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HealthCare

THERE

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reduces waiting times
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DEAR READER,

'There' is a distinctive, new publication providing in-depth, contemporary information on trends and events impacting healthcare and society at large.

Why is 'There' different? In past years, we published a magazine featuring customer application stories. Although this was well received and highly read, we felt that, as a leading healthcare provider, we could do more. As a result we have included several interviews and articles in this publication to provide our readers with a broader view of healthcare as a whole.

This publication also supports Agfa HealthCare's long standing commitment to the Middle East region. For the past ten years, we have been actively building our presence in the Middle East, installing key points of

contact and an extensive network of partners to support our customers' needs. We reached a milestone in June 2008, when we inaugurated our new legal entity in Dubai as a central hub for our regional activities. Agfa HealthCare Solutions LLC is an integral part of our ongoing promises and commitment to the region.

For more information and contact details, I invite you to read on.

HAPPY READING,

Herman Raats
General Manager | Direct Export
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DUBAI, blending 21st century comforts with a rich heritage

Dubai describes itself as 'sunshine, shopping, seaside, sports and safety'. A long established commercial and trading hub for the Middle East, Dubai has seen an impressive rate of growth and success over the past years. Today the Emirate is increasingly seen as a high quality, luxurious leisure destination, offering some of the world's best shopping, amazing seaside attractions and best hotels and resorts, combined with an attractive offering of Arabic culture and history. Located at the crossroads of three continents, Dubai is also a center for business travelers, catering to the corporate needs of companies worldwide. Today Dubai offers visitors a unique blend of modern creature comforts with a long and exciting culture and history that continues to make it the destination of choice for millions of people each year. In recognition of these achievements, we have selected a number of insights that make Dubai what it is today, and bundled these into a number of stunning images of the Emirate that you can find in this publication.

DOHMS PROVIDES WORLD-CLASS PATIENT CARE WITH STATE-OF-THE-ART RADIOLOGY SOLUTIONS FROM AGFA HEALTHCARE

Rashid Hospital enhances patient care, reduces waiting times and lowers costs with Agfa HealthCare's IMPAX RIS/PACS

INTERVIEWEES Dr. Hany Afifi, Consultant Radiologist and Head of Radiology; Dr. Amina Mohammad Belhoul, Consultant Radiologist and Director of Clinical Supportive Services

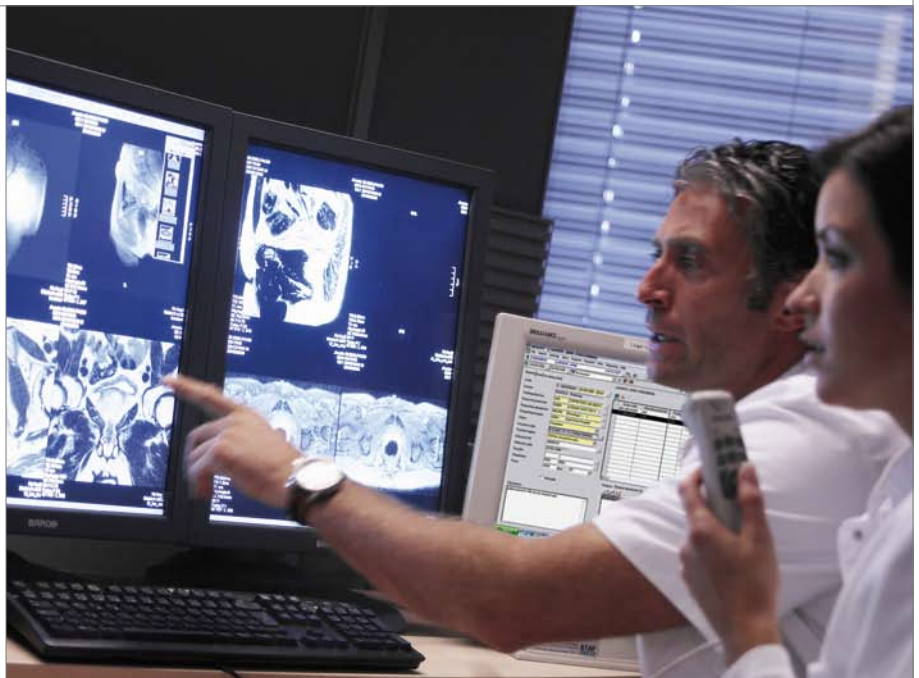
HOSPITAL Department of Health and Medical Services, Dubai, United Arab Emirates

The Department of Health and Medical Services (DoHMS) was established in 1972 by the Ruler of Dubai under the Presidency of His Highness Sheikh Hamdan Bin Rashid Al Maktoum, Deputy Ruler of Dubai and Minister of Finance and Industry. Rashid Hospital was opened in the same year in Bur Dubai, initially with 454 beds. It was only the second hospital in Dubai to offer medical care to the growing emirate population. DoHMS today has grown to include several hospitals, clinics and specialty health centers across Dubai that offer world-class medical care. With a mission of offering only the best in medical services, DoHMS has invested in advanced technologies and highly-trained clinical professionals. To keep up with its high medical standards, DoHMS chose Agfa HealthCare's state-of-the-art radiology solutions for its four major hospitals and twelve health centers. The Emergency and Trauma Center at Rashid Hospital had already implemented Agfa HealthCare's IMPAX™ Radiology Information System (RIS)/Picture Archiving and Communication System (PACS) solution in September 2006.

CHOOSING THE RIGHT RIS/PACS SOLUTION

DoHMS had established its own criteria for choosing a RIS/PACS in a detailed request for proposal. DoHMS then appointed an independent consultancy firm from Germany to help evaluate solutions from different vendors based on the technical aspects of the system, as well as workflow, onsite support, ease-of-use, new applications, financial suitability and future upgradability.

