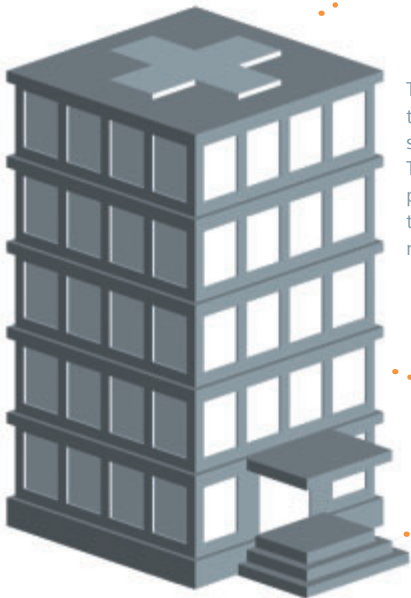




In health and specialist centers, appointments are scheduled online. The medical reports, images, etc., of the treating institutions can be accessed through the Web.

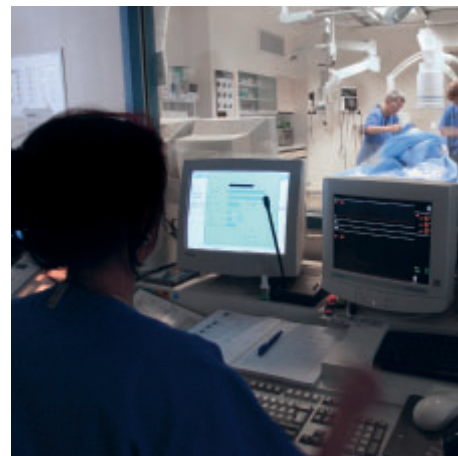


The hospital is able to see the general practitioner's or specialist's previous reports. This allows the treating physician to choose the correct therapy based on the patient's medical history.



Physicians in private practices can see the patient reports (for example, the operation report) in the electronic health record during the patient's hospital stay.





The electronic health record network was introduced as part of an experimental study in cardiology.

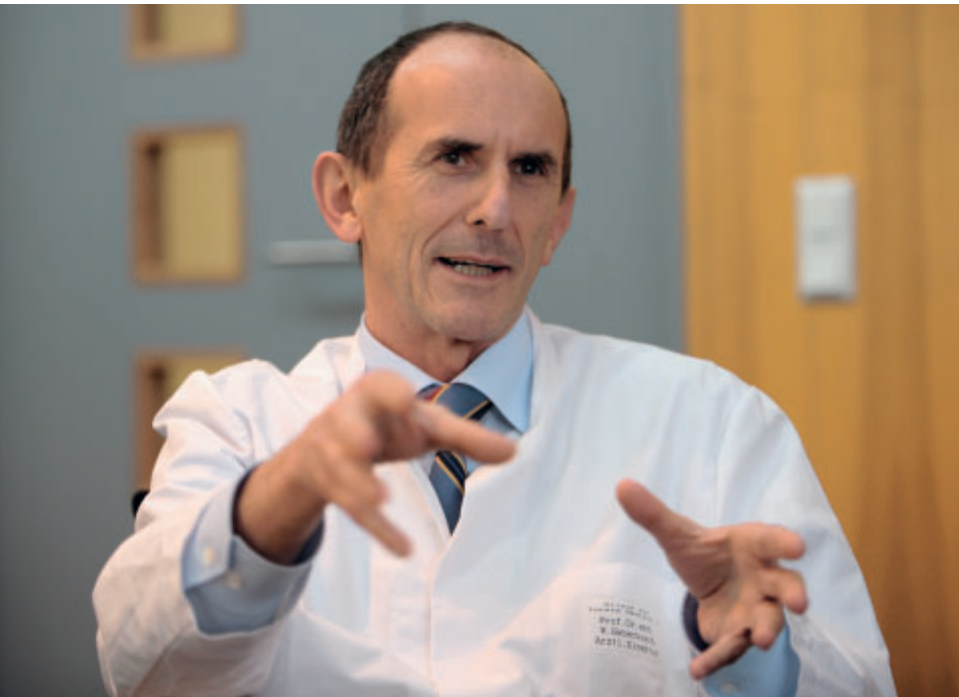
The Core of Efficient Care

Time-consuming processes and duplicate examinations often lead to personnel as well as other cost-related expenditures. In the future, the cardiology department at the SRH Central Hospital Suhl, Germany, will be connected to its regional partners via an electronic health record. Consulting this record can save lives – especially in emergency cases.

