

# Because every second counts

Schwarzwald-Baar Hospital (SBK), Germany goes fully digital in the emergency room

The central emergency rooms of the Schwarzwald-Baar Hospital are now fully digitalised. The implementation of the ORBIS Emergency Department Cockpit (OECD) solution, enables seamless data flow across the campus. This includes direct ambulance-to-cockpit, information transfer.

Prof. Dr. Bernhard Kumle, Director of the Clinic for Acute and Emergency Medicine at SBK, monitors the emergency room from his office. He can see the current number of patients being treated and their status via the ORBIS Emergency Department Cockpit. Unexpectedly, an event takes place on the screen to his left: The ambulance service's fleet management system notifies the hospital of a new patient: "Stroke Apoplexy, ETA 11 minutes". The rescue service's

documentation system, NIDA, sends all patient data to the emergency department, which is then directly transferred to the ORBIS Emergency Department Cockpit (OECD).

## Pen and paper left behind

The emergency room at the Schwarzwald-Baar Hospital is completely digitalised; paper only exists as a fallback. The hospital's digitisation journey started when it implemented the ORBIS Manchester Triage System (MTS) Emergency Department solution in mid-2012. "This enabled us to digitally map the classification according to the MTS for the first time," states Prof. Kumle. This powerful step sparked considerable interest for more digital solutions. As a next step, his department collaborated with Dedalus to create

an appointment book, featuring a room view. This allowed doctors to easily schedule patients through a "drag and drop" mechanism. "This improves clarity and greatly aids the work in the Emergency Department", says the lead Emergency Physician. The missing element, however, was a comprehensive solution for continuous documentation in the emergency room, encompassing examination and medication orders, recording care measures, and writing doctor's letters. The ORBIS Emergency Department Cockpit (OECD), provides hospitals with this solution.

The Schwarzwald-Baar Klinikum stays committed to its use of ORBIS as an integrated EMR that brings together all the relevant clinical and non clinical data to provide a holis-



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tic view of the patient. The aim is to document as much as possible in the ORBIS EMR rather than relying on numerous separate non integrated solutions. "I was initially skeptical about whether pursuing an integrated EMR based on ORBIS was the right approach for us because there were some desired features missing with the OEDC," says Professor Kumle. Following further development work by Dedalus that addressed user requirements, Professor Kumle became a staunch proponent of this approach. The benefits of using ORBIS included having the Central Emergency Department serving as a hub for transferring patients to inpatient units. Crucially, it was providing documentation continuity with the appropriate transfer of information from the emergency rooms to other departments. That's the main purpose of a highly integrated approach which the hospital has

achieved, with the choice of ORBIS and the OEDC.

#### Emergency data fed directly into ORBIS

As of February 2021, patient data sent from the ambulance vehicle to the hospital is directly transferred to the OEDC, when a patient is pre-registered by the paramedics. "Thanks to this integration, we gain a better understanding of what to anticipate and can prepare more effectively," states Prof. Kumle. The transferred information includes diagnosis, vital signs, ECG curves, and photos. "With images of the scene or wounds, we can better assess the injuries and plan appropriate treatment at an early stage," the emergency physician says.

While the ambulance service has already transmitted data to the emergency room previously, there was no

integration with ORBIS before the OEDC was installed. Instead, there was a list of pre-registered patients displayed on a large monitor in the emergency department. "We saw patient names together with estimated arrival dates. But to view detailed data we had to open a separate information system within which the data was buried without integration to ORBIS," said Prof. Kumle, describing the previous workflow.

Now, since the list has been integrated into OEDC, all patient data is readily available in the EMR. The patient registration staff can create a case in ORBIS based on the data received, which saves time, from the moment the patient arrives. Moreover, patient safety is improved thanks to the accurate recoding of data without the need for manual data transfer from one system to the other. There are more time savings including



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after admission and during patient treatment. For example, the need for manual scanning of assessments and ECG recordings is eliminated. Additionally, the cockpit simplifies communication during patient transfers as Prof. Kumle explains: “If, for example, we have to receive patients from the pediatric emergency room or another facility, they are moved into a virtual transfer room. As soon as this happens, we can see it on our screens and take over the patient together with all the relevant information.” Finally, the ORBIS Emergency Department Cockpit contributes to overall workflow enhancements with several integrated reports. For example, by using the Community Emergency Department Overcrowding Scale (CEDOCS) report, the department can improve staff scheduling and adjust room planning as demand increases.

#### **Innovative Resus Room Management**

The OECD provides full workflow support for regular patients in the emergency department. However, the situation is more challenging in the Resus room as the intensive care physician explains: “In the Resus room multiple events occur simultaneously within a short period of time. Documenting the volume of on-demand work is difficult with handwritten or computer text entries”. So, he initiated the “Integrated Resus Room Documentation” project with other emergency departments in Germany. They started recording all procedures conducted in the shock room, regardless of whether they were trauma-related or not. These procedures have been added to the database of the Emergency Department Cockpit. “In partnership with our software provider, we attempted to map the defined processes to but-

tons triggering the documentation with a single mouse click. We are on track to achieve our goal. Documentation in the Resus Room is now much easier and faster, involving just a few mouse clicks,” explains Prof. Kumle. An unexpected benefit of the project was the ability to analyse the resulting data in order to better understand the efficiency of workflows and make adjustments to improve efficiency where necessary.

The nursing staff proved more receptive to the digital approach than the doctors. They quickly realised that digital documentation is much more convenient. The rapid acceptance is partly due to the fact that the system seamlessly replicated the paper-based workflows, in the software. “The doctors took a little longer, but they also recognised that the functionality is excellent and enables work to be completed, faster. Incorporating

as many simplifications as possible including the medication schedule, helps to improve acceptance”, explains the Emergency physician. “The medication schedule can already be integrated directly into the patient record; next it will be transferred to the digital medication plan. The electronic patient chart has already been implemented in the admission ward. With the eMedication and the patient chart, the digitisation of the ward will then be complete. Only the integration of digitally signed contracts and information sheets, digital patient surveys, and forms for the medical history in the waiting room remain on our waiting list,” summarizes Prof. Kumle.

As for the stroke patient, she had no permanent damage and left the hospital after ten days. ■

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## Schwarzwald-Baar Klinikum

The Schwarzwald-Baar Klinikum, located in Villingen and Donaueschingen, Germany, is a maximum-care facility at the level of a university hospital. The facility has a total of 1,030 beds, with 800 in Villingen and 230 in Donaueschingen. It serves around 160,000 outpatients and 55,000 inpatients annually.

The two emergency rooms serve a large catchment area. Approximately 58,000 admissions occur annually, with five to eight percent of patients classified as seriously or critically ill.