"We were looking for a world-class PACS and RIS that would seamlessly integrate with our Hospital Information System



(HIS). We chose Agfa HealthCare because their IMPAX RIS/PACS solution met all the criteria set up by DoHMS, including our needs for local onsite support," says Mr. Tony Elzoghbi, Project Manager, DoHMS. "Under the first tender, Agfa HealthCare implemented the IMPAX RIS/PACS at Rashid Hospital's Emergency and Trauma Center, which went live in September 2006. We signed the second tender in 2007, which included implementations at Rashid, Al Wasl, Dubai, and Al Maktoum hospitals as well as twelve healthcare centers across Dubai."

AGFA HEALTHCARE'S IMPAX RIS/PACS STREAMLINES THE HOSPITAL'S WORKFLOW

Rashid Hospital today has over 500 beds including 140 in the new Emergency and Trauma Center alone. Realizing the value of time in assessing and managing

critically ill patients, the hospital envisioned a pioneering workflow for imaging emergency and acutely

AGFA HEALTHCARE'S IMPAX RIS/PACS

- » Support and facilitate the complete radiology workflow and integrate management reporting.
- » Increase efficiency and productivity hospital-wide.
- » Provide consolidated, centralized management for all patient information and images.
- » Feature user profiles to minimize training and maximize efficiency.
- » Include a full range of reporting and results distribution tools to reduce report turnaround times.
- » Convert historical data from legacy systems.
- » Integrate with the hospital's current and future IT infrastructure.

AGFA HEALTHCARE'S CONTRIBUTION

- » A reliable partner with expertise in hospital IT.
- » A local team benefiting from strong international experience.
- » Recognized expertise in RIS/PACS/Speech technology and its integration.
- » Technologies bringing quantifiable benefits for all users.
- » Modular architecture providing transparent integration and solutions that evolve with new requirements.

ill patients. The radiology workflow concept offers a new paradigm for rapid diagnostic assessment, which maximizes service provision, minimizes unnecessary patient transfer, and eliminates the need for mobile radiography in the resuscitation section.

An important component of the hospital's workflow design is the RIS/PACS solution from Agfa HealthCare that offers fast and easy access to information, images and reporting tools from a single desktop. It helps electronically manage radiology operations from start to finish, from patient registration and worklist generation, to radiological reporting using voice recognition technology.

Commenting on the implementation, Dr. Hany Afifi, Consultant Radiologist and Head of Radiology at Rashid Hospital, says: "The IMPAX RIS/PACS

solution has been successfully integrated with the hospital's HIS providing an efficient workflow that significantly improves report turnaround times. Over 450 physicians in addition to the radiologists are using the IMPAX PACS system at Rashid Hospital, and over 90,000 patients have benefited from its digital radiology services in the Emergency and Trauma Center in the last twenty months."

SEAMLESS INTEGRATION

The selection and implementation of Agfa HealthCare's RIS/PACS solution with full HIS integration is an achievement not seen elsewhere in the Middle East. With the integrated voice recognition feature, the IMPAX RIS/PACS helps speed up report turnaround time. The radiologist simply dictates the results, and the voice recognition system transforms them into a written report, which is immediately viewed by the referring physician. This feature eliminates the need for a transcriber.

The integrated RIS/PACS system enabled Rashid Hospital to reduce space requirements and storage costs of filing hardcopy (films) since they can now be stored digitally. "The integrated system has streamlined the entire workflow. Agfa HealthCare's total solution helps us better schedule and order exams, manage, store and display images, and

"The integrated system has streamlined the entire workflow. Agfa HealthCare's total solution helps us better schedule and order exams, manage, store and display images, and speed up report turnaround time using the system's speech recognition feature. In addition, the overall cost of services has been reduced thanks to it creating a filmless environment."

Dr. Amina Mohammad Belhouli,
Consultant Radiologist and Director of
Clinical Supportive Services, Rashid Hospital

speed up report turnaround time using the system's speech recognition feature," explains Dr. Amina Mohammad Belhouli, Consultant Radiologist and Director of Clinical Supportive Services, Rashid Hospital.

Agfa HealthCare technology allows Rashid Hospital to pioneer a new class of medical services in the region. The next step for DoHMS is to bring radiology services at its other hospitals on par with Rashid Hospital. That is expected to be realized in the coming phases of the project planned for 2008 and 2009. •

"The IMPAX RIS/PACS solution has been successfully integrated with the hospital's HIS providing a complete, efficient diagnostic process that significantly improves report turnaround times. Over 450 physicians in addition to the radiologists are using the IMPAX PACS technology at Rashid Hospital, and over 90,000 patients have benefited from its digital radiology services in the Emergency and Trauma Center in the last seven months."

Dr. Hany Afifi, Consultant Radiologist and Head of Radiology, Rashid Hospital



DUBAI INSIGHTS

TRANSFORMATION

Dubai is an icon of transformation. It has attracted worldwide attention through innovative real estate projects. Dubai is said to currently have about 15% of all the world's cranes.



AGFA HEALTHCARE CREATES A NEW LEGAL ENTITY IN DUBAI

In June 2008, Agfa HealthCare created a new legal entity in Dubai, United Arab Emirates: Agfa HealthCare Solutions LLC. The establishment of the Agfa HealthCare Solutions LLC organization in the Middle East region is designed to enable the

company to provide even higher levels of service and support to its customers and partners in the region. The new organization will service the entire Middle Eastern region and houses around 20 staff members.

“We are serious about our presence in the Middle East,” comments Herman Raats, Head of Agfa HealthCare’s Direct Export organization, “and the introduction of a legal entity in that region, staffed by Agfa HealthCare and supported by our distinguished partners and dealers, is a clear sign that we are there to stay. The new legal entity will allow us to further increase our already high levels of service to our customers and dealers.”



The creation of the new legal entity is a final step of an eight year process. The company already had a representative office in Dubai since 2000, but has now grown and formalized the organization there. The organization is staffed by Agfa HealthCare marketing and sales representatives from a host of different countries, including India, Bangladesh, Germany, Egypt, Lebanon and Jordan. It is further supported by representatives across the Middle Eastern region. •

AP-HP PARIS TO CENTRALIZE 37 HOSPITALS IN ONE OF EUROPE’S LARGEST HIS PROJECTS

The Assistance Publique-Hôpitaux de Paris (AP-HP) group has recently selected Agfa HealthCare to install its ORBIS™ solution at 37 hospitals in France. The project, worth 95 million EUR, is considered as one of the most ambitious deployments of a healthcare IT solution in Europe.

