



Editorial

Aging in Europe is a reality, reflecting progress for our society: we live longer and in better health. On the other hand, public health spending is constantly increasing. This is partly due to aging and medical progress, and partly due to the demands that we currently have for quality health care. These major changes require us to adapt our systems and to identify new solutions. In response, the regions of Europe have once again proven their ability to innovate by developing e-health. This is not a miracle solution, but the almost natural development of our public health policies.

An increased application of information technologies in the field of health, which is but starting, can improve many aspects, particularly the quality of public health services. These technologies can simplify access to care and improve effectiveness, but above all, they can be a means of essential cost control for our public health policies.

However, we first have to work on e-health, before we can harvest its benefits. The usefulness of a body such as the Assembly of European Regions (AER) is clear, as cooperation between the regions will need reinforcing. In light of the important European dimension of this project in bringing the regions together, the coordination of efforts, e.g. via our Committee, must be optimal. This is precisely the role of the AER: to support regions working together on innovative solutions, such as e-health. <

Stig-Erik Westmark

President of the AER 'Social Cohesion, Social Affairs and Public Health' Committee

New technologies at the bedsides of patients and health professionals

THE SOLUTIONS PROVIDED BY E-HEALTH CONSTITUTE A PROMISING PARTIAL RESPONSE TO THE CHALLENGES POSED BY DEMOGRAPHIC CHANGES AND BUDGET RESTRICTIONS. E-HEALTH IS BENEFICIAL FOR PATIENTS, ASSISTS PROFESSIONALS, BOOSTS THE INDUSTRY AND MAKES THE PUBLIC SECTOR MORE EFFECTIVE.



Photo: Michael Truppe

Health benefits from new technologies, but there is still a long way to go.

Responding to demographic and budgetary challenges

In 2050, more than 40% of the population of the European Union will be aged over 65. This statistic alone, provided by the European Commission, illustrates the genuine demographic challenge of an aging Europe. The trend is reinforced by the fact that the "baby-boom" generation is reaching retirement age, the effects of which will be felt by 2030. Due to this aging process, demands on medical services have been increasing constantly over the last 60 years and health spending in Union Member States is growing more rapidly than the GDP. The rise in the cost of care and the increase in age-related illness are sending public health budgets in the European regions soaring. Regions are often the first to be affected, as they are increasingly assuming competences in this field.

Thus, the regions were the first to understand the need to employ the resources inherent to Information and Communications Technologies (ICT): networks, databases etc. They identified a safer and more effective means of using the wide range of existing medical information. Coupled with prevention policies, e-health can contribute to the sustainable development of our health systems.

Systems and services responding to the sector's needs

E-health services and systems can provide significant improvements in terms of access to care, quality, effectiveness and the productivity of the medical sector. It is important to note that 80% of financing in the sector is assigned to human resources, 75% from public funding, both in new and long standing Member States. E-health allows us to better connect our human resources. The quantity



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and the complexity of medical information has increased to such an extent that the main focus in the sector has become the control of information flows. This control mainly depends on ICT and yet these technologies are little used. E-health provides simple tools for storing, analysing and distributing information, thereby making data more useful and productive.

An increased role for patients and citizens

Thanks to e-health technologies, the patient is better informed on health issues in general, but also on his or her own health. Better developed communications tools support prevention policies and provide patients with more information throughout the medical process.

Long distance consultations - for a second medical opinion - or the possibility to issue electronic prescriptions are examples of improved access to health care, made possible by e-health. These services can help limit the isolation suffered by certain citizens, due to their geographical location or reduced mobility.

The electronic recording of a patient's medical history allows for an "overview" of the patient's background and thereby improves the quality of the care provided. On a long-term basis this overview should be possible at European level. Moreover, citizens are

entitled to consult and modify the information recorded in their electronic medical record.

A system that helps professionals

E-health can assist health professionals by providing the right information, at the right place, at the right time: for example they can consult exam results at a distance. In addition, the resources and information can be used to train professionals and to create new, more precise, statistics.

