

Institut Curie, Paris, France – Elios, a comprehensive EPR system, and Prométhée, a sophisticated search meta- engine

Institut Curie, a combined research and treatment hospital in Paris, France, specialises in oncology. Elios is their comprehensive Electronic Patient Record (EPR) system, allowing for access to patient data by all members of the healthcare team involved in the treatment, including external partners such as other hospitals or GPs. Related to this is Prométhée, a sophisticated, yet very user-friendly search meta-engine tool that enables healthcare professionals not only easy access to Elios but also to ask, at the same time, medical questions across a large number of Curie's other hospital (patient and administrative) and clinical research databases. This enables fast data compilation and analysis, particularly for research and quality assurance, as well as statistical and administrative evaluation purposes.

Elios and Prométhée together fundamentally transformed healthcare processes, improved the quality of care, supported the change towards a paperless hospital, and led to considerable economic gains. The tools were designed to improve Institut Curie's medical as well as research and administrative performance. This explains why Curie reaps about 92%, and citizens 8% of the annual benefits, estimated at between € 4 and 5 million.

Elios is a large-scale, ongoing project, conducted with external support by 4 IT companies, and includes a fully integrated electronic patient record (EPR), which allowed the transition from a paper records system to a paperless hospital. In comparison, Prométhée is a small-scale project, funded by resources internal to Curie, and which has still to reach its full potential. This is reflected in the shares of costs and benefits allocated to the two ICT tools. Most of the estimated overall benefits, 91%, come from Elios, with Prométhée contributing 9%.

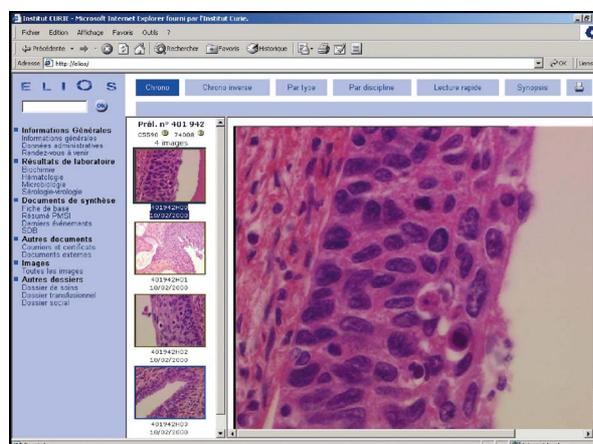
For a large institution the initial, i.e. to the point in time when it started to pay off, investment sum of around € 3 m over 7 years was relatively modest,

especially in comparison with the annual net benefits, estimated at a sizeable € 3m to 4m since 2002. The whole eHealth application took 7 years to achieve an annual net benefit and 8 years for a net benefit on a cumulative basis. The estimated productivity gain, measured in eHealth cost per patient, was found to be 17%.

Core impact:

- Improved quality of care due to comprehensive, yet focused instant access to high quality clinical data and information
- Considerable time-savings for doctors supported by medical secretaries trained to use Elios
- Improved productivity for doctors, medical secretaries and archivists
- Improved access to clinical and research knowledge at anytime and anywhere
- Improved information sharing, also with external physicians
- Better support for sophisticated multi-disciplinary teamwork

FIGURE: AN ELIOS SCREENSHOT



- Real-time clinical audit studies to measure outcomes and control quality
- Real-time organisational audit studies to streamline workflow
- Faster compliance with new clinical guidelines and organisational protocols.

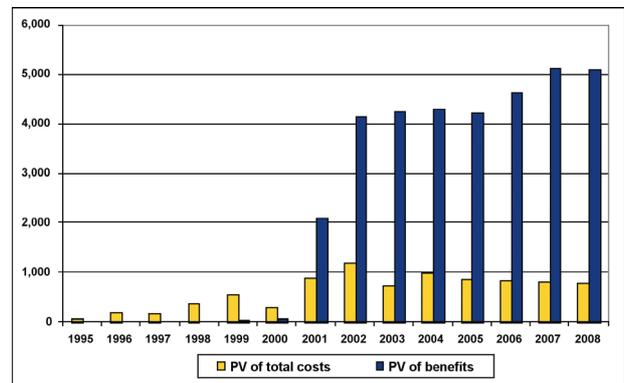
Main beneficiaries:

- Citizens benefit mainly from the improvement in quality of care – better informed carers, both about the particular patient and about the best practice opportunities for further treatment
- Doctors save time and, at the same time, can collaborate better in the care of a specific patient
- Simultaneously, doctors are better informed, facilitating better decision making about treatment
- Medical secretaries and archivists at the institute can make better use of their time because they need to invest less effort in compiling and retrieving comprehensive patient records
- For the HPO, reduction of the number of archivists and of costs for additional storage of paper documents.

Lessons learned:

- To successfully involve and convince medical professionals, one has to meet their needs for information and adequate process support
- Pragmatic steps should nevertheless be strongly linked to the overall goal and strategy
- Regular, comprehensive strategic reviews ensure that the objectives are still valid, but adapted to new requirements
- Excellent clinical leadership is needed for success, especially when health professionals are the direct users of the specific eHealth solution
- Create and operate stable, effective multi-disciplinary teams, including several members with multi-disciplinary expertise, in order to effectively combine health services, ICT, and the important organisational aspect to effective eHealth solutions
- Assure real-time clinical and organisational information to create a flexible, adaptable work environment.

CHART: PRESENT VALUES OF ANNUAL COSTS AND BENEFITS -2000 TO 2008, in € 000s



Economic results:

- First year of annual net benefit, i.e. when annual benefits exceed annual costs: 2001, year 7
- Estimated annual net benefit for the year 2008: approximately € 4.3 million
- First year of cumulative net benefit: 2002, year 8
- Estimated cumulative benefit by 2008: approximately € 30 million
- Cumulative investment costs, including operating expenditure, by 2008: approximately € 7.6 million
- Estimated productivity gain, measured as decrease in eHealth cost per patient: 17%
- Distribution of benefits to 2008: Citizens – 8%; Institute Curie – 92%

www.curie.fr

www.ehealth-impact.org/case_studies/index_en.htm