

## The eHealth for Regions Network - an example of successful European cooperation

Prof. Dr. Roland Trill, Anna-Lena Pohl, MA.

Management Secretariat of the eHealth for Regions Network, Flensburg University of Applied Sciences, Flensburg, Germany

**Prof. Dr. Roland Trill, Professor for Business Studies, Hospital Management and eHealth, Management Secretariat of the eHealth for Regions Network, Flensburg University of Applied Sciences, Flensburg, GERMANY. Email: trill@wi.fh-flensburg.de**

### Abstract

The article illustrates differences and commonalities in eHealth issues between the Baltic Sea countries. It examines common challenges for today's health care systems and discusses how eHealth as a tool can contribute to solve these challenges. Furthermore the eHealth for Regions Network aiming at fostering the development of eHealth in the Baltic Sea region is introduced.

**Keywords:** eHealth, ICT, patient empowerment, eHealth for Regions Network

### The starting point

As regards health care systems the countries in the Baltic Sea Region (BSR) face similar challenges. The need for health care services is increasing, for example, due to demographic changes. On the other hand the number of health care professionals is decreasing. The gap between supply and demand will grow dramatically if these countries do not develop strategies to counteract this development. These strategies also need to consider the economic pressure on the health care systems.

The preconditions in the BSR countries are different regarding

- economic strength
- legislation
- number of citizens
- history and cultural influences
- the financing of the health care system.

The European Union (EU) considers eHealth an appropriate and efficient tool to meet these challenges. Otherwise ignoring the trend will cause health care systems to get into trouble, with severe implications for other sectors in society.

### What is eHealth?

The World Health Organization (WHO), for example, defines eHealth as "(...) the transfer of health resources and health care by electronic means. (...)" [1]. It identifies access to the required technologies as one of the major issues for the distribution of eHealth applications.

The aim of eHealth is to ensure high quality of care in urban as well as in rural areas in a cost-effective way.

One main target group is the patient himself, or in the field of health promotion and prevention the citizen. eHealth supports patients in their lives by offering

- personal health records
- telemedicine services
- Internet portals.

Telemedicine services range from doctor-to-doctor applications such as teleradiology or teleconsulting and doctor-to-patient services such as telemonitoring or ambient assisted living (AAL).

Following technological trends and opportunities mobile Health (mHealth) as a special eHealth application will develop further in the near future – a trend called “care anywhere”.

Looking at transnational cooperation some fields of interest can be identified:

- improving interoperability
- overcoming boundaries due to national legislation and regulations
- developing a sustainable business plan for eHealth applications
- overcoming sectorial divides
- strengthening the patient/citizen in the field of health and eHealth literacy
- promoting activities to enhance eHealth acceptance.

Apart from these fields of cooperation, technical problems also need to be addressed collectively. Even if they have mostly already been resolved, fast Internet access in rural areas still needs to be expanded

### eHealth on a European level

*“The prosperity of the macro-region is based on its human capital; consequently a healthy population is a critical factor behind sustainable economic development of enterprises and societies. Improving people’s health and social well-being is particularly important in the content of the ageing society and the growing threat posed by non-communicable diseases, two of the greatest macro-regional challenges in the 21st century.”[2]*

Health cooperation on the European level has several different implications. The Action Plan for the EUSBSR (February 2013) connects a healthy population with a

sustainable economic development in the BSR, naming certain key actions related to eHealth in addition to the Digital Agenda. For example, key action13 relates to broad and secure online access. All EU citizens should be equipped in order to be able to access their medical health data online (by 2015) and to achieve the widespread deployment of telemedicine services (by 2020). Key action 14 responds to the definition of a minimum common set of patient data for interoperability of patient records to be accessed or exchanged electronically across Member States (by 2012).

The Digital Agenda moreover recommends adopting EU-wide standards, interoperability, testing and certification of eHealth systems through a stakeholder dialogue (by 2015) and reinforcing the Ambient Assisted Living (AAL) Joint Programme to allow older people and people with disabilities to live independently as long as possible and to be active in society.

The eHealth for Regions network was appointed an associated expert group of the Northern Dimension Partnership in Public Health and Social Well-being (NDPHS)<sup>1</sup> in 2012. Since then the network has participated in meetings of the committees and of the different expert groups. It is responsible for all activities of the NDPHS related to eHealth and forms the interface of all expert groups when it comes to modern information and communication technologies in health care.

