Ratspräsidentschaft unter dem Titel „eHealth – From Strategies to Applications“ stattgefunden hat. Neben dem Bundesministerium für Gesundheit (BMG), der Europäischen Kommission, dem gastgebenden Land Berlin, der Gesellschaft für Versicherungswissenschaft und -gestaltung (GVG), den federführenden Spitzenorganisationen von Kostenträger- und Leistungserbringerseite und der Betriebsorganisation gematik trugen zahlreiche Organisationen aus Wissenschaft und Industrie diesen Kongress mit.

Ziel der eHealth Conference 2007 war es, nationale eHealth-Strategien, konkrete Entwicklungen und unmittelbar bevorstehende Implementierungsschritte in den EU-Mitgliedstaaten vorzustellen. Hierzu kamen 260 Vortragende aus Europa und Übersee und etwa 1000 Teilnehmer zusammen, um in Plena und parallelen Themenforen zentrale Anforderungen an nationale und überationale eHealth Roadmaps zu diskutieren.

Wir präsentieren zwei Konferenzbeiträge mit übergreifender Perspektive: Martine Durand (OECD) betont in ihrem Statement die Verantwortung der Politik zur Steuerung und Gestaltung bei der Implementierung von eHealth. Im Mittelpunkt des Beitrags von Dr. Misha Kay (WHO) stehen das Global Observatory for eHealth und das dreischichtige eHealth-Entwicklungsmodell.

Als dritten Text dokumentieren wir die im Rahmen der Konferenz verabschiedete Deklaration „*eHealth in Europe: Succeeding together. European Co-operation on Europe-wide Electronic Health Services*“, mit der die Mitgliedsländer und die EU-Kommission ihre Zusammenarbeit auf dem Gebiet der europaweiten elektronischen Gesundheitsdienste bekräftigen.

Alle drei Texte erscheinen als Vorabdruck des Kongressbandes, der im Dezember erhältlich sein wird.¹ Wir danken den Autoren Martine Durand und Misha Kay, der herausgebenden Gesellschaft für Versicherungswissenschaft und -gestaltung sowie dem nanos Verlag für die freundliche Genehmigung des Vorabdrucks. D. Red.

1 Gesellschaft für Versicherungswissenschaft und -gestaltung (GVG) e.V. (Hg.): *eHealth: Policies and Strategies. Proceedings of the eHealth Conference 2007. Vol. I / eHealth: Politik und Strategien. Dokumentation der eHealth Konferenz 2007. Teil I.* Bonn: nanos Verlag, 2007 [= Schriftenreihe der GVG, Bd. 56]. ca. 304 S. ISBN 978-3-9811491-1-1.

eHealth in a Global Perspective – A View from OECD

Martine Durand, Organisation for Co-operation and Development (OECD)

My remarks will give a perspective from the OECD on the issues that will be discussed at this eHealth Conference. The OECD groups 30 member countries, most of the EU countries, and of course other countries such as the US, Japan, Australia, New Zealand and Switzerland and the Nordic countries.

First I would like to outline the role for eHealth in the context of the mounting pressures, which all OECD countries' health systems are facing. Then I would like to discuss, briefly, how eHealth can actually build on the knowledge-based economy and the digital economy, which have been developing for a long time now. My third point is the emergence of eHealth and potential obstacles to its effective implementation. Finally, I would like to point at – and insist on, because the OECD is interested in providing advice to governments on policy making – the question of what can be the role of public policy for the implementation and efficient uptake of eHealth.

eHealth in the Context of Financial Pressure

All OECD health care systems are struggling with questions of affordability, sustainability and efficiency. Health expenditures covering both health care and long term care are a major source of fiscal pressures in most OECD countries. In total these expenditures have had a long standing tendency to increase as a share of GDP from just 5 percent of GDP 1970 to almost 9 percent currently, of which 70 to 75 percent is paid out of public sources. In Germany it is even more than 9 percent, and in the United States it is about 15 percent of GDP. Although there is no consensus about how much of the economy can or should be dedicated to health care it is clear that it would be difficult to continue on the current course in the future. All signs indicate that countries must expect continued health cost growth pressures. Populations are ageing and chronic conditions are on the rise. In 2005 a country survey covering 11 countries on the health status of people 50 years or older in Europe showed that more than two third of survey respondents have at least one chronic disease diagnosed during their lifetime and around 40 percent report two or more.