By Katja Stöcker, MA



A 55-year-old male collapses on the floor of his living room, overcome with pain. His right hand is pressed against his chest; his face is pale and covered with sweat. While the building contractor fights for his breath, his wife calls 911. The ambulance arrives with flashing lights and sirens. Before the emergency physician even arrives at the scene, he has been informed of the 55-year-old's cardiac health. He is a patient of Bernd Krüger, MD, a specialist in internal medicine in the German town Zella-Mehlis. He has had a previous bypass operation, is allergic to certain contrast media, and is diabetic. The emergency physician is not the only one who receives this information within minutes via the electronic health record. While he administers emergency aid to his patient, the cardiology team at the SRH Central Hospital Suhl is already preparing for the arrival of the emergency patient. The physicians use the same electronic health record to view previous ultrasound and X-ray images as well as lab and electrocardiogram values of the patient. "Previously, the search for X-ray images was much too time-consuming for this type of emergency," says Professor Werner Haberbosch, MD, Chief Medical Officer



“The electronic health record expedites our processes and provides for a greater measure of diagnostic safety.”

Professor Werner Haberbosch, MD,
Chief Medical Officer,
Director, Cardiology Department,
SRH Central Hospital Suhl, Germany

Soarian Integrated Care at a Glance

Improved patient care at greater efficiency and lower costs:

- Electronic health record
- Administration
- Defined security and access mechanisms
- Access protocol
- Addressed communication
- Visualization of multimedia reports

Optional:

- Appointment scheduling
- Patient consent management
- Interface to external IT systems
- Smart Card support
- Teleradiology

and Director of the Cardiology Department at the SRH Central Hospital Suhl. Additionally, the average time for obtaining previous inhouse reports, for example, of the patient's bypass operation, took nearly two hours. “The electronic health record expedites our processes and provides for a greater measure of diagnostic safety,” according to Haberbosch.

Building Information Bridges

The electronic health record – the core of the Siemens IT solution Soarian® Integrated Care – was introduced within the framework of a model project for cardiology patients at the hospital, as well as for partners within the region. In the near future, 25 private-practice physicians will receive access to the network of electronic health records in order to supplement them with often lifesaving information. “We would like to establish an information bridge,” explains Peter Schneider, EngD,

Associate Director of SRH Central Hospital Suhl, who is responsible for integrating the solution in existing IT systems and for data security. The ‘bridge’ thrives on mutual use, says Schneider. In the future, not only should representatives of the hospital be able to access important information from the private-practice physicians or other partners (for example, rehabilitation centers), but physicians in private practices will also be able to read the examination and surgery reports for a better overview of the patient. “Together with the clinical representatives, we have set important objectives,” says Henning Schneider, responsible for the project at Siemens Medical Solutions. For this purpose, costly and time-consuming processes are analyzed in detail. Duplicate examinations will be reduced from today's approximately 25 percent down to ten percent by using the Siemens IT solution. The availability of reports will increase from approximately 90 percent to 99 per-

“We would like to establish an information bridge.”

Peter Schneider, EngD,
Associate Director,
SRH Central Hospital Suhl, Germany



cent. In addition, the project partners would like to use the integrated database in order to help reduce patient waiting time during patient registration from the current average of 35 minutes to ten minutes.

Optimized Information Flow

Soarian Integrated Care has a modular design and is suitable for different hospital information systems (HIS). In addition to the use of the electronic health record, the IT solution provides better communication and teleconsultation among the participants, online scheduling, and patient-consent management. In brief, Soarian Integrated Care optimizes information flow and integrates communication media into existing treatment courses and systems across all sector boundaries. The encoding of sensitive data is of significant importance. Patient data are protected against unauthorized access

via a virtual private network (VPN). The patient needs to give his consent to allow physicians to save and access his data. Physicians and their team members can only view patient-specific information relevant to their individual practice. “I also think that the electronic health record will let me access data that are not included in the medical report,” says internal specialist Krüger and lists a number of examples: “which type of stent was used, what does the detailed protocol for catheter exams or echocardiography say.” Information of this type affects therapeutic efforts. “While I am sitting here with my patient, we can both look at his file and discuss additional steps.” Comprehensive information or the possibility of showing films before interventions also soothes the fears of cardiac patients. “A look at the electronic health record means that a great many things can be explained during the consultation,” says Krüger. Soarian Integrated Care also enables phy-



Patients



Consultation



Appointment Scheduling



Master Patient Index Clearing

Soarian Integrated Care offers an electronic health record, appointment scheduling, and much more.