To date, AP-HP admits more than one million patients per year along with five million outpatients, and has a capacity of around 23,000 beds in

Paris and an additional three facilities outside that region. To bring this project to a successful conclusion, Agfa HealthCare will manage a consortium of three other companies: Cap Gemini, HP and Oracle. The project is expected to take seven years.

Agfa HealthCare’s leading HIS/CIS solution ORBIS has already been successfully installed in more than 800 institutions across continental

Europe, serving more than 500,000 users daily. Thanks to its patient-centered workflow, ORBIS facilitates the administrative tasks of medical teams and nursing staff. With ORBIS, Agfa HealthCare offers users the possibility of having an integrated Electronic Patient Record that covers all the needs of the institutions for clinical information management, management of prescriptions, scheduling and medical documentation. •

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DUBAI INSIGHTS

INNOVATION & TECHNOLOGY

The Palm Islands are artificial islands in Dubai on which major commercial and residential infrastructure will be constructed. Innovative Dutch dredging technology was used to create these massive man-made islands. They are the largest artificial islands in the world and can be seen from space. Three of these Palms will be made – the Palm Jumeirah, the Palm Jebel Ali and the Palm Deira – with the last one being the largest of them all.



CEDIMED GROWS SIGNIFICANTLY BY OFFERING CR MAMMOGRAPHY

Patient volume increased by nearly 15% through introduction of CR mammography

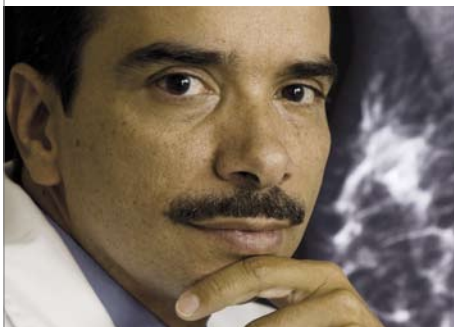
INTERVIEWEE Aurelio Gonzalez, M.D., Director of Women's Imaging

INSTITUTION CediMed, Medellín, Colombia

This Colombian imaging center has successfully grown its mammography department by transitioning from analog to computed radiography (CR) thanks to Agfa HealthCare's knowledge and solutions. Additionally, the center sent breast images to referring doctors to show CR as a high quality option for mammography. Key CR advantages include excellent imaging at lower cost, along with constantly evolving image enhancement software that improves CR's return on investment.

CR MEETS DEMAND FOR DIGITAL MAMMOGRAPHY

Medellín is home to the Centro avanzado de Diagnóstico Médico, or Center for Advanced Medical Diagnostics (CediMed). The practice consists of three sites, offering not only diagnostic imaging, but laboratory and other analytical services. CediMed provides general radiology, ultrasound (US), and bone density studies, and more advanced exams using a spectrographic Computed Tomography (CT) unit and two CT scanners with 64/4 detectors. It also has two, 1.5 Tesla Magnetic Resonance (MR) scanners. The mammography procedures performed are primarily diagnostic, averaging 800 exams per month or roughly 40 each weekday. A large number



"CR's biggest advantage is its unique and constantly evolving image enhancement software, MUSICA, which will allow its high quality output to strengthen."

Aurelio Gonzalez, M.D.,
Director of Women's Imaging

of needle biopsies, 150 per month, are conducted including US-guided breast and stereotactic procedures, ductography and needle localizations. Says Aurelio Gonzalez, M.D., CediMed's Director of Women's Imaging, "Because Medellín is an educational and cultural center, many women here are well informed and diligent about their health. They generally know about full field digital mammography (FFDM), and increasingly asked their doctors about this newest tool in the fight against breast cancer. We decided to capitalize on this interest with an alternative digital solution, CR, because we felt it provided many more significant advantages."

IMPROVED BREAST IMAGE VISUALIZATION

Dr. Gonzalez and CediMed's leadership selected CR technology to replace analog mammography. "CR uses the same equipment as screen/film to produce an image, which means you don't have to remove your current exposure system," he says. "This provides cost savings over a complete FFDM system. A primary benefit is the unique CR cassette that replaces the conventional screen/film one, as well as the digitizer that reads high quality digital imaging and displays it on a workstation." Agfa HealthCare was selected to provide a sophisticated CR system. "While CR technology is less expensive to implement than FFDM, its real strength is in constantly evolving image enhancement software," he says. "This will allow CR's high quality output to strengthen." Dr. Gonzalez adds that Agfa Healthcare's CR solutions were chosen because of its technical support and confidence in the product. "They are the right partner to work with," he says.

Agfa HealthCare's CR 85-X multi-application digitizer is used at the main site. Once the technologist inserts a CR cassette into the compact, freestanding digitizer, the unit automatically records patient demographic data, scans the imaging plate to memory, digitizes the image and returns the cassette to

CEDIMED, MEDELLÍN: More than 10,000 patients receive radiology procedures each month. **CHALLENGE:** Need for a digital mammography solution. **SOLUTIONS:** CR 85-X, NX workstation, MUSICA Software. **BENEFITS:** Patient volume for CR mammography increased between 10 and 15%. Cost-effectiveness. Image quality.

its output buffer for new exposures. This allows the technologist to return to the procedure room and stay with the patient, as well as contributes to faster patient throughput. Mammography detail is recorded at a high 20 pixels/mm for 18x24 and 24x30 cm sizes. In the important arena of image enhancement, CediMed thinks highly of Agfa HealthCare's MUSICA® (Multi-Scale Image Contrast Amplification) image processing software that runs standard on the company's NX intuitive workstation to enhance, manipulate, and improve breast image visualization, especially in the soft tissue regions.