In Canada, another OECD country, in 2003 the direct costs of all chronic conditions was estimated to have been 67 percent of total direct costs of health care and 60 percent of indirect costs, if you include productivity losses and loss of income. At the same time there is growing pressure to improve the performance of health systems, where performance is measured against quality, efficiency and equity goals. OECD health systems remain to a remarkable extent "industries" relying on apprenticeship for training, on personal contacts, on diffusion of best practices, and on uncoordinated files and information systems to convey information. Fragmentation of health care provision and weak linkages between the different actors have led to concerns about care quality and may also have been reflected in the growing patient dissatisfaction with the care provided in many countries.

Five years ago the Institute of Medicine estimated that as many as 44.000 to 98.000 deaths occur each year in the US as a result of medical errors.

These realities are true around the world. Doing nothing is probably no longer a viable option. In light of all these issues it is not surprising, that today governments are revisiting the strategies they have held in the past and are looking at new opportunities. They are looking for ways to improve performance without increasing pressure on taxes and social insurance systems. They are looking essentially for ways to improve value for money. This is what makes health information technologies particularly attractive. But if governments are truly to harness and realise the benefits they expect from health information technologies and not just digitise the problems we already have in health care, they must ensure that today's efforts, regardless of their size, are steered, nurtured, encouraged and supported. In other words, governments not only need to realise what they must do, but also realise how to do it.

Development of the Digital and Knowledge-based Economies

The impact of the development of information technologies on our societies has evolved significantly over the past two decades. The main feature of this change has been first and foremost the penetration of information technologies into all aspects of our economies and societies associated with the concept of both the knowledge-based economy and the speed, magnitude and pervasiveness of the transformation. The OECD in its role of provider of economic policy analysis and recommendations to its member countries, has closely monitored this phenomenon over time.

Now, just a few years ago we were all asking ourselves whether everyone would have access to this technology. There was a great debate about digital divide. The first thing one notices about this year's OECD information technology outlook that has just been released is that worldwide the ICT-sector has grown 6 percent in 2006. For Europe this means, that this sector is growing much faster, than the economy as a whole. The second point is that the total number of worldwide internet users passed one billion in 2005 and it is estimated to reach 2 billion by 2011. This is to say, that health IT has become inevitable and is not going to happen just because of what has happened in the last 2 years, but because of the build up in the capacity that has occurred over the past 30 years. But making sure technology in place is only the first step on a long and challenging journey. Indeed, it is fair to say, that the diffusion and uptake of ICT in the health sector is still limited, compared to other service and business sectors in OECD economies, where IT has penetrated much faster.

Therefore, while we recognise the importance of access and technology infrastructure and standards as a prerequisite for a broader use of the technology to improve people's lives, we know from a broad base of experience that another significant question needs to be posed: To what end do we want to implement IT and how best to implement it.

Obstacles to the Realisation of IT in Health Care

There is a real world laboratory out there today: National and regional strategies aimed at developing health information infrastructures are emerging across the OECD area and elsewhere. We already heard a lot of examples, and I would like to give a few others: The UK launched in 2002 the National Programme for Information Technology in the National Health Service. In Canada Health Infoway was established in 2001 to foster and accelerate the development and adoption of electronic health in-

formation systems. More recently in 2004 Australia established a national eHealth transition authority team responsible for a new national health information strategy.

