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Requirements and Options for Rfid in Healthcare

The European Commision commissioned a "Study on the requirements and options for Radio Frequency Identification (RFID) application in healthcare". The final report provides an assessment of the main drivers, obstacles and uncertainties surrounding the deployment of RFID in healthcare in Europe. It identifies the most promising RFID applications in the healthcare delivery domain by reviewing the costs and benefits, as far as possible, and assessing enablers and obstacles to full deployment of RFID. Finally, the report provides an evaluation of the current market for RFID in healthcare in Europe and its future potential.

The analysis is based on a thorough review of academic and grey literature and available data sets, a Delphi survey of experts followed by semi-structured key informant interviews, and seven case studies of RFID applications across Europe and the US.

The report, prepared by C. van Oranje, R. Schindler, L. Valeri, A.-M. Vilamovska, E. Hatziandreu, and A. Conklin outlines favourable drivers for the development and implementation of RFID technology to be:

1. Patient safety and quality of care (improvements and cost savings)

2. Organisational and financial needs and benefits (supply chain management, process transparency and traceability

3. Advocacy and leadership (commitment of leadership, publicity and hype of this new technology and capacity of healthcare system for success)

Numerous obstacles were also identified:

1. Technological issues (wireless infrastructure problems, electromagnetic interference, limited portability)

2. Data management, security and privacy (errors in system integration)

3. Organisational and financing issues (high costs compared to competing technologies)

The report highlights thirteen uncertainties affecting the future of RFID development including problems using common standards, identifying and addressing privacy concerns, fostering change management and supporting healthcare processes with RFID.

The initial objective of conducting a full scale cost-benefit analysis (CBA) of RFID deployment in healthcare in Europe was abandoned due to a lack of relevant data but economic evaluations were conducted based on the chosen case studies. These case studies concerned hospitals in Italy, UK, the Netherlands, Germany, Switzerland and the US. The costs and benefits for economic evaluation of in-hospital RFID applications include:

Implementation costs (hardware, software, installation, training etc);

Maintenance costs (software, hardware, data back up etc);

Efficiency gains (capital expense reduction, labour savings, increased patient throughput etc);

Quality gains (elimination of wrong patient/wrong medication and wrong patient/wrong procedure errors, patient satisfaction, infection control capacity), and

Other gains (improved regulatory compliance, reduced insurance premiums).

Applications were assessed to determine their ability to reduce costs and improve quality of care. The most promising functionalities were found to be tracking assets, tracking patients, the identification of patients, automatic data collection and transfer and the monitoring of patients through sensing.

The report concludes that the potential of RFID in healthcare is nuanced. Although there are many advantages to the application of this technology in healthcare there are still many obstacles, some quite considerable. The report reaches technical, organisational, financial and

political/policy conclusions.

From a technical point of view, RFID is not unique in many of its functionalities, there are other, more consolidated technologies; RFID applications must be integrated into existing technological systems and interference and physical constraints are important factors to consider. Organisationally, RFID is not just about IT, it must be embedded within the whole healthcare organisation stressing the need for the strong commitment of the senior management. From the financial side there must be appropriate attention and resources allocated to the technology itself. There are also political factors to consider. There must be open, transparent discussion about the implementation of the technology and regulations must be supported by appropriate national and international policies.

For more information, please visit:

http://ec.europa.eu/information_society/activities/health/docs/ studies/rfid/200907rfid-final-report.pdf

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