EXCELLENT CR IMAGE QUALITY

To support its use of CR mammography*, CediMed recently provided breast images to pre-selected referring physicians. Various views were printed on dry media produced by Agfa HealthCare's DRYSTAR® 5500 imager and sent to each physician. A follow-up telephone interview was then scheduled with a CediMed radiologist to discuss the images. They concluded that the CR images met the expected standards and all important information was available. "Overall, our referral physicians have accepted CR very well," Dr. Gonzalez says. "And we are working very hard to share our experiences with others." Two other important results have occurred over the past year. CediMed's patient volume for CR mammography has steadily increased between 10 and 15%. Eight other imaging facilities, primarily hospitals, have installed a CR solution for mammography while only one has installed FFDM since. "We are proud and happy to have been the first in Medellín to use CR mammography," Dr. Gonzalez concludes. •

*CR mammography is currently not available for sale in the US.

MAJOR MEDICAL CENTER LEVERAGES EXISTING PACS TO SUPPORT TRANSITION TO DIGITAL MAMMOGRAPHY

Full transition to all-digital mammography facilitated by easy adaptability of Agfa HealthCare's solutions designed to meet the stringent demands of Women's Care

INTERVIEWEE Andrea Doria, R.T. (R)(M), Mammography Co-ordinator; Elizabeth Pietras, M.D., Director of Breast Imaging
HOSPITAL Maine Medical Center, Portland, Maine, US

Two years ago, Maine Medical Center began exploring the possibilities of converting all mammography exams from screen/film to digital. A key challenge for the facility was to link new full field digital mammography (FFDM) equipment at the main radiology department with similar units at two satellite locations outside the city. The facility also needed to ensure the transition to digital was accomplished with no loss of efficiency for the radiology team so that patient care was maintained, as well as to archive, display and teleconference all multi-modality breast imaging using flexible digital workstations. The facility was able to successfully display, import, network, and archive digital mammography studies using the hospital's existing IMPAX® Picture Archiving and Communications System (PACS) through multiple mammography display stations.

TEAM EFFORT GUIDES MAJOR DECISIONS
Maine Medical Center (MMC), located in Portland, is a 606-bed teaching facility that is among this nation's oldest hospitals, having opened in 1874. Today, it is a leader in 21st century medicine offering the latest techniques and technologies in cancer care, cardiac surgery, children's services, diabetes treatment and a unique Center for Lipids and Cardiovascular Health. Its Radiology Department has all the advanced tools of digital diagnostic imaging, including a department-wide IMPAX PACS from Agfa HealthCare that also links satellite locations in Falmouth and Scarborough, each about seven miles from the main campus.

In mammography, 20 radiologists and 13 technologists, as well as rotating residents, help the department perform approximately 18,000 screening and diagnostic exams, and more than 600 stereotactic, needle biopsy and localization procedures annually, all supported by physicist, clerical

and film library professionals. MMC also has magnetic resonance (MR) and ultrasound (US) breast imaging capability. In addition to the main campus, mammography is also performed at the two satellite sites.

In January 2006, a dedicated group began exploring the potential of transitioning all mammography exams from analog to digital using FFDM, and linking all locations on a digital image and data network. Included in that effort were Director of Breast Imaging Elizabeth Pietras, M.D., Radiology Clinical Manager Mary Duffy, R.T. (R), Mammography Coordinator Andrea Doria, R.T. (R)(M), Radiation Physicist Beth Quate and Radiology Informatics Systems Analyst Stephen Zabrocki. The selection of FFDM equipment was also coordinated with three other hospitals in MMC's parent organization, MaineHealth. At MMC, one FFDM unit each was purchased for the main department and Falmouth site, with two units placed in the busy, suburban Scarborough location.

In December 2007, MMC's last analog mammography unit and wet chemistry



Andrea Doria, R.T. (R)(M),
Mammography Co-ordinator

"Overall service to patients and referring physicians is significantly improved."

PACS/WORKSTATION/MAMMOGRAPHY INTEGRATION

- » Provides a complete multi-modality workflow, combining FFDM, US and MR breast images with data including radiologists' report, patient demographics, and follow-up.
- » IMPAX PACS and the Breast Imaging Review Station can be configured to accommodate the unique parameters of digital breast imaging.
- » Vendor neutrality provides flexibility of a mixed modality environment across sites or networks.
- » Supports the technologist's workflow as well as the radiologist's.

film processor were removed from Scarborough. The evaluation team had reached its final destination. There was no going back.

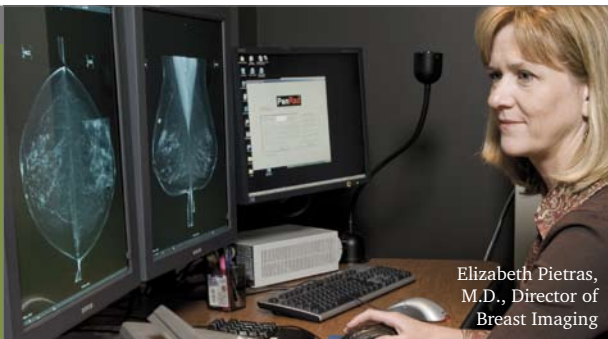
ADDRESSING PACS FOR MAMMOGRAPHY

A key part of the exploratory team's efforts involved investigating the best solution for providing the radiologists and technologists the tools to optimize the entire diagnostic process. According to Dr. Pietras: "There were two options; either interface the new FFDM modalities to a fully functional PACS workstation, thereby providing multi-modality breast imaging capabilities, or install a modality-specific workstation dedicated to mammography."

Says Doria: "There were critical considerations, such as the need to access prior exams for comparison and the need to view exams from other modalities, such as breast ultrasound or breast MR." Dr. Pietras: "It's inefficient for a radiologist to compare mammography images on one review station with US or MR images on another review station, no matter how close you physically place the two display tools. Having a workstation that had the ability to display images from all modalities became a consideration

AGFA HEALTHCARE'S CONTRIBUTION

- » IMPAX PACS and integrated Breast Imaging Review Stations supporting all modalities including FFDM, US and MR to optimize the diagnostic process.
- » Web-based distribution system making high quality diagnostic images available on a DICOM-compatible computer or workstation, including mammography.
- » Integration capability for improved reporting, tracking and dictation.