What we are learning is, that even in the best of circumstances the transition to eHealth is demanding and a challenging task for all. Though there is no one answer or reason to why this is a case, there is enough evidence that demonstrates the importance of people, financial and organisational issues. Misalignment of incentives, of payment policies, and limited demonstrated value of ICT's in practice have long been considered major obstacles. We are also learning that IT offers us a great deal. But it is not some sort of magic bullet that will somehow solve all the efficiency and sustainability problems of the health care systems. It will help, but it will not do so on its own. Health IT must be combined with real process changes in order to see meaningful improvements in our delivery systems. In this context it is very interesting to hear, what the objectives of the Commission and of the EU member countries are. But a lot of things have to be in place in order for that process to actually deliver good outcomes. We are still talking about the need for policies and mechanisms to level the playing field to make things happen.

The Role for Public Policy

First, as major funders of health care provisions, governments have enormous leverage to encourage or discourage particular practices, for instance through changes in payment rules to achieve quality improvements. Payment policies can strongly influence how both the institutional providers, for instance hospitals, and individual providers, like physicians and health care professionals, provide health services. A number of recent initiatives across OECD countries have shown, that payment policies can act both to improve quality and as incentives to develop and adopt integrated information technology systems.

Presentations of ICT applications from the industry are very interesting, but doctors may say, well, all this is fine, but it is a lot of work for me. So how am I going to be rewarded for adopting this new technology? We need to consider these perspectives. The Quality and Outcomes Framework in the United Kingdom or the Pay for Performance in the United States are examples of practices of changes in payment systems that favour implementation of IT frameworks. This is certainly a huge opportunity which lies before us today. It demonstrates that it is possible to design fundamental changes across a health care system based on quality to turn spending into productive spending using quality and demonstrate performance and health IT as a central tool to get us there. For that to happen, incentives have to be right; in particular there should certainly be no disconnect between who pays or bears the costs and who gains and gets the benefits of the implementation of IT's.

Second, governments also play a critical role in funding research and disseminating information. We need to give serious consideration to our governments research agendas and to such questions as, what kind of metrics should be developed to determine the impact of this technology in health care. Should we consider cost savings? There is argument supporting the use of IT that the implementation of IT is going to save a lot of money. But are we sure about that and are we able to measure these savings? Or should metrics be about quality improvement, the reduction of medical errors? What roles should governments be playing, in disseminating information, in avoiding duplication and waste, and in increasing the adoption of best practices.

A third role for government in a time when devolution to states and localities is being promoted, is the need for coordination – between local and national public policy efforts as the magnitude of such issues as for example electronic patient records make it unlikely that they can get resolved exclusively at one level or the other. We know that there are many initiatives within countries and it is very difficult already to coordinate at national level, so let alone at regional level. In this realm public policy has a major role to play in order to ensure that this coordination takes place. This calls for a multi-tier approach to understanding the dynamics of adoption – social, financial, political and, very important, relational. All stakeholders have to be involved and a broad perspective is essential.

Linkages

The fourth point that I want to insist on for public policy is: Information systems must be able to exchange clinical information on common patients across health care settings for treatment purposes. We know, however, that while health care organisations have access to an ever increasing number of information technology products, linkages remain a serious problem. The challenge of attempting to standardise information capture, given today's very proprietary, vendor related and often innovative approaches, is a tremendous task. Moreover, interoperability benefits are highly dispersed across many stakeholders, and there is often a double standard in play when it comes to electronic data, compared to paper based systems in health. Administrative infrastructure such as purchasing and payment systems as well as reimbursement formularies must also be adopted to digital delivery.

Incentives and Competitiveness

In the absence of realisable gains for clinical information exchange or other recognition of the value of collaboration, there would be no incentive for the development, the adoption and use of a common set of standards. The motivation will have to come from within the health care systems participants. Suppliers will ultimately deliver what their paying customers want and will pay for. But without market based or targeted incentives they will not get too far out in front of those customers. OECD governments have recognized this. They have recognized that standards can have significant pre-competitive effects such as increasing price competition, since standard products are more readily compared.