E-health systems and services may also be used by other professions in the medical field, particularly administrative personnel, and thereby increase their productivity. According to the European Commission, within the 25 Member States, 17.5 million individuals are employed as administrative staff in the medical field, namely 9.3% of workers in the Union.

Improving administration

As seen, authorities and decision-makers in the medical field face budgetary pressures and increasing demands on health care. If we improve the way we identify resources and needs, we could make clinics and the public sector more complementary.

E-health could partially reduce administrative tasks by making procedures electronic, for example automatic reimbursement. The

introduction of interoperable systems would simplify administrative procedures related to the mobility of citizens and patients throughout the EU.

E-health will also allow administrations to better design their public health policies in order to simplify access to health care for individuals living in remote areas or with reduced mobility.

The 3rd industry in the sector

E-health is the emerging industry in the sector, after the pharmaceutical and medical equipment industries. In 2010, the budget for this sector could reach 5% of the total health budget for the 25 Member States, as compared to a mere 1% in 2000 for the 15 Member States, despite the major role played by ICT in the development of today's leading industries. Pharmaceutical researchers can simulate and improve the exchange of data from clinical tests. New medical devices are equipped with data transfer software to improve performance.

Development prospects in this industry are high and potential growth would benefit not only the medical field, but the entire Community market, by increasing competitiveness and boosting employment. <

E-health applications: the concrete advantages

MANY APPLICATIONS EXIST: ELECTRONIC MEDICAL RECORDS, EUROPEAN HEALTH INSURANCE CARD, REMOTE CONSULTATIONS ETC., NOTWITHSTANDING THOSE YET TO BE INVENTED OR IMPROVED. THE ADVANTAGES MAY BE JUST AS PLENTIFUL: IMPROVED ACCESS AND QUALITY FOR HEALTH CARE, REDUCED COSTS, OR THE REINFORCEMENT OF EUROPEAN COOPERATION... THE POSSIBILITIES FOR E-HEALTH ARE ENDLESS.

General applications

15 years of research at European level, in which the regions have played a decisive role, have led to a multitude of e-health solutions.

The most advanced solutions are the implementation of national information networks, such as the EVISAND network in Spain, SJUNET in Sweden, or the NHS reform in the UK.

The creation of an electronic medical record, the key to the e-health programme, is underway in these three countries and in other countries in the Union (e.g. France, Norway or the Netherlands). This involves the combination of a wide range of information into

a single IT file, allowing for simple storage and remote consultation or even use. Scanner or blood test results, a patient's medical history, current treatment etc. could all be saved in this single file. The main advantage of such a record is the "overview" it provides: doctors can clearly interpret the medical history and improve both the quality of the care and prevention strategies. The electronic recording of ongoing treatments can also help cut down on redundant tests and avoid adverse interactions between medicines. The "transport" of such a file is considerably simplified: via Internet or a secure network, in record time almost anywhere in Europe.



The wide use of electronic cards allows for an optimal transfer of information.

The implementation of a European Health Insurance Card (EHIC) would render the mobility of EU citizens simpler and more secure, as information such as one's blood group could be obtained from this card.

A national example: Denmark

The MEDCOM network in Denmark has installed a system of electronic references, to avoid entering medical information on a patient twice. 100% of hospitals, emergency services and pharmacies are connected to this network, as are 98% of laboratories, 90% of general practitioners, 55% of specialists and 20% of municipalities. Danish authorities can also measure information flows on the network in real time directly

from the internet portal www.medcom.dk. Today, more than 80 000 messages per day are processed. The European Commission estimates that, thanks to MEDCOM, approximately 25 000 jobs are saved on a monthly basis, representing 22.5 million euros. The resources freed can be re-invested in prevention, training and the recruitment of medical personnel in a field with labour shortages, or for creating more hospital beds.

A regional example: Noord-Brabant (NL)

In cooperation with its neighbour region of Gelderland, Noord-Brabant is undertaking a profound review of its health system. It has for example improved the efficiency of the

administration, thanks to the use of information technologies and the extended access to broadband internet connections.

