

# ***Kind en Gezin, Flanders, Belgium – Flemish vaccination database (FVD) and Vaccinet, facilitating vaccination programmes for children***

Kind en Gezin (K&G) has developed and used the Flemish Vaccination Database (FVD), later complemented by the Vaccinet vaccination programme, to increase and sustain child vaccination rates across Flanders, Belgium, from about 77% to around 95% in about six years.

The FVD and Vaccinet are web-based applications that contain the vaccination requirements and record of all children born in Flanders as well as comprehensive information on stocks and shipping. Healthcare professionals working for K&G have been able to access the FVD effectively to achieve a rapid and sustainable growth in the numbers of vaccinations, and so achieve the public strategy of eliminating and controlling some infectious diseases.

The applications provide an electronic vaccination record for each child; an effective means of vaccination stock control and supply; a rapid, reliable channel of communication to healthcare professionals about changes to vaccination policies, practices and vaccines; a source of data for performance monitoring, and policy and strategy development. In addition, it initiated an eHealth dynamic that will be continuously developed to support the further improvement of the quality of the service and to cater to the data needs of other K&G tasks.

Vaccination policy is not constant overtime. Changes to vaccination regimes have been introduced, and the Flemish Vaccination Database has been used to communicate with healthcare professionals about the implementation of the new policy.

Occasionally, vaccine supplies can be disrupted. This usually results in a reduction of the vaccination rate below the required target. The FVD enabled K&G to effectively manage these situations and to return to the target vaccination

levels within short time periods after vaccination supplies returning to normal.

After the database was implemented in 1999, K&G developed a complementary application to support the automated supply, ordering and stock Management of vaccines - Vaccinet. Continuous developments of the FVD have several dimensions. Data about registration of births will be downloaded in the FVD automatically. As electronic identity cards are introduced, citizens will be able to access their own vaccination records. Also, the scale of utilisation has been expanded since 2005 when private doctors and school nurses were able to use the FVD.

Besides 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. A sustained cumulative positive return, with break even point in 2001, was reached in year six of the project. Financial benefits achieved, and forecast for coming years, imply a rate of return of about 8% of costs incurred over the period. Critical features of the success of the FVD include its steady expansion in functionality and the reliance on a small internal team to complete the web-based applications.

Estimated benefits to children and families from increased vaccination account for about 95% of the total benefits. The cost gain to K&G is mainly from improved productivity that enables K&G to avoid the estimated cost of additional staffing that would be needed to achieve and sustain the increased vaccination rate the period 1996 to 2008, the application generates an estimated net economic benefit of over €17m.



### Core impact:

- Vaccination rate of young children increased within 4 years from 77% to almost 95%
- Recovery from disrupted vaccine supplies is rapid due to transparent information and stock control
- Communication to healthcare professionals and nurses on changes in vaccination regimes and procedures is fast, comprehensive and effective
- The automated online vaccine ordering and stock control system substantially contributed to overall benefits
- The system serves as a catalyst for services beyond K&G to achieve the required vaccination rates.
- **Main beneficiaries:**
- Substantially more children are now vaccinated against infectious diseases
- Parents have improved transparency of vaccination cover for their families
- Citizens are less exposed to infectious diseases (with concomitant savings to be expected in coming years)
- Health professionals have instant access to data to support higher quality services
- Considerable efficiency gains for Kind en Gezin.

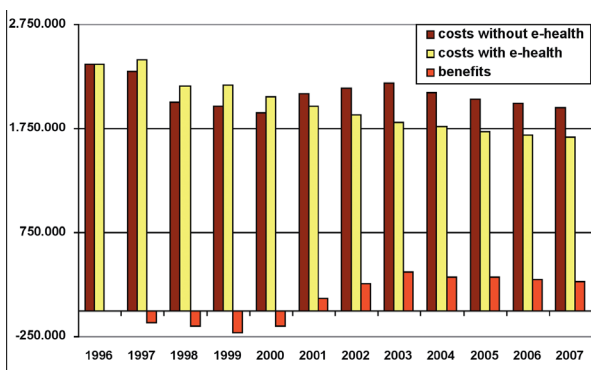
### Lessons learned:

- Clear, highly focused goals for the eHealth project facilitated successful implementation
- eHealth can be a proven means to overcome resource constraints
- A sustainable eHealth solution consists of a series of continuous investments over time
- In-house expertise is a critical resource.

### Economic results:

- First year of annual net benefit, i.e. when annual benefits exceed annual costs: 2001, year 5
- First year of cumulative net benefit: 2003, year 7
- Estimated cumulative benefit by 2008: approximately € 43 million
- Cumulative investment costs, including operating expenditure, by 2008: approximately € 25.5 million
- Estimated productivity gain, measured in decrease in cost per vaccination: 41%
- Distribution of benefits to 2008: Citizens – 96%; K&G – 4%.

**CHART: KIND EN GEZIN ANNUAL COSTS AND BENEFITS WITH AND WITHOUT E-HEALTH SYSTEM, in £**



[www.kindengezin.be](http://www.kindengezin.be)

[www.ehealth-impact.org/case\\_studies/index\\_en.htm](http://www.ehealth-impact.org/case_studies/index_en.htm)