Elizabeth Pietras,
M.D., Director of
Breast Imaging

“Having a workstation that had the ability to display images from all modalities became an important consideration for both radiologist efficiency and patient care.”

for both radiologist efficiency and the delivery of patient care.” Another factor impacting the decision centered around MMC being a teaching hospital where medical/clinical staff continually rotate through the hospital, including radiologists moving between imaging disciplines such as mammography.

“Physicians and radiologists throughout MMC were familiar with IMPAX, and rotation into mammography using a different, modality specific workstation could have profound ramifications,” says Mary Duffy, Clinical Manager, Radiology at MMC. “It appeared wise to integrate mammography with the PACS platform that other medical and clinical staff were accustomed to using.”

OPEN INTEGRATION/WORKSTATION FLEXIBILITY IMPROVES EFFICIENCY

Working closely with Agfa HealthCare’s IT and Mammography Specialists, MMC was able to successfully integrate digital breast imaging onto the existing PACS, including deployment of six IMPAX Breast Imaging Review Stations, specifically designed for displaying all digital breast imaging throughout the three sites.

The MMC team selected the IMPAX Breast Imaging Review Station because of its ability to display FFDM imaging, breast US and MR from a single workstation. An added benefit was the ability to utilize these same workstations for all other imaging display needs as well. Also impacting the selection were Agfa HealthCare’s integration expertise, ease of implementation, and intensive training from the company’s Women’s Care team.

Radiologist efficiency was further enhanced by Agfa HealthCare’s ability to fully integrate the breast imaging review station with the department’s already existing mammography reporting and tracking software and dictation system. The fact that the IMPAX Breast Imaging Review Station is also vendor neutral, allowing display of FFDM images from

all FDA approved modalities, fits well with MMC’s desire to provide digital reading for facilities outside of their own network who wished to convert from analog to digital. Such open architecture not only contributes to improved delivery of patient care throughout the region, but facilitates access to new revenue sources and subsequent reimbursement.

The Agfa HealthCare solution supports the needs of the technologist as well as the radiologist. Mammography technologists are able to use workstations in each procedure room to view annotated images, which says Doria, “considerably improves exam quality by helping technologists be more knowledgeable and efficient when acquiring required special or additional views. Unlike some that focus on workflow improvement from a post-exam, medical or administrative perspective, Agfa HealthCare was diligent in including the technologist’s contribution as part of its overall enhancement plans.”

Agfa HealthCare and MMC’s Radiology Department cooperated closely on all aspects of the conversion. “We even had an ergonomic specialist shadow a breast imaging radiologist for a day evaluating where and how to place workstations, monitors, chairs and footrests to minimize neck and wrist pain, eye strain and similar issues. Reading mammograms is very different than imaging from other modalities,” says Dr. Pietras. Workstation displays were adjusted to accommodate the key ergonomic learnings. On the IT side, Zabrocki says: “Physicians and radiologists are very savvy workstation users, and they advised us and Agfa HealthCare on a wide range of issues. For example, while the workstation comes with a programmable mouse with memorized commands, Agfa HealthCare was able to map it to the needs specified by each user.” Agfa HealthCare also assigned a manager to oversee the

integration throughout the transition, and for staff training, they had the same person conduct all instruction at each site for continuity.

Other successful PACS integrations involved Agfa HealthCare’s IMPAX Radiology Information System (RIS) used throughout the radiology department, and even distributing FFDM images through Agfa HealthCare’s web-based PACS system, providing referring physicians secure access to high quality diagnostic images using a DICOM-compatible computer or workstation. “Overall service to patients and referring physicians is significantly improved now that tasks like callback coordination, archiving, report integration and other major mammography components are available on all workstations unified on the IMPAX network,” says Doria. “Because we work faster and smarter on IMPAX display stations, next day appointments are now routinely available, as are expedient online, interactive reviews of images and data within the hospital and between sites.” A significant improvement in mammographic report turnaround time has resulted from the radiologist efficiency generated from IMPAX PACS and the integration of the Breast Imaging Review Station. Duffy says: “Since the implementation of FFDM with a fully integrated IMPAX Breast Imaging Review Station, the time for a completed report to reach the attending doctor has been reduced by nearly half.” •

DID YOU KNOW...

- » Screening mammography’s contribution to women’s health has only recently been acknowledged. Screening mammograms were first shown to save lives in research published in 1967.
- » A prominent news magazine this year named MMC as among the best hospitals in the United States for heart care and orthopedics. Its Barbara Bush Children’s Hospitals is one of the nation’s top 25 facilities of its kind.

DUBAI INSIGHTS

SCALABLE GROWTH

Burj Dubai is a supertall skyscraper under construction in the Business Bay district of Dubai, and is the tallest man-made structure ever built, despite being incomplete. Construction began in 2004 and is expected to be completed and ready for occupation in September 2009. The projected final height of Burj Dubai is officially being kept a secret due to competition from other buildings under construction or proposed. However, figures released by a contractor on the project have suggested a height of around 818m.



REDUCED X-RAY DOSES AND IMPROVED NEONATOLOGY IMAGING PROCESS IN BELGIAN HOSPITAL

Higher quality images and a 30% reduction in radiation doses

INTERVIEWEE Dr. Léon Rausin, Pediatric Radiologist, Head of the Radiology Department

HOSPITAL Citadelle Regional Hospital, Liège, Belgium

Citadelle Regional Hospital in Liège is equipped with a high-tech neonatology unit. The hospital chose Agfa HealthCare because it was offering the solution that it determined was best suited to pediatric radiology: the DX-S Computed Radiography (CR) system and the MUSICA²® image processing software. The pediatric radiologists now benefit from high quality images obtained with a considerable radiation dose reduction.

