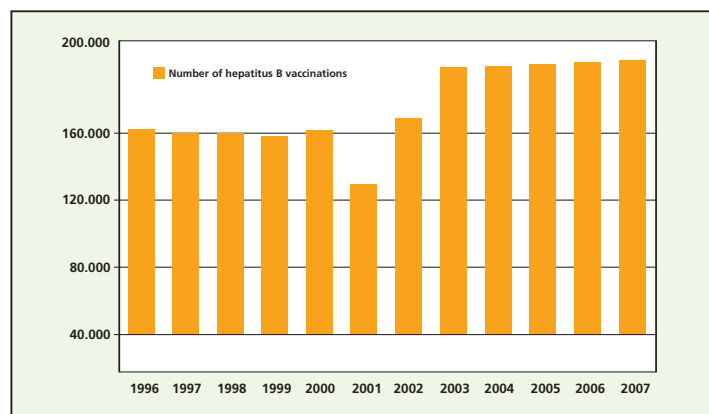




Chart 3: Kind en Gezin hepatitis B vaccinations



Acknowledgement:

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Further information and access to the impact analysis method are available from the project team c/o empirica GmbH (www.empirica.com).

Health systems and services are increasingly sensitive of both the chronic, but also the more dramatic and worrying health threats and challenges throughout the globe. Preparing for both foreseen and unforeseen health (and other) emergencies - which may nevertheless have a health impact - can be strongly supported by the use of eHealth (through applications such as databases, records, interoperable systems and services).

Outlook

The Kind en Gezin case study underlines that eHealth will increasingly permeate all aspects and levels of our health care systems, and benefits will grow as eHealth infrastructures are implemented and services expanded, in developed, and perhaps even more, in less developed or rural regions.

Vaccinating regionally can improve the health of populations in regions. But such a model can also be modified to fit smaller areas or nations. The benefits and effects accumulated will be seen in any country independent of its development stage.

Technology transfer is not uniquely one-way. Good practice can always be thoughtfully transferred from situation to situation. It is anticipated that the information on the benefit-cost results of the eHealth Impact study can be shared in as wide a context as possible, not only within Europe, but also in situations more geographically spread. Likewise, international organisations may collaborate creatively in terms of leading insightful eHealth initiatives developed in different parts of the globe.

World Summit on the Information Society Tunis 2005

The beneficial impact of eHealth A European case study



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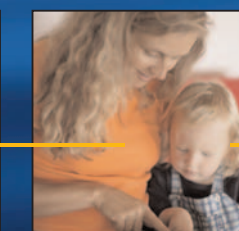
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eHealth in support of health services

Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity. Based on this World Health Organisation (WHO) definition, health systems across the world are increasingly subscribing to the paradigm of

citizen and patient-centred health services.

At the same time, all health services are faced with similar issues, such as:

- improving the quality of services and medical outcomes,
- better and more equal access for all,
- optimal allocation of scarce resources,
- greater emphasis on public health issues, such as disease control and prevention,
- investing in health education, medical research, and bio-medical & ICT knowledge.

eHealth is the application of information and communications technologies (ICT) in support of health provision. It can have a great impact on health care delivery, public health and health-related activities, and benefits for both low- and high-income countries. eHealth infrastructures and networks, applications and services can help to master national health system challenges and extend their reach to other countries, supporting the growing mobility of their citizens.

Europe's eHealth Action Plan

Within Europe and globally, national health systems face similar issues. Thus, cooperation is a powerful tool for supporting countries in achieving their health objectives, and fostering the development and competitiveness of a growing eHealth industry. A more structured approach to integrated, interoperable eHealth systems and services

will be a great step forward. Work towards development of such an approach has increasing support from European authorities and stakeholders.

To take fuller advantage of the potential of eHealth, the European Commission published its Action Plan for a European eHealth Area in April 2004. It comprises three target areas:

- How to address common challenges and create the right framework to support eHealth,
- Pilot actions to jump start eHealth delivery, and
- Sharing best practices and measuring progress.

eHealth also forms an important part of the European Union's new strategic framework "i2010 - A European Information Society for growth and employment". It focuses on the three crucial areas of a European health information space, innovation in all eHealth initiatives, and enabling greater access, involvement and inclusion of Europe's citizens and other stakeholders in healthcare provision through electronic means.

The WHO followed suit in 2005 by agreeing on a long-term strategic plan for eHealth.

Economic impact assessment of eHealth

One of the largest challenges facing policy-makers, industrialists, and market-makers is identifying and measuring in precise terms the added-value of expanding ICT in health care and provision. To enable this, the European Commission has initiated a Study on the Economic Impact of eHealth which develops and tests a context-adaptive method of evaluating eHealth. It focuses on three stages each application has to follow - planning & development, implementation, and routine operation. A handbook of tools to collect relevant information on costs and benefits related to these stages will be produced. It will include identified critical success factors, like the dimensions to include in the scope of the eHealth application, actors to involve, change management and training efforts. Key aspects are proven benefits for patients, professionals and payers. The framework offers a generic base to help to derive a more pragmatic method for each application.

Good practice case: a regional vaccination network

Kind en Gezin (K&G - children and health) is a health-care agency responsible for the health of children under 5 years old in Flanders, Belgium. With its medical and community partners, it aims to create as many opportunities as possible for every child, regardless of where he or she was born, or where and how he or she is growing up.