Thus, the cancer experts in this region in the south of the Netherlands are all connected via high speed Internet links and video-conferencing software. They can exchange information and diagnoses in real time, which can considerably improve the quality of health care, particularly in a field in which different medical opinions are of extreme importance.

The region has also innovated in another field. The traumatology centre of the Elisabeth Hospital in Tilburg is connected to its ambulances by WIFI. Thanks to this connection,

Interview*



Agneta Granström, County Councillor of the Region Norrbotten (S)

What were the challenges Norrbotten faced before the introduction of e-health?

Our region is a very large one, with a low population density and so we were experiencing problems in providing health care services across the entire territory. Moreover, due to the long distances involved, transferring data between health care providers (for example hospitals or General Practitioners-GPs) was not only hard, but also not secure. All information was saved on paper and it is very easy to lose a folder or a fax... We also needed to provide health care to people unable to travel long distances, such as the elderly or psychiatric patients. Our GPs did not have sufficient tools at their disposal, so we needed new solutions, like e-health.

What solutions did you therefore adopt in order to address these problems?

For example, nurses taking care of old people can perform basic exams, send the results via Internet and discuss them with a doctor who is 50 or 60 kilometres away. This way, the care provided by nurses is much more efficient and the patient is moved to a hospital only when there is a true need. This is an improvement not only for the region, which saves money, but also for the patient. We have also developed a remote-controlled "robot" for examining patients suffering from a heart condition. This robot allows us to examine patients at a distance, for example through the use of video, ultra-

sound images or a remote-controlled stethoscope. We are not working on this for fun! Thanks to this robot, doctors who are 200 kilometres away can partly monitor their patients. We have also created a broadband network between hospitals, universities and GPs in order to ensure an efficient and secure transfer of data.

What support have you received to develop these tools?

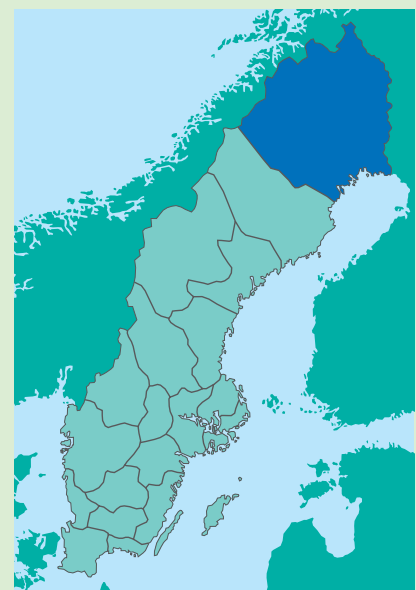
First of all, we have developed e-health thanks to the 14 municipalities of the Norrbotten region, which put into place broadband connections in order to improve their communication. We then started to work on the basis of our own funds, in order to address the problems we faced. The implementation of large-scale broadband access was a national initiative and today our e-health projects are funded in equal part by Norrbotten and the European Structural Funds.

What problems do you still need to address in the future?

We have to start by strengthening the cooperation between hospitals and between health care providers all over Europe: we need connections. We don't need a single system, the same for everyone; we need different interoperable systems. Each region spent money to develop its own system and we must now connect these to each other. Medicine has become so technical and so specialized that the need to share knowledge and other data has become imperative. We

must also improve the communication and the cooperation between the public and private health care sectors. The patient should not be left floating between the two. Finally, both universities and industry should fully appreciate the enormous potential e-health offers. In Norrbotten, we are already focusing on training and development of e-health systems and services. Europe must invest in this field, it must appropriate it and become a global leader in this sector of the future.

* Translated by the editor



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information is immediately transmitted from the ambulance directly to the operating block. The time gained can quite simply save lives.

In 2006, Noord-Brabant will finance more innovative projects through its "Innovative Actions Brabant" programme, which has a budget of 3 million euros, co-financed in equal part by the region and the European Union.