SPECIAL REQUIREMENTS REGARDING DOSE AND IMAGE QUALITY

Citadelle Hospital's Radiology Department employs 25 doctors, three of whom are pediatric radiologists. "Pediatric radiology is one of the hospital's central preoccupations, as the Pediatric Department has university beds," explains Dr. Léon Rausin, Head of the Radiology Department. In 2007, the Radiology Department saw 160,000 patients, 15% to 20% of whom were children. Neonatology performs 10 to 12 exams a day, 7 days a week. Citadelle Hospital has been an Agfa HealthCare customer for many years. "We have a very close relationship with Agfa HealthCare, so we continued to place our trust in them when we switched over to computed radiography. We like working with them for various reasons. First, we have an excellent relationship with the company. Second, we have performed quality surveys, and the DX-S CR system seems to be very promising." The hospital also chose Agfa HealthCare for financial reasons, as they were offering the best solutions at the most reasonable price. "Once we had made the choice, we had to review the entire system for neonatology. DX-S was perfectly set up for adult and child radiography, but not for neonatology," explains Dr. Rausin. The Citadelle team therefore calibrated the system for premature neonates, with the assistance of Agfa HealthCare. Dr. Rausin explains that this adjustment was very delicate. "We had to balance both quality and radiation requirements, because we have neonates weighing down to 0.5 to

"Compared to standard radiography, the DX-S CR system for neonatology has enabled us to make a 30% saving on radiation doses. This is the most important benefit. The second aspect relates to quality of service: we can now monitor disease progression carefully from one hour to the next if need be."

Dr. Léon Rausin, Pediatric Radiologist, Head of the Radiology Department



1 kg who undergo up to 3 X-rays per day. You can imagine the kind of dose that they end up receiving: it's not enormous, but it's nonetheless a worry for us." Compared to standard radiography, DX-S equipment uses around 30% less radiation, which is a fairly significant saving.

SIGNIFICANT QUALITY IMPROVEMENT WITH MUSICA² IN NEONATOLOGY

Citadelle Hospital has two DX-S CR systems: the first was installed in 2007 in the Pediatric Radiology Department. The second, which has been operational since last September, is reserved exclusively for neonatology. After just one month of using the DX-S CR system, the radiologists could see a major difference in the quality of the images given to the neonatologists. Images can be viewed on the workstation in the pediatric radiology unit and will soon be available on doctors' personal computers. An additional benefit is the system's MUSICA² enhancement software, which provides consistently reliable and better image visualization. It automatically optimizes processing and as such minimizes re- or post-processing.

VALUABLE SUPPORT OF WORK PROCESSES

The DX-S CR system enables doctors to make valuable time savings. "For doctors' day-to-day work, it represents an amazing transformation as we can now view images and process them with the various tools on a workstation. But above all, and most importantly, we can compare the images on a linear basis. It completely changes our way of working and considerably improves the efficiency of our workflow," says Dr. Rausin. Finally, the DX-S CR system does not require time-consuming staff training because it is very user-friendly. •

CITADELLE REGIONAL HOSPITAL, LIEGE:

Public hospital with 990 beds on-site. Three peripheral sites, bringing the number of beds to 1,400. **CHALLENGE:** Calibrate Agfa HealthCare's DX-S CR system for neonatology. **SOLUTIONS:** DX-S, PACS and MUSICA². **BENEFITS:** 30% dose reduction. High quality images. Time savings for doctors.

AGFA HEALTHCARE DELIVERS 34 ADVANCED CR SOLUTIONS AND DRYSTAR IMAGERS TO NEW REGIONAL HOSPITALS IN KINGDOM OF SAUDI ARABIA

New solutions to support local healthcare requirements for the Ministry of Health hospitals across the nation

INTERVIEWEE Mr. Ayham H. Al-Soued, Executive Manager, Yousef Ahmed Al-Gosaibi & Partners Co. Ltd.

INSTITUTION Regional Hospitals, Kingdom of Saudi Arabia

Agfa HealthCare, through its dealer Yousef Ahmed Al-Gosaibi & Partners, is currently installing CR 30-X systems with DRYSTAR™ 5302 imagers at 34 regional hospitals in the Kingdom of Saudi Arabia. The solutions will support the Ministry of Health's newly built regional hospitals, enabling these to digitize and print diagnostic images for each respective radiology department. The newly constructed regional hospitals are part of a drive by the Ministry to offer improved and efficient healthcare to more remote regions in the Kingdom. Apart from providing world class healthcare to the regional inhabitants, the hospitals will also cater to a large nomadic population in those areas. The Computed Radiography (CR) solutions will support two radiology rooms per hospital.

Agfa HealthCare's multi-application CR 30-X is a desktop, compact and convenient CR solution which is easy to install, use and maintain. The CR 30-X provides clinicians with a high quality, efficient and economical analog to digital solution, ideally suited for the smaller X-ray facilities such as satellite units, orthopedic facilities, chiropractors, and so forth.

Agfa HealthCare's DRYSTAR 5302 is a tabletop, multi-format imager and designed for a decentralized workflow. The unit's small footprint means that convenient next-to-application installation is possible in even the most space-restricted environments. Despite its compact size, DRYSTAR 5302 features two media sizes on-line, with 5 media sizes available.

The introduction of the new CR and imager units marks a next step in an overall successful history in Saudi Arabia. To date, Agfa HealthCare has nearly 100 CR units installed in the country. The company was also one of the first to introduce a regional RIS/PACS (Radiology Information System/Picture Archiving and Communications System) solution in the market, connecting seven hospitals and five clinics in the Qassim region.

"We have been an active provider of CR, Imagers and RIS/PACS solutions in Saudi Arabia since 2000," comments Mr. Ayham H. Al-Soued, Executive Manager, Yousef Ahmed Al-Gosaibi

AGFA HEALTHCARE'S DRYSTAR 5302

- » Can be used in the most space restrictive environments.
- » Easy day-light loading.
- » Low total cost of ownership.
- » Direct Digital Imaging technology provides reliability and easy maintenance.

AGFA HEALTHCARE'S CONTRIBUTION

- » A reliable partner with expertise in hospital IT.
- A local team benefiting from strong international experience.
- Recognized experience in digital radiology and its integration.
- Technologies bringing quantifiable benefits for all users.
- Modular architecture provides transparent integration and solutions that can evolve with requirements.



