

## RIS investment boosts diagnosis and treatment flows at Bahrain University Hospital



Head of ICT, KHUH  
Sheikh Khalid Bin Hamad Al-Khalifa

At a time when healthcare providers worldwide are under increasing pressure to deliver faster diagnosis and treatment, the value of an integrated radiology system capable of collecting and managing data from a range of complex and mission-critical machines has never been greater. One leading Gulf institution – King Hamad University Hospital in Bahrain – has met this challenge head-on with a successful, forward-looking strategy based on medavis RIS.

The emphasis for any hospital today is on combining operational efficiency and cost-effectiveness, while giving clinicians access to accurate, reliable real-time information on which to base treatment and patient care – reinforcing its imperative for the provision of high-quality care. And the rising number of scans is a clear indicator of the rate at which this information is generated and relied upon.

This is certainly the case at King Hamad University Hospital (KHUH) in Bahrain. Typical of the new generation of state-of-the-art institutions which define the delivery of healthcare across the Middle East, it was established in 2010. From the outset its aim was to provide a comprehensive range of services to all citizens, based on the best therapeutic and administrative practices and academic and research facilities. Its dynamic radiology department and team of 31 radiologists are at the heart of that vision – and demand the highest performance levels from the technology at their disposal.

In 2015, at the same time as it migrated to a new Hospital Information System (HIS), KHUH decided to implement a new RADIOLOGY INFORMATION SYSTEM (RIS) from medavis to help meet the growing challenge of rising scan volumes and end-user expectations. A key element in the management of the patient in/out

cycle, the RIS had to integrate seamlessly with the HIS, while ensuring that radiologists could trust the integrity of the system at every stage.

As Head of ICT Sheikh Khalid Bin Hamad Al-Khalifa explains, medavis was not simply chosen for its capacity to integrate with the broader IT infrastructure, with its open interfaces and flexible, modular structure. It also had to meet the unique workflow requirements of the KHUH and be implemented in a tight timeframe.

“Installing a RIS is not just a general experience,” he says. “Every hospital, every radiology department has its own underlying requirements which create their own set of expectations. We have many different modalities, each of which has its own workflow, and we had to be sure that medavis would cater for that, at the same time as providing our end-users with the best experience. We had to be able to trust whoever we tied up with to deliver the system and meet our requirements, in terms of customisation and functionality.” Sheikh Al-Khalifa already had experience in medavis RIS from his previous role with Bahrain’s Royal Military Services – not just in the system but in the quality of installation and local support services. He was confident that medavis could convert KHUH’s requirements into a system that would meet expectations and be delivered on time.

“Going through a full-scale migration to a new HIS and a new RIS at the same time is going to be painful for any hospital,” he says. “In the end, you always look to past experience and from the moment the project started, it was clear that medavis would be able to work with the situation and complete the system on time. We planned for implementation to take two days. That was the deadline we proposed, and medavis’s ability to meet it was one of the key factors in choosing the system. It was a sign of their professionalism that the team from Germany came out and completed the project in the two days.”

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Thanks to medavis RIS, radiologists at the hospital have 24-hour access to a highly reliable, fast and stable system with a comprehensive range of sophisticated functionalities. The STATISTICS module, for example, enables quick analysis of any workflow-originated data at the click of a button, and the ability to export it to third-party programs for further action. Archiving – a major consideration in such a high-volume data environment – is simplified by the MULTIMEDIA module. This allows radiologists to save image, audio and text files to the patient record in the medavis RIS, ensuring the availability of complete data and documentation at all times.

Radiologists can also boost their own productivity as well as that of their administrative teams with the INTEGRATED SPEECH RECOGNITION module. They can dictate reports while simultaneously accessing system data – optimising and accelerating evaluation, and saving valuable time previously spent on typing and formatting.

The system’s Intelligent Scheduling module allows the radiology department to manage examination volume and modality occupancy rate, taking consultation and waiting times into account, and matching appointment slots accordingly. A snapshot of usage across the department taken in April 2017 indicates the scale of this particular challenge: 7448 examinations, including 5309 X-rays, 782 ultrasound scans and 383 CT scans. As the number of radiology appointments rises, the value of improved efficiency cannot be underestimated.

“With medavis, appointments and schedules are easy to compile,” says Sheikh Al-Khalifa. “That was one of the most important things for us to achieve: a more streamlined process from the moment a patient arrives in the department. Almost immediately, we could see that the flow was smoother and this is reflected in the feedback from our end-users, which suggests that the department is responding to the needs of our patients more efficiently. It has really impacted on the amount of time a patient spends there.” The system’s flexibility has been tested extensively since implementation. Sheikh Al-Khalifa says that new workflows are regularly created, introducing requirements which the system has been more than capable of meeting. It is, he

explains, a process of continuous enhancement, with the aim of using the RIS to capture greater volumes of information.

“There are two things we need in terms of enhancements,” he says. “Immediate changes, and planned and projected improvements. How we approach them depends on our urgency – whether we can wait for an official system release or the department needs them immediately. But we know that medavis will address them properly, and that our requirements will always be met.”

The project’s success is reflected in end-user attitudes. “The beauty is that in terms of getting them to adapt, this has been a good exercise,” says Sheikh Al-Khalifa. “We anticipated that it would take much longer for them to adapt to the system but in fact they have taken to it very quickly and are proactive in requesting changes and improvements.”

The presence of an on-site support engineer from local medavis sales and implementation partner Yousuf Mahmood Husain (YMH) has played a strong part in delivering the department’s sense of ownership in the RIS. Sheikh Al-Khalifa says it is essential for the users of any healthcare system to have peace of mind and continuity of support, and YMH provides both to a high standard – not that there have been many issues to resolve!

**medavis**  
**Medizinische Informations Systeme GmbH**  
Bannwaldallee 60 • 76185 Karlsruhe • Germany  
Tel.: +49 721 92910-360  
marketing@medavis.com • www.medavis.com

**King Hamad University Hospital**  
Building 2435, Road 2835, Block 228, P. O. Box 24343  
Busaiteen, Kingdom of Bahrain  
www.khuh.org.bh