



Cooperation is very much the key to success for the new ED: Christian Christiansen, MD, Lene Guldborg Hansen, MD, and radiographer Martin Weber Kusk (from left to right) of Sydvestjysk Sygehus' ED discuss a case.

Cooperation and Technology – the Key to a Danish Hospital's Success

A Danish hospital invested in the latest technology for its emergency department. This led to a complete reorganization – and a journey to the top of the country's hospital ratings.

Text: Nils Lindstrand | Photos: Claus Sjodin

Several years ago, Sydvestjysk Sygehus hospital in Esbjerg, Denmark, decided to invest in new equipment for its emergency department (ED). As part of this process, all the hospital's medical staff met to discuss which new technologies would benefit their patients most and how their investment could best improve hospital efficiency. The solution they came up with was a completely new concept, based on state-of-the-art CT scanning technology and the optimal way of using it.

"We are very proud today of how we have managed to change the logistics of this hospital and the way doctors work together," says Christian Christiansen, MD, head of the ED.

Based on these discussions, the hospital came to the conclusion that the only way it could afford to buy the very best equipment was to improve cooperation between staff. "It became clear that there was no way the hospital could find enough money to buy everything that every specialist or department would like to have," says Christiansen. "We realized that we had to figure out how to change the way we worked from a wider perspective."

The staff concluded that the key was to provide emergency patients with the correct care from the very start. Instead of sending patients to a ward, or even back home with a letter asking them to return the following week, the hospital saw an opportunity to do things properly from the word go. Christiansen continues: "We realized that if we had the option of scanning every patient coming into the ED, we could give them the correct treatment in the right place and by the right specialist." This approach would also enable staff to decide at a very early stage whether a patient could completely avoid a stay in hospital and, in fact, be discharged with the good news that their medical concern was a false alarm. To facilitate this, the new scanner would need to be able to work with every patient coming into the ED – irrespective of the clinical question, patient age, or pre-existing illnesses such as renal insufficiency or cardiac instability. Ultimately, this way of organizing the ED should result in a very efficient hospital and higher quality patient care.

To test whether this idea could be implemented, the staff created a model with a CT scanner and peripheral technical equipment in the basement

of the hospital, and used it to perform simulations. The results were encouraging and the process of reorganizing and installing the new equipment was continued.

Minimal patient movement and smooth cooperation

Today, if there is an indication, every emergency patient at the hospital can receive a CT scan just a few meters from where they are taken out of the ambulance. A team of medical staff decides on the most appropriate treatment, and the patient is either discharged or taken to a specialized ED ward nearby to receive that treatment. The layout of the ED is designed to minimize the distance the doctors have to travel to the patient, and to facilitate cooperation between staff. Indeed, cooperation is very much the key to success for the new ED.

"The principle is to take the doctors and equipment to the patient instead of moving the patient around," says senior surgeon Lene Guldborg Hansen, MD. "Moving patients around always increases the risk of something going wrong, so a better alternative is to move the doctors."

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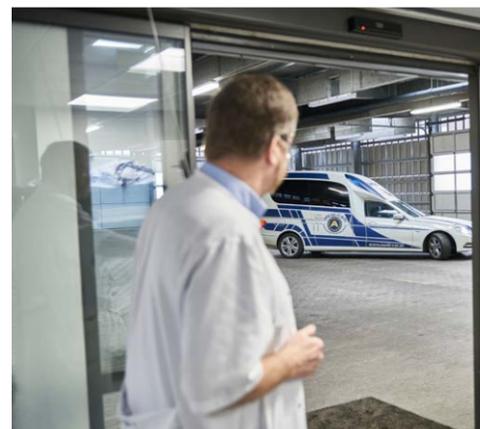


Christian Christiansen, MD, uses management software to organize which patients should be discharged and which should go to a nearby ED treatment ward.

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Christian Christiansen, MD, head of ED

Hansen points out that this new approach requires a change in doctors’ attitudes to some extent. It was not necessarily something that came naturally to all doctors from day one. “This is not my patient” or “I am busy in my own ward” are some of the reactions that had to



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be dealt with. Overcoming this slight resistance was definitely a success story for the hospital – and one of the reasons why Christiansen says he is particularly proud of how the doctors work together today.

Patients first

“We introduced the slogan *Patienten först* (patients first) to provide a foundation for the new approach to our work,” he says. “You may say that a slogan like this is oversimplified and superficial, but we have made it work in everyday situations. The reason it is successful is that we use the phrase all the time to make decisions about patients in every situation, every day.”

The question that asks, “What would be best for this patient right now?” may result in a call to a doctor at the other end of the hospital, asking him or her to come and help. “Today, all the doctors at our hospital are integrated into the ED’s work,” says Christiansen. “And, as I said earlier, we are very happy that we made this work.”

The results have been very clear. In national Danish hospital reports, Sydvestjysk Sygehus has gone from “somewhere toward the bottom” to third place in terms of patient satisfaction.

Today, 70 percent of all emergency patients are treated and discharged within 48 hours. Before the new scanner and workflow, patients were usually transferred to a ward and eventually examined to establish what kind of treatment they needed. Now, they no longer have the unnecessary wait for examinations or treatment.

Radiologist Martin Weber Kusk provides an example: “Instead of giving a patient a preliminary examination and then a doctor’s appointment two weeks later, we can establish what needs to be done very quickly and, in many cases, implement this within a day or two. This means higher hospital efficiency – and two weeks less worrying for the patient.”

Efficiency and safety boost patient satisfaction

The hospital’s decision to invest in a high-quality and high-capacity CT scanner like SOMATOM Force has thus paid off in a multitude of ways. Nevertheless, Guldborg Hansen also mentions the fact that the Force requires a lot of knowledge and skills to achieve a good result: “This scanner uses advanced technology and provides incredible amounts of information. Compared to older technology and routines, it needs staff who are open to change and can adapt to new workflows and technology to draw optimal conclusions from the information delivered by a CT scan. With that, it gives hospitals the opportunity to become extremely efficient, resulting in safe and satisfied patients.” The hospital’s SOMATOM Force allows staff to perform, for example, cardiac examinations of virtually any heart rate due to the ultra-fast temporal resolution of 66 ms, or free-breathing examinations at the lung due to the high pitch mode. In addition to this, dose is always taken into consideration: The SOMATOM Force keeps this to a minimum with low-kV imaging and two powerful 120 kW generators.

Sydvestjysk Sygehus is a medium-sized regional hospital in Denmark. The ED has a daily volume

of about 40 to 50 patients, all of whom can be scanned just seconds after entering the department. The maximum number of patients so far has been 200 in one day. Every patient spends about five minutes in the scanner room. “This part of the hospital is in fact normally quite calm, despite the obvious pressure that work in an emergency department brings. Everything is very well organized and standardized, and everyone knows where everything is and what to do in any given situation,” says Christiansen.

The SOMATOM Force was installed in April 2015. “This was a happy day for the hospital,” he says, smiling. In addition to the success for the ED in terms of patient satisfaction and general efficiency, the scanner is also used for non-emergency patients when the ED is not using the equipment to full capacity. The use of the scanner is also constantly being developed in terms of the type of patients and medical conditions that are analyzed. “We use a continuous improvement strategy,” says Christiansen. Innovations that optimize clinical pathways with the use of the scanner are a key part of this work. ●

Nils Lindstrand has been working as a science writer and journalist for more than 30 years. He is based in Stockholm.



Martin Weber Kusk, Lene Guldborg Hansen, MD, Christian Christiansen, MD (from left to right): The SOMATOM Force, installed in April 2015, has made the hospital extremely efficient, which results in safe and satisfied patients.

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