& Partners Co. Ltd. "During that time we have grown to one of the largest providers of healthcare solutions in

AGFA HEALTHCARE'S CR 30-X

- » CR 30-X tabletop size and horizontal plate insertion suits it to any location.
- » High resolution imaging of 10 pixels/mm for all plate sizes available.
- » High-speed image capture and display – excellent throughput.
- » Ability to digitally enhance and manipulate imaging.

the Kingdom, something that makes us very proud. Our most recent success, to deliver new CR systems and imagers to the Ministry of Health's new regional hospital network was based on our strong track record, solid solutions portfolio and our high service and quality standards. This success is supported by the large amount of reference sites we are proud to serve."

Today, Agfa HealthCare also serves the RIS/PACS needs of four out of five King Fahd hospitals in Saudi Arabia. The hospitals,

The CR 30-X provides clinicians with a high quality analog to digital solution ideally suited for smaller X-ray facilities.

offering over 500 beds per location, are amongst the country's leading care facilities, serving the needs of the populations at large. These include the hospitals in Jeddah, El Baha, Buraidah and, most recently, the King Fahd hospital in Medina. •

our family portrait



Offering optimal images, and unique strengths and characteristics, our family of computed radiography systems are our pride and joy. The multi-application CR 35-X is enhanced by its incredibly small footprint. The athlete of the family, our "do everything" CR 85-X, has a unique 10-cassette drop-and-go buffer to support the most demanding radiology departments. Its sibling, the compact but powerful CR 30-X tabletop, facilitates smaller facilities to go digital smoothly without any compromise on image quality. While the talented DX-S redefines CR, supporting the toughest examinations in the most challenging environments with DR-like image quality and cassette flexibility. Of course, with our MUSICA² latest generation smart imaging processing and the NX User Station image identification and control tool, all can integrate with your facility's PACS, RIS and HIS for an economical and effective transition to digital. So, whatever your facility size or need, we can offer the right CR system. It's a family commitment you can count on.

www.agfa.com/healthcare

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AGFA 
HealthCare

A DIGITAL TRANSFORMATION

How Yemen is set to embrace digital healthcare

INTERVIEWEES Dr. Manar Al Saqqaf, Tenders and Project Manager, Natco-Al Razi Co. Ltd.; Mr. Abbas Bawazir, Tihama Tractors Inc.

As the Arabian Peninsula's second largest country in size and population, the Republic of Yemen has seen remarkable growth. One of the world's oldest centers of civilization, the country has today embraced modernity for the benefit of its people. With an estimated population of 23 million and one of the world's highest birth rates, Yemen's next challenge is healthcare. Significant progress has been made to expand national healthcare coverage to both rural and urban areas. However, challenges remain. Compared to its Gulf of Aden neighbors, Yemen's healthcare spending currently stands at 3.7% of gross domestic product (GDP). Ensuring that qualified staff are on hand to treat patients is also a priority for healthcare providers.

THE GROWING NEED FOR DIGITAL HEALTHCARE

According to one medical professional, Yemen's healthcare providers realized the potential for improving medical services

several years back. "Our specialists who studied and worked in Europe, America and the Gulf saw and experienced new ways of treatment, many of which were centered on digital solutions," explains Dr. Manar Al Saqqaf of Natco Al-Razi Co. Ltd., the top leading agency for medical equipments in Yemen.

"On their return to Yemen, these professionals constantly asked me what digital systems are available in Yemen, how much they cost and how I could support them. This interest in digital healthcare has today become mainstream in our hospitals and clinics, and I am expecting it to be widely used from this year on," he says.

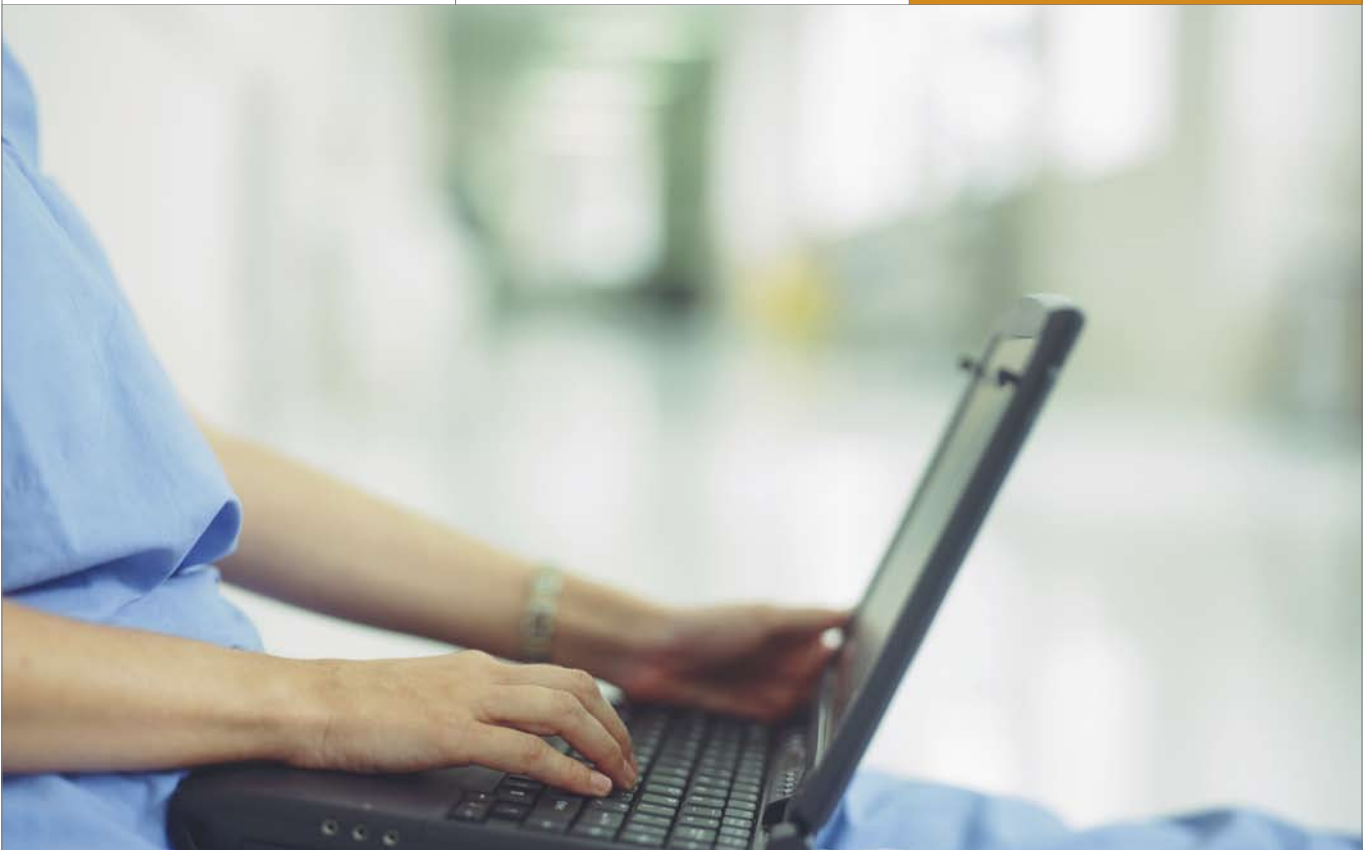
ENHANCED PATIENT CARE AND IMPROVED RETURN ON INVESTMENT