To conclude, the OECD is providing and willing to provide a forum for a dialogue on all these issues and a locus for policy analysis to take full account of these realities. The OECD will continue its programme of work on a very broad range of policy issues. In this sense we will stand ready to make a tangible contribution to the much needed global reflection and coordination on the very important key issue of eHealth together with member governments, the European Commission and, of course, the WHO.

eHealth in a Global Perspective – A View from WHO

Misha Kay, World Health Organization (WHO)

Global Observatory for eHealth

To put the presentation into perspective I first want to introduce the Global Observatory for eHealth. It was launched by the WHO in 2005, based on the fact that very few regional, and literally no global, studies are being performed on eHealth – although eHealth is considered one of the largest and fastest growing areas in health. WHO considered it within its mandate to set up a global observatory and we conducted a global survey in our first year. Basically we asked a large range of questions, so it took half a day to complete the survey. There was great commitment from informants to complete it. We looked at strategies, we looked at implementations and we looked at what capacities were available in eHealth. As a result, we published two reports in 2006: “eHealth Tools and Services” and “Building Foundations for eHealth”. Both these are published in hard copy and also on the web (<http://www.who.int/goe>).

The eHealth Development Model

The eHealth Development Model puts in perspective the various layers of actions that we regard as relevant and important in terms of building eHealth in countries. We developed this model in collaboration with the World Bank. The model consists of three layers. The first layer is the foundation layer and that includes actions in areas such as governance, policy, funding and infrastructure. These we see as essentials in building eHealth in countries. The second level is what we called the enabling policies and strategies layer. Citizen protection, equity, multilingualism, interoperability and capacity building are included. The top layer is the delivery of the end-products themselves; and this includes public services, knowledge services and provider services.

What I want to cover in this bird’s eye view is our findings in only three areas and all of which are to be located in the foundation layer, the most fundamental layer in terms of developing eHealth. Thus, I want to look at governance, eHealth policy and eHealth roadmaps. I am going to be referring to the European Region. The European Region by WHO classification includes all of the European Union countries, and additionally the central and eastern European countries, former Soviet Union and central Asia, i. e. 52 countries in all.

Governance

We asked countries if they had an eHealth task force or advisory board to provide advice on eHealth policy, strategy, programme development and evaluation. What we found in 2005 was that the global average was one in two countries throughout the responding countries said that they had governance mechanisms in place. Interestingly, but not surprisingly, the European Region had a significantly higher rate of countries with governance, and that was 75 percent of European Region countries. On the opposite side of the scale for instance within the African region and also the Eastern Mediterra-

nean Region, we had a significantly lower number of countries and that was about a half of the rate of the European Region.

The WHO position on governance is that good governance is fundamental to the effective and transparent implementation of eHealth. More specifically the World Health Assembly resolution 58.28, which is also called the eHealth Resolution, calls on governments to set up eHealth governance bodies responsible for policy, strategy, data security, privacy, interoperability, cultural and linguistic issues, infrastructure, funding, monitoring and evaluation.

eHealth Policy

The area of eHealth policy is also fundamental, if countries are going to develop sustainable eHealth systems. In 2005 we found that the global average was about two in three countries, which is already relatively high and the projection by countries for 2008 is that 85 percent of countries throughout the world will have eHealth policies in place. The European Region's performance in this area is interesting, as it is sitting on the average. Again in contrast, the African Region has a much smaller proportion of countries with eHealth policies. But as they are learning about and embracing eHealth, they are also saying that they need to develop these policies as they see them as fundamental. And so, what they are projecting is a doubling of the number of countries in the next two years with eHealth policies.

The WHO position on this is: the eHealth policies are a core area of our work. A working group has been established to develop tools and guidelines, which will be shared by all Member States for adoption or adaptation.

eHealth Roadmaps

We asked countries, whether they had national plans for the deployment of ICT infrastructure, services and systems in health. Globally, approximately one in two responding countries across the world, say that they have these mechanisms, with a strong expected growth again, heading up to about 80 percent by 2008. And again the European region sits absolutely on the average in terms of roadmap development. Interestingly in this area we found, that the Southeast Asian Region and also the Western Pacific and Eastern Mediterranean Regions all appear to be leading in developing and using eHealth roadmaps and South America and the African Region are lagging behind.

