



CUSTOMER SOLUTION CASE STUDY

UZ
Leuven

HIGHLIGHTS

Hospital profile

One of the largest and most prestigious university hospitals in Europe, The hospital achieved international recognition for outstanding advances in the field of research. The University Hospital is affiliated with the University of Leuven

iMDsoft® solution

MetaVision™ ICU

Results

- Significant advances in the areas of ICU nutrition and blood glucose control (published in peer-reviewed journals).
- Cost analysis: late initiation of parenteral nutrition associated with a reduction in total health-care costs by €1,110.00 per patient.
- Improve clinical workflow: scoring and billing while at the same time reducing the associated workload.



UZ Leuven leverages MetaVision™ to produce high impact research such as the EPaNIC trial

ABOUT THE HOSPITAL

UZ Leuven is one of the largest and most prestigious university hospitals in Europe. The hospital is also the founder of Nexuz health, a consortium of 16 partners who work together to support the goals of accessible and high-quality patient care in Flanders. In July 2010, UZ Leuven became the first Belgian hospital to receive Joint Commission International Quality Approval. Additional accolades include Employer of the Year - 2014 and accreditation from the Baby Friendly Hospital Initiative. The hospital has achieved international recognition for its outstanding advances in the field of research. The University Hospital is affiliated with the University of Leuven (KU Leuven), one of the oldest universities in Europe, founded in 1425.

IMDSOFT SOLUTION

MetaVision has been live at UZ Leuven since February 2006, and is implemented in over 100 beds in their Medical, Surgical, Burns, Cardiothoracic, Cardiac, Paediatric and Intermediate ICUs. The system has been successful in helping the hospital produce advanced research. Users adapt MetaVision on their own, without additional development, and introduce new processes in response to changing requirements. Clinicians use rule-based notifications to facilitate the implementation of complex protocols, and can then assess their impact. All the data recorded in the system serves as a rich source for clinical studies and reporting.



At our department, high quality clinical research is one of the main priorities. We have been able to randomise patients for complex treatment interventions and guide our clinicians through the protocol, thanks to MetaVision's decision support tools. In addition, having all our data in a well-structured relational database made data retrieval a lot easier."

Geert Meyfroidt, MD, PhD

Associate Professor
Intensive Care medicine, UZ Leuven



Controlled clinical trial comparing early versus late parenteral nutrition in critically ill patients, demonstrated that late parenteral nutrition was associated with fewer infections, enhanced recovery, and lower health care costs

THE CHALLENGE

UZ Leuven sought a clinical information system for their ICUs that would provide complete electronic patient records and advanced tools for clinical assessment, care planning and decision support. As a university teaching hospital, UZ Leuven needed to effectively perform research studies.

RESULTS

UZ Leuven has used MetaVision to make significant advances in the areas of ICU nutrition and blood glucose control. These important discoveries have been published in peer-reviewed journals. The Belgian multi-centre EPaNIC study (Impact of Early Parenteral Nutrition Completing Enteral Nutrition In Critical illness) was an investigator initiated multi-centre randomised controlled clinical trial, comparing early versus late parenteral nutrition in critically ill patients. It is the largest randomised clinical trial on this subject.



We've been working with MetaVision for almost 10 years now. The versatility and configuration possibilities of the software are great, and we have been able to improve our clinical workflow, scoring and billing while at the same time reducing the associated workload."

Geert Meyfroidt, MD, PhD

Associate Professor
Intensive Care medicine, UZ Leuven

Principal investigators were Professor Greet Van den Berghe and Professor Michael Casaer.

The study has demonstrated that late parenteral nutrition was associated with fewer infections, enhanced recovery, and lower health care costs (The New England Journal of Medicine, 2011). MetaVision was used in order to assist the clinicians in delivering accurate nutrition in both randomisation arms. At the same time, MetaVision's protocols were used to prescribe vitamins and micronutrients to the patients to avoid refeeding syndrome, particularly for patients in the group receiving late initiation of parenteral nutrition. MetaVision decision support tools and forms were used to calculate the daily volumes of enteral and parenteral nutrition that should be administered to each patient according to protocol. Data regarding intensive care treatments and procedures, the total energy intake delivered daily by means of enteral and parenteral nutrition, interruptions of delivery of enteral nutrition, and feeding-related complications were extracted from MetaVision. The uniform and correct execution of these complex, randomised feeding interventions in 4640 patients in a multi-centre trial would have been impossible without MetaVision's interactive decision support.

A subsequent study performed a pre-planned cost analysis of the EPaNIC trial, based on the Belgian healthcare payers' perspective, in order to understand why late initiation of parenteral nutrition (PN) was associated with a reduction in mean total incremental health-care costs by €1,110.00 per patient. The study concluded that the higher costs associated with early initiation of PN were mainly pharmacy-related, and explained by higher expenditures for PN and anti-infective agents.



€1,110
Reduction in costs per patient

Improved
the quality of blood gas control



This health economic analysis provided external validation of the clinical results of the EPaNIC trial and confirmed that the practice of early initiation of PN in critically ill patients cannot be recommended, as it did not demonstrate clinical benefit, and it increased healthcare costs (Critical Care, 2012).

In another study, UZ Leuven assessed the impact of a blood glucose (BG) alert generated by MetaVision on tight glycaemic control (TGC) in the ICU. The study found that the alert was able to further improve the quality of BG control, as shown by a reduced mean BG per patient, a lower glycaemic penalty index and hyperglycaemic index, and a lower number of patients with hyperglycaemia, without increasing the need for blood sampling. According to the study, "The finding that a simple electronic alert system can improve the quality and safety of TGC, even in a setting where protocols for TGC were already in place at a high level of experience, is striking (Intensive Care Medicine, 2011)."

As the critical care clinical information system for both UZ Leuven and UZAntwerp, MetaVision is an integral part of the Multi-centric Academic Tool for Research in Intensive Care (Matric) project. This initiative is a collaboration of the three largest university hospitals in Flanders: UZ Leuven, UZAntwerp and UZ Ghent. These hospitals are working together to create an inter-university database with high-quality and related data from all the patients admitted to their ICUs. In addition to improving the quality and quantity of research, this centralised ICU database will get the critical patient cohorts needed for studies (about 9000 patients yearly) and will increase exposure for the healthcare achievements of the Flanders region to the world at large.



About iMDsoft

iMDsoft is a global leader in clinical information systems, empowering healthcare leaders to deliver superior results across critical care, acute care and anaesthesia environments. With extensive experience in high acuity environments, we are critically focused on delivering results in areas of hospitals with the highest cost, revenue, mortality, and morbidity. Hundreds of hospitals and health networks across 24 countries trust and use MetaVision™, the company's flagship product, to improve patient care quality and enhance financial results. Our global channel partner program offers an end-to-end approach for distribution partners to deliver iMDsoft's best in class software. iMDsoft is a wholly owned subsidiary of N. Harris Computer Corporation.



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