In his practice in Zella-Mehlis, Bernd Krüger, MD, will be able to better explain the reports to his patients and discuss therapy.

sicians in private practices to book future appointments directly at the Central Hospital. Previously, the physician's employees had to call and ask for a date, and then consult with the patient to see if they could set up an appointment. "However, through improved interactions with our regional partners, we have been able to improve the planning of our resources," adds Schneider.

The common platform is also suitable for data exchange among colleagues. For example, if Krüger is not sure about the diagnosis or therapy planning, he could discuss the report and questions with Professor Haberbosch, while they both look at the same information remotely. Data input will be standardized in order to make this possible.

Haberbosch, Schneider, and Krüger all agree that they are saving time and money with the electronic health record. Krüger would like to see the hospital extend the IT solutions to other departments in addition to cardiology. Above all, the solutions help the patients, who can rely on the most comprehensive database possible in an emergency – just as the 55-year-old building contractor did.

Katja Stöcker works in the editorial office of Medical Solutions. Prior to this, she was a freelance writer for Deutsche Presse-Agentur (dpa) (German Press Agency), various daily newspapers, and the online editorial office of the broadcast station Mitteldeutscher Rundfunk (mdr).

Telemedicine: Recognized Savings Potential

According to a 2006 study from the German Association for Information Technology, Telecommunications and New Media (BITKOM), more than €500 million can be saved by introducing the electronic health card in Germany.

Examples of Siemens eHealth Solutions in Germany:

- Soarian Integrated Care: networks the cardiology department at SRH Central Hospital Suhl and regional partners (of these, 25 physicians in private practices).
- Soarian Integrated Care: Hospital of Stuttgart networked four of its own hospitals as well as twelve additional hospitals within the framework of Teleradiology Stuttgart and under the support of the Ministry of Social Systems of the state Baden-Württemberg.
- HiMed Cockpit at the SRH Central Hospital Suhl: Patients are able to directly access the Internet, TV/radio, IP telephone, and video on demand as well as the food ordering service or room lighting from their bed.
- Preliminary Study for Electronic Case Records: Rhön-Klinikum AG named Siemens as an industry partner in order to work out the specifications for electronic case records. The goal is to further develop the Rhön-Klinikum AG Web-based health

records. In the future, the electronic case records should contain a summary of all data collected during treatment of a particular case. This will enable physicians to exchange data across different departments, as well as with other hospitals.

USA and Great Britain: Trend Toward Electronic Networking

Some time ago, it was decided to create electronic files for patients which go beyond the boundaries of institutions. In the meantime, a large number of projects have been created to improve communication between facilities in the healthcare sector – especially between inpatient and outpatient areas.

Examples of Siemens eHealth Solutions worldwide:

- Diabetic Retinopathy (Scotland): national infrastructure for managing 300,000 diabetic patients in Scotland with the objective to keep patients from going blind.
- Disease Management (USA): telemedical care of patients suffering from congestive heart failure (South Carolina Heart Center, Columbia, SC).

SRH Central Hospital Suhl

The SRH Central Hospital Suhl is the largest hospital in the southern part of the state Thuringia, Germany. The 666-bed hospital treats approximately 61,000 inpatients and outpatients per year and has been a member of the SRH family since 1998. In addition, the facility is an academic teaching hospital for the Friedrich-Schiller University in Jena, Germany. The hospital includes 20 independent medical specialties and subspecialties. The breast center, pelvic floor center, tumor center, children and adolescent center, and outpatient rehab center complete the spectrum of services. With approximately 1,000 employees, the SRH Central Hospital is of great regional economic importance.