The position of the WHO is that the eHealth roadmaps are considered a fundamental part of a robust eHealth strategy and must be incorporated within such a strategy.

Conclusions

When we put together the results and started analysing and processing them we found no major surprises. In a way that is good, because it shows that our hypotheses were realistic. The difference though, is that now we have these data. We can now quantify them, we can record baselines and we can more accurately predict where we can see countries and regions going over the next few years.

Another predictable finding is, that the digital divide extends to eHealth. We found very clearly, that the low and lower-middle income countries, as defined by the World Bank classification categories, are almost invariably less advanced in the areas studied than the richer countries. The lesson is, that we have a lot more work to do, particularly in poorer regions.

The third summary statement is that the European Region is often in the lead, and if it is not it is at the same level as the global average. I do not think that is a surprise either, but it is also affirming to know, that some of the very good work that is being going on throughout Europe for so long and in collaboration with many bodies is having an impact.

In terms of the eHealth Development Model we found, that on the foundation layer there was strong development globally and with optimistic predictions. On the top layer referring to the applications, there was very healthy development as well.

The area that concerned us is the layer of the enabling actions, with areas such as citizen protection, equity, interoperability and multilingual content, which all showed that there was really quite a huge amount of work to be done.

The Global Observatory this year is starting a project which hopefully will be of relevance to all of the eHealth community: the world wide directory of eHealth best practice.

The URL for the Global Observatory is <http://www.who.int/goe>. There you can find all of our reports in 7 languages, and, additionally, the raw data, that we have used and collected as well as process data, are provided. Everybody interested in the area is very welcome to go there, download the data and process it for their own research purposes.

The Global Observatory has only just started, it is still a new entity and the work is not going to stop. But what we do ask for is active involvement in helping us collect data, and we hope most of all, that the data that we do collect and report back, will be of use in advancing eHealth, in your countries and internationally.

17 April 2007: eHealth Conference 2007 Declaration

“eHealth in Europe: Succeeding Together”

European Co-operation on Europe-wide Electronic Health Services

Member States and the European Commission declare their intention to take steps towards implementing a roadmap for cross-border eHealth services.

Since 2004, the European Commission and Member States have been working together to create a European health information space, building on almost twenty years of prior cooperation. At the eHealth 2005 conference, the high-level attendees declared their commitment to taking up the challenge of creating this information space over a five-year period.¹ As a result, the Member States have been making concrete progress to implement the European Commission’s Action Plan for a European eHealth Area² by including eHealth initiatives in their national programmes. eHealth is vitally important to enhance healthcare provision to Europe’s citizens.

eHealth will enable higher-quality, effective healthcare that is safe, empowering, and accessible for patients, and cost-effective for governments. A reliable organisational and technical framework will also support a growing market for European industry. To provide Europeans with a continuity of healthcare that is accessible across borders, high-quality and efficient, the European Union will build on existing national and regional healthcare systems and services.

Engineering eHealth in Europe: Establishing a European framework for interoperable eHealth services is a complex task. It needs to be underpinned by an explicit European roadmap and appropriate political actions. To succeed, the Member States, European Economic Area countries, and the Commission, will initiate or strengthen the following six specific actions:

Engaging in the initiative: Based on common values and through improvements in organisation and cooperation, Member States will facilitate citizens’, patients’, and health professionals’ mobility, with the support of integrated and interoperable eHealth initiatives. European-wide eHealth services will require the support of political actions, within an EU framework of secure cross-border eHealth services. A well-organised national infrastructure, with appropriate processes and procedures, is considered a prerequisite for European-wide exchange of data that will facilitate citizen, patient, and health professional mobility, where necessary.

Organising Europe-wide cooperation: Within an international setting, European collaboration will establish eHealth solutions. This will offer industry a larger market for infrastructure-oriented and other products, and create cost-effective solutions for national eHealth implementations. Member States will work to resolve issues of common concern, such as the legal and regulatory aspects of eHealth solutions including the protection, confidentiality, and security of personal and patient data.

