

Digital Reporting - Precision Required

IMD-soft vertaalde het artikel 'Digitaal verslaglegging: maatwerk nodig' uit Medisch Nieuws 3 2003 in het Engels. Hieronder is de Engelse vertaling van het artikel te lezen.

Frank van Wijck

Which system should an ICU choose if they wish to start digital reporting of the patient data in their department? Intensivist Rob Bosman of the OLVG (Onze Lieve Vrouwe Gasthuis) hospital is adamant: "Generic electronic patient files are unsuitable, since they cannot meet the requirements of an ICU, OR or ER unit. Data processing is much more intensive in these departments than anywhere else in the hospital, and involves a far greater volume of parameters. You therefore need a system produced by a company that focuses specifically on these departments. A system that can function in a department with a very high turnover." The OLVG ICU has had such a system since April 2001 and, since the hospital became involved in the development of the system, it now hosts national and international visitors (who fly in from as far away as Taiwan, Japan, and the USA) who wish to see this type of implementation in operation. The two academic hospitals in Amsterdam, AMC and VUmc, have in the meantime chosen the same system and it is being assessed by other interested medical centers.

Long Path

So has the long search for the ideal system for digital registration of patient data finally paid off? It certainly looks like it. But Rob Bosman reminds us how long and exhausting the path has been. "In the early nineties, a work group led by Prof. Stoutenbeek set up a framework for data registration in the ICU" he says. "A long report was put together and, on the basis of the findings, pilots were started in several hospitals in the country as part of the so-called 'transparency project'. The Catharina hospital in Eindhoven, for example, developed its own system, while the academic hospital in Maastricht started working with Clinisoft, as did the OLVG. When I started to work here, the pilot was just starting, using two ICU beds. It seemed very promising, but unfortunately never really delivered. In particular, the OS 2/Warp system caused us problems, since nobody in OLVG was familiar with it at all. Clinisoft was then taken over by Datex and the pilot was expanded to two more beds in 1997, based on new arrangements and promises that had been made. When Emmy Rood the coordinator for medical automation and I attended the presentation of the new software in 1999, it turned out that the requests we had submitted after our five-year experience had not been implemented. One of the biggest problems we had with the system was the black-box-effect: we put a lot of data in but couldn't retrieve it after entry."

New Initiative

Exit Clinisoft. What next? It was by now clear to the ICU staff that electronic reporting could offer great advantages on different levels. During an ICU conference in Berlin, Bosman was invited to visit an unknown company's stand; fascinated by what he saw, he ended up staying for several hours. "That was iMDsoft" he tells us. "I was impressed by the way their database looked but did have a few remarks regarding their software's user interface. A few months later, the same person that I had spoken to at the stand came to OLVG. When he presented the software, I was amazed to see the company had already implemented many changes based on my earlier remarks. That created enough trust for us to enter into a pilot." A few internal obstacles needed to be hurdled, however, since iMDsoft did not have a Dutch office at that time and had only one site operating in Europe. "But we considered it worth the risk and were able to continue in April 2000, when we started a three-month pilot with four beds" says Bosman. "One of our conditions was for the ICU unit to play the role of developing partner for the system. Within a month we already felt everything was going well, but decided to postpone the pilot because iMDsoft had in the meantime gone into negotiations with a company that might possibly handle the marketing in Europe, and we were afraid this might temper the innovation process. When that plan was eventually turned down, we gave them our approval. The MetaVision system has been operational in the whole ICU since 1 April."

Exploration

Bosman's enthusiasm is so great that he is happy to take visitors on a virtual tour of the system, which is as dazzling as it is impressive. "The ICU has double rooms", Bosman explains. "Next to the bed is a computer for the nurses and there's a separate workstation for physicians in the corner. The physician registers the reasons for the treatment and describes all ICU events for the patient. This file also includes the patient history. Whenever anybody changes the data, it is possible to find out who made which changes and when they took place via the relevant log files. Validated information is printed in bold. Whenever you move your cursor over it, the details of who made the change when are displayed. With a transfer, it's possible to see an overview of a patient's care points. All patient data from the hospital information system (HIS) and the lab results are immediately visible in MetaVision. It automatically registers all data from the monitors, respirators, and infusion pumps connected to the patient. Drug dosages can be managed accurately, including standard dosages and allergy alerts. A number of standard protocols are available in the system, since many tasks occur for every patient, e.g., blood sample taking or making a chest x-ray. We even have standard packs for the adjusted parenteral nutrition combinations that only rarely occur in our hospital. This makes it possible to work faster and reduce the risk of omissions."

Continuing

Most remarkable is the system's high level of user-friendliness. The department carried out extensive research on the workload associated with manual registration as opposed to the digital registration performed by MetaVision. "Existing studies indicated that nursing staff had less time for patient care when using automatic records" Bosman explains. "We wanted to know whether that was indeed the case. For example, our own study showed that the admission procedure takes a bit longer. That makes sense too, because you do need to enter rather a lot of initial patient data. However, the time spent on patient care increased by 28 minutes per eight-hour nursing shift and registration time was reduced. Another important point is that there was a clear indication that the accuracy of the data recording of the nurses increased. The same was true of medical recording."

Bosman considers the next important step to be the use of the system to improve quality of patient care. "Data can be linked from different sources" he says. "It is therefore possible to react faster to developments in a patient's condition. For example, if a situation occurs in which the system registers a change in the nutritional patterns of a patient, and then automatically indicates that the insulin dosage needs to be adjusted." So what are the next steps? "The anesthesiologists here seem to be showing interest as well" Bosman claims. "The versions for ICU and OR are available already and an ER system is probably going to follow in the near future. All systems can of course be linked to each other and to other systems. A department cannot be an island; the patient and its data are the center of it all." *Frank van Wijck is freelance journalist*