### The eHealth for Regions Network

The Baltic Sea Region is seen as a very well developed region when it comes to eHealth issues. Countries such as Estonia, Denmark and Sweden rank highest in Europe in the development and use of eHealth applications. But in other countries, too, interesting projects show

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<sup>1</sup> The Northern Dimension Partnership in Public Health and Social Well-being (NDPHS) is a cooperative effort of ten governments, the European Commission and eight international organizations. The NDPHS provides a forum for concerted action to tackle challenges to health and social well-being in the Northern Dimension area.

remarkable results. The idea to exchange experiences and knowledge was the main reason for the inception of the eHealth for Regions network.

The network has its origin in the transnational project with the same name “eHealth for Regions”. The project ran from June 2004 until May 2007 and was part-financed by the European Union within the frame of the Baltic Sea Region Interreg III B-programme.

On the basis of the results and the network of people and organizations constructed, the Political Strategic Board of the project is proposed to continue this network after the end of the funding period. The legal basis of the network is a network agreement signed by the Political Strategic Board in May 2007 which defines the network structure and tasks.

The network serves as a platform for all the different stakeholders from all Baltic Sea Region countries to discuss eHealth issues, find project partners and develop project ideas into concrete project applications. It aims at fostering the development of eHealth infrastructure and applications within the region and beyond. By promoting eHealth issues it serves as a link connecting eHealth actors to all other stakeholders and issues in health care and making it compatible with the

surrounding pieces of the bigger puzzle of health care. The network strives to establish links to other more conventional approaches so eHealth is not seen as a separate but rather as an inclusive approach to the major challenges in today’s health care systems.

The members of the network come from six different countries around the Baltic Sea: Denmark, Sweden, Finland, Germany, Lithuania and Latvia. But the network is open to all interested regions and organizations willing to cooperate and exchange knowledge, set up new projects and foster the development of eHealth in the region.

Cooperation with international partners and regional forerunners prepares the ground for innovative ways of eHealth deployment. The network partners learn from different health care systems, from the diversity of eHealth strategies with different medical, organizational, legal, cultural and technological approaches and experiences.

On this basis the opportunities for the network partners are

- To jointly raise awareness and facilitate the acceptance of eHealth among citizens, medical professionals and other stakeholders in the regions.



Figure 1. The structure of the network.

- To compare and benchmark the eHealth performance in the regions transnationally
- To bring together complementary expertise and knowledge for better quality of health care services for the citizens in the regions
- To make joint use of medical, technological and educational resources and capacities in the regions for better cost-efficiency
- To improve the availability and accessibility of health care services in the regions
- To foster mutual access to regional health care markets.

The network initiated several successful flagship projects coping with up-to-date challenges in health care. For example ICT for Health (2009 - 2012) worked to strengthen social capacities for the utilization of eHealth technologies in the framework of an ageing population. Partners from eight countries in the Baltic Sea Region participated in the project: Denmark, Finland, Germany, Lithuania, Norway, Poland, Sweden and Russia.

PrimCareIT (2011-2014) aims at enhancing the attractiveness of remote primary health care for medical professionals by means of teleconsultation and tele-mentoring. This project thereby counteracts brain drain and professional isolation in sparsely populated areas for more equal access to primary health care in the Baltic Sea Region. Sixteen partners from eight countries including Belorussia are part of this ambitious project.

### Project results

The figure 2 is one result of the ICT for Health Project, which was managed by the eHealth for Regions Network. Other results were:

- Saluda, a self-learning platform for patients with heart failure
- VIVAPORT, an Internet platform for the travelling elderly in the BSR, a personalized health record (PHR) based on the specifications of the project



Figure 2. Project result.

- eHealth for Citizens, a webpage which delivers basic information on eHealth such as what eHealth actually is and the benefits of using eHealth applications
- a concept for a joint master’s program on eHealth

Since ICT for Health had a strong transnational consortium (19 partners from eight BSRcountries) the results of the project mirror the situation of the entire region.

It is essential for all eHealth applications that they must make daily life easier for patients and professionals. Only a citizen centred approach has prospects for success.

Improving citizens’ eHealth literacy necessitates the development of transnational education and training programmes. These programmes should consider differences between countries through a joint education approach which is reasonable since eHealth should not be seen as a national but rather as a transnational tool.