1 eHealth 2005 Conference, Tromsø, Norway: „In a Europe in which our citizens are increasingly mobile! whether within the borders of their own Member State or among different countries ! we need to raise awareness of the pressing need for a more integrated and interoperable European health information space. The Ministers commit to taking up this challenge in a staged and structured approach over the next five-year period.”

2 COM (2004) 356 final. e-Health – making healthcare better for European citizens: An action plan for a European e-Health Area.

They will engage more pro-actively with all the relevant eHealth and health professionals. A commitment will also be forged to create a shared technical framework that is based on prevailing standards. Interaction and collaboration will include bi-lateral and multi-lateral organisational arrangements, and will permit a variety of solutions as long as they contribute to the overall objective.

Building on national eHealth roadmaps: A European health information space can only be built on the basis of accepted and existing national systems that respect institutional, cultural, and linguistic national preferences. Every Member State needs its own national eHealth roadmap that fits logically with what it is doing internally in health care, including actions planned or taken at a regional level. It is crucial to share information and understanding while acknowledging the wide variety of national roadmaps. There will be an increased focus on the deployment of eHealth systems, setting up of targets for interoperability, use of electronic health records, and reimbursement of eHealth services.

Creating innovative eHealth services: There is consensus on a need for more synergy between research and education, not only implementation and application.³ The latest technologies are being developed in Member States or at a wider European level in various research programmes. Modern European health services and infrastructures need to benefit from these improvements. A deployment strategy that spans research to final adoption by patients and health professionals needs to be developed. Member States and the European Commission will join efforts to reach a better understanding of user needs for technology development and deployment, and to transform this into efficient, new services for all citizens. The Commission will facilitate this shift from pure research in eHealth to deployment-related implementation.

Combining standardisation and safety in eHealth: Patient safety needs to be improved dramatically. This can only be achieved if information concerning patients is managed in a more systematic manner among all those who are concerned in the provision of healthcare or preventive services. Key steps will involve the development and coordination of eHealth standards on user identity, user authentication, technical criteria, and semantic concerns. Commitment from all Member States and all relevant stakeholders to work on these standards will be necessary. Agreed eHealth standards will contribute to an increased quality and efficiency of health services. It will enable interoperability, facilitate economic benefits, and lead to major cost savings in the delivery of high quality and effective health services.

Involving and supporting the eHealth Industry and other stakeholders: Industry representation is vital to this initiative. Collaboration will be enhanced between Member States and those industries considered important to these developments. eHealth business potential needs to be unlocked, and a more favourable business environment created for eHealth. This engineering process will influence the efforts made by the eHealth industry to build an eHealth market in Europe, and have benefits for European employment. Stakeholder involvement should encompass patients' and health professionals' organisations and health service providers, which are crucial for a full adoption and implementation of information-technology related to healthcare processes and techniques.

³ Agreed at the Hampton Court European Council in October 2005, (Presidency Conclusions, Brussels European Council 23/24 March 2006), and reiterated in the European Council Conclusions of March 2007.

Given their citizens' increasing mobility, the European Member States and the European Commission commit themselves to engaging in this joint initiative. The immediate next steps in this phased and structured collaboration will involve starting carefully planned pilot activities. These Large Scale Pilots will test the application of improved patient summaries in different health contexts such as medical emergencies and prescription dispensing. They will be based on a variety of carefully-prepared descriptions of common patient contexts such as chronic care and care for Europe's ageing adults. The participants will be involved in systems development, design, prototyping, and validation. The work on the technical framework will be complemented wherever necessary by appropriate efforts related to the legal and regulatory framework for eHealth services. As part of this joint initiative, progress will be made in relation to improving interoperability; use of electronic health records; deployment of research results; and development and coordination of eHealth standards essential to cross-border applications. This European-wide cooperation on electronic health services will lead to the successful formation of the European health information space.