The challenges of e-health

E-health was long dismissed, but is now considered as a priority for the future of public health policies. The regions provided the initial drive (as shown by the example of Norrbotten), but their decisive role cannot stop there, and their next challenge is unarguably the implementation of interoperable systems. The integration of heterogeneous systems must be made possible: information systems on health, the structure of electronic medical records or identification services must be standardised. Many other aspects need to be coordinated and cooperation between the regions, facilitated by a body such as the AER, is highly beneficial to this end.

Another challenge is to make e-health attractive both for patients and citizens as well as professionals, in order not only to familiarise them with e-health, but also to equip them with the high-speed Internet connections required and recent IT hardware for doctors.

Learning to use e-health services and systems must be integrated into the training of health professionals; it is important for staff to be familiar with the use of ICT, in order to facilitate their widespread use.

The network must also be secured and confidentiality should be ensured, via a combination of legislation and secure technical conditions. Patients and citizens must fully retain their rights in terms of the protection of their personal data.

E-health must be accessible to all: special efforts should be made to approach publics such as immigrants, pensioners or the disabled.

The most important lesson to learn however, is that the human contact between the patient and the doctor must not be broken. This contact is absolutely essential to the treatment process and e-health does not intend to replace it. <

The European agenda

AS A POLICY FOR THE FUTURE DEVELOPED OVER THE LAST 15 YEARS BY THE REGIONS AND THE EUROPEAN UNION, E-HEALTH IS PART OF THE OVERALL E-EUROPE POLICY. DESPITE THE ABOVE CHALLENGES AND A LONG-TERM STRATEGY, MAKE NO MISTAKE, E-HEALTH IS ALREADY ON ITS WAY.

E-health is effectively part of the e-Europe strategy, the "e-Europe Action Plan", established by the European Council of Lisbon in March 2000 and included in the Lisbon Agenda. In June 2004, the Member States also decided on the e-Health Area, which provides for the implementation of the EHIC for example. In the context of the Public Health Program, the European Commission has developed and financed a European portal for health information and prevention. This project was launched in 2006 and is part of the eTEN program, with a budget of 48.5 million euros for 2006. The Commission is also developing a system of criteria, known

as "webseals", to encourage transparency in health-related web sites.

For the period 2006-2009, in agreement with the European Commission, Member States have committed to promoting interoperability and encouraging efforts for increased standardisation. They have set the objective of establishing the basis of a European e-health service, for both clinical and administrative tasks, by end 2009.

In May 2005, the 58th World Health Assembly was held at the premises of the World Health Organization in Geneva. A resolution approved at this Assembly encourages Member States of the WHO to establish a long-term strategy for the integration of e-health systems and services in all medical fields. The WHO is committed to providing technical support for its members and to encouraging the exchange of knowledge on good practices and interoperability. <

On 9- 10 June 2006, the AER organised an international conference in the region of Norrbotten, in Piteå (S). Focusing on the topic of "E-health: around the clock care for everyone, everywhere", the conference assessed the potential gains in quality and productivity provided by e-health solutions, how they can help overcome the borders of distance and what new opportunities they can create. Examples of real life applications were also presented, such as remote consultation or the transfer of information between professionals in the health chain.

All of these aspects, and many others, were discussed with regional decision-makers and health professionals. Experts and private companies, working with information technologies applied to health, were also present and explained the growth potential provided by e-health.

The AER will now distribute the conclusions of the conference to its member regions and the European Institutions. The AER is convinced that the future of e-health will require the implementation of strong networks for the exchange of experience and good practices and offers its services to all actors in the field of health.

More information is available on the AER website: www.a-e-r.org



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AER
General Secretariat - 6, rue Oberlin - F-67000 Strasbourg
www.a-e-r.org - Tel: +33 3 88 22 07 07
Fax: +33 3 88 75 67 19 - E-mail: secretariat@a-e-r.org

Brussels Office - 2 place Sainctelette - B-1080 Bruxelles
Tel: +32 2 421 85 12 - Fax: +32 2 421 84 81
E-mail: s.cools@a-e-r.org