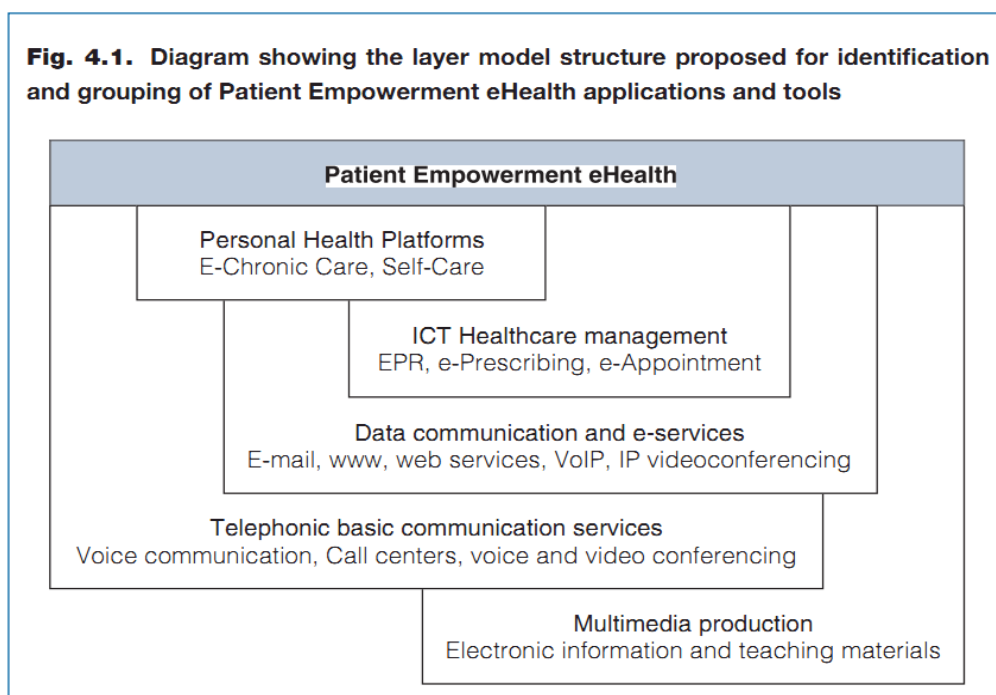
Other projects of the network were:

- PrimCareIT
- Crossborder Breast Health.

Because of the citizen centred approach mentioned above the network in the future will focus more on the use of eHealth for health promotion and disease prevention. It is more effective to prevent diseases than to cure them. If citizens are empowered they can assume responsibility for their own health. In this regard patient empowerment (PE) is a key factor in the development of eHealth services.

### Patient empowerment

Health promotion and prevention are aimed at motivating lifestyle changes in order to stay healthy. Issues such as nutrition, fitness and exercise should be managed by the empowered citizen. Citizen or patient empowerment does not only have a strong social impact but also an impact on the doctor-patient relationship.



**Figure 3.** The different levels of empowerment and the eHealth application used. (J.L. Monteagudo Peña, O. Moreno Gil: e-Health for patient empowerment in Europe. Informes, Estudios E Investigación, Ministerio de Sanidad y Consumo (ed.), Madrid 2007, p. 44.)

We are witnessing a trend towards shared decision making.

These are key tenets of the patient empowerment philosophy:

- Patients cannot be forced to follow a lifestyle dictated by others.
- Preventive medicine requires patient empowerment to be effective.
- Patients as consumers have the right to make their own choices and the ability to act on them.

The hypothesis is that patient empowerment is not possible without eHealth. The main driver in changing one's own lifestyle to a healthier one is the access to up to date and understandable information, whenever and wherever required.

Patient empowerment consists of three dimensions. The first is the professional perspective. It describes the capability to comply with advice given by an expert. The second perspective responds to the consumer perspective in which patients are self-determined through the individual choices they have. And the third dimension, the community perspective, points at social inclusion through the development of collective support. All three dimensions are related to eHealth applications, for example in regard to a virtual health portal or the personal health record.

The figure 3 shows the different levels of empowerment and the eHealth application used.

The highest level of confidence can be gained through a personal health platform managed by the citizen him-

self. We consider this step an important factor in the development of eHealth applications.

### Links

eHealth for Regions Network  
<http://www.ehealthforregions.net/>

PrimCare IT  
<http://www.primcareit.net/>

ICT for Health  
<http://www.ictforhealth.net/>

Saluda  
<http://www.saluda-asd.de/en/index.php>

Vivaport  
<https://vivaport.eu/>

eHealth for citizen  
<http://www.ehealth4citizen.eu/>

NDPHS  
<http://www.ndphs.org/>

Flensburg University of Applied Sciences  
<http://www.fh-flensburg.de/fhfl/index.php>

### References

[1] World Health Organization (WHO). E-Health <http://www.who.int/trade/glossary/story021/en/>. last access 6. June 2013.

[2] Action Plan for the European Union Strategy for the Baltic Sea Region, p. 94.