This includes the strategic goal to increase the coverage of vaccinations to:

- Eradicate infectious diseases – polio by 2000, neonatal tetanus by 2005 and measles by 2007
- Control infectious diseases – by 2010, reduce substantially the incidence of diphtheria, hepatitis B, pertussis, mumps, haemophilus influenza B (HIB) and congenital rubella.

This affects about 58,000 new births each year in Flanders, and in 1995 a vaccination policy was established to realise this goal with the support of an innovative eHealth application. A vaccination rate of between 90% and 95% was needed for success.

Experience showed that relying only on extra staff to increase the number of vaccinations was not viable. In contrast, expanding and using ICT effectively was. The Flemish Vaccination Database (FVD) enables doctors as well as community and school nurses to access reliable data rapidly to support their efforts in increasing the number of vaccinations. From this, an enhanced system, Vaccinet, has been developed. It supports online vaccine ordering and stock control to achieve further benefits. Future plans include access for citizens to their vaccination records when electronic identity cards are introduced.

In 1996, the development of the Flemish Vaccination Database started when the Kind en Gezin vaccination rate was about 77%. After the eHealth system was introduced in 1999, the growth in total number of vaccinations increased dramatically between 2000 and 2003 as shown in Chart 1. The improved coverage has now settled to a level that needs to be sustained for a few more years to achieve the upper end of the required minimum coverage rate of 95%. This will be achieved as more and more health professionals and nurses gain online access to the Vaccinet system from 2005 onwards.

Besides these substantial increases in coverage and protection, other impressive benefits were realised. Some four years after the start of the project, substantial increases in productivity were achieved, including a fall in unit cost per vaccination of about 15%. This, among other things, led to a positive net economic benefit on the eHealth investment. The sustained positive return from 2001 onwards, year six of the project, is seen on Chart 2. Benefits achieved, and forecast for coming years, imply a rate of return of about 8% of costs incurred over the period.

Perhaps more importantly, the strategy for increased vaccination offers direct benefits to the quality of life to children and families, and eHealth has played a significant part in realising them.



Chart 1: Kind en Gezin increase in vaccinations (in %)

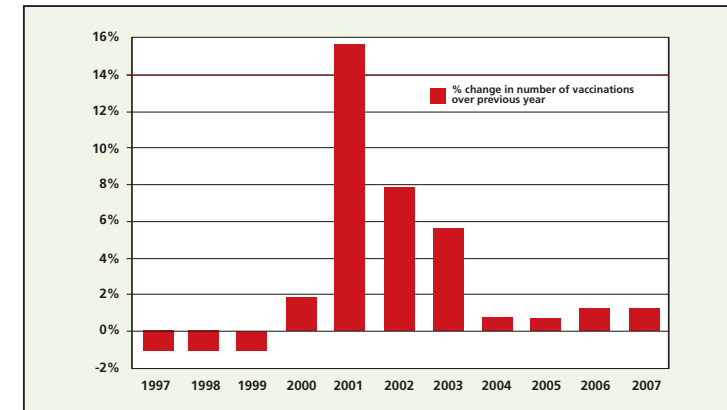
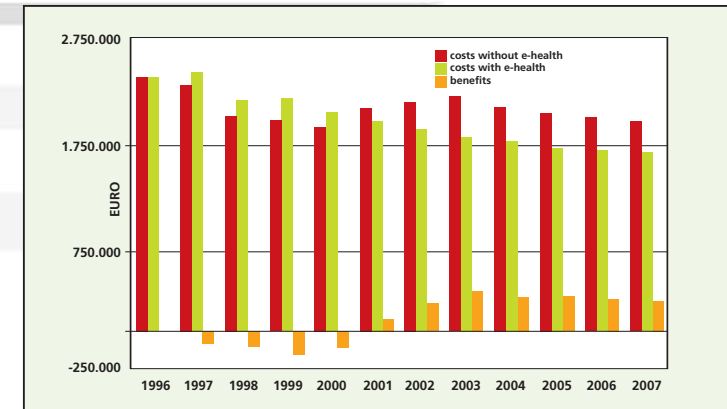


Chart 2: Kind en Gezin annual costs and benefits with and without eHealth system



Crisis management impact

Vaccination services are exposed to potential crises, like sudden shortages in vaccines. In July 2001, vaccines for hepatitis B could not be delivered until August 2002, a year later. The impact was disruptive to Kind & Gezin's progress in achieving its vaccination goals, but the benefits of eHealth to overcome the potential crises were vividly demonstrated.

Hepatitis B vaccinations fell to about 89,000 in 2001, from a previous norm of about 120,000 a year. During the last five months of 2002, with the help of the Flemish Vaccination Database, the number of vaccinations rapidly recovered. It even increased above the previous norm and set a new trend (Chart 3). This was achieved despite vaccines being unavailable for seven months of the year. Rapidly, reliably and very efficiently identifying all children in need of the missing vaccination was a key success factor.

For vaccinations at 15 months, the recovery took a bit longer - two years. This sudden recovery rather than a gradual return illustrates the benefits of using eHealth to achieve improved performance.