The transformation of Yemen's medical services can also be attributed to the rapid growth of information technology

amongst society, in particular Yemeni youth who make up over half the population. "Personal computers have become affordable and the technology has improved so much that over 30% of the population have a PC in their home. The telecommunications infrastructure is also improving, and is becoming easier and cheaper to use. Everyone here is going digital, be it at home or in the hospital," notes Mr. Abbas Bawazir of Tihama Tractors, one of the largest providers of medical supplies in the country.

"The telecommunications infrastructure is improving, and is becoming easier and cheaper to use. Everyone here is going digital, be it at home or in the hospital."

Mr. Abbas Bawazir,
Tihama Tractors Inc.



“The interest in digital healthcare has today become mainstream in our hospitals and clinics, and I am expecting it to be widely used from this year on.”

Dr. Manar Al Saqqaf, Tenders and Project Manager, Natco-Al Razi Co. Ltd.

Both Dr. Al Saqqaf and Mr. Bawazir believe that the digital shift is timely, both in terms of enhancing patient care as well as providing a better return on investment. “The hospitals that we have worked with are typically private and government-sectors run. They consider the costs, and their feedback is unanimous. They all tell me that the return on investment for digital systems is much higher than traditional methods, which can be more time-consuming and less convenient. Today, the number of patients in Yemen who are keeping the images and who are communicating with their doctors over the internet remarkably raised, especially in urban areas. For doctors, the shift to digital provides a better view and allows for making a more confident accurate diagnosis,” says Mr. Bawazir.

YEMEN INTERNATIONAL HOSPITAL IN TAIZ

The challenges of how to treat a geographically diverse population are illustrated by Yemen International Hospital. Located in the nation’s most populous city, Taiz, Yemen International Hospital is the largest medical facility in the South West of Yemen. Many patients have to travel several hours to reach the hospital. The hospital management turned to Natco Al Razi Co. Ltd. for help in raising service levels and providing up-to-date healthcare equipments to the hospital.

“We sat down with Yemen International Hospital and instantly saw that they needed digital systems if they were

“The response from the medical community so far to our and Agfa HealthCare’s education efforts has been very positive. We want to keep the momentum up and ensure that Yemen stays on the path of its digital transformation.”

Dr. Manar Al Saqqaf, Tenders and Project Manager, Natco-Al Razi Co. Ltd.



Yemen set out for healthcare transformation in order to meet the growing need for digital medical services.

going to reach out to patients living long distances away. They also saw the benefits of going digital in their installation of a 64-slice CT scanner and 1.5T MRI. The new equipment has had a big impact in improving diagnosis times as well as allowing patients to be treated at clinics nearer to home,” notes Dr. Al Saqqaf.

NEW POLICE HOSPITAL IN SANA’A

In Yemen’s capital, Sana’a, the new Police Hospital is taking a similar approach. Supported by Tihama Co. and Mr. Bawazir, the hospital’s administration opted for digital after their physicians realized the benefits of this modern medical technology. “Our own doctors were so impressed with the digital techniques they saw at various private hospitals in Sana’a that many have started to apply these practices in their own clinics,” explains Mr. Bawazir. “We transformed the new Police Hospital from analog to digital. On the clinical side, they have found they can treat much more effectively using digital, especially in the orthopedic ward, where staff can diagnose and treat patients more expeditiously and with greater confidence. On the administrative side

they have realized a great difference in terms of (lower) costs.”

AGFA HEALTHCARE AS A RELIABLE PARTNER

As Yemen’s digital transformation gains pace, one common factor is Agfa HealthCare. The two men are full of praise for the global digital healthcare provider. Says Mr. Bawazir, “Other companies in this field do not yet look upon Yemen as a digital country, as a nation that is ready for this technology. However, the way I see it, we are pioneers in the provision of digital imaging. We have several large private hospitals using Agfa HealthCare digital equipment, and we were the ones to introduce digital technology into the country. Today everyone is looking for digital solutions, and there is little competition to Agfa HealthCare.”

Adds Dr. Al Saqqaf, “We are often visited by Agfa HealthCare representatives, who inform us of new technologies and spread awareness amongst medical professionals through their marketing efforts. I would like to see our technicians and doctors visit more Agfa HealthCare sites internationally and locally. The response from the medical community so far to our and Agfa HealthCare’s education efforts has been very positive. We want to keep the momentum up and ensure that Yemen stays on the path of its digital transformation.” •

DUBAI INSIGHTS

HIGH QUALITY

The Burj Al Arab is a luxury hotel located in Dubai. At 321m, it is the tallest building used exclusively as a hotel. The Burj Al Arab stands on the Palm Jumeirah island and is connected to the mainland by a private curving bridge. The Burj Al Arab holds only 28 double-story floors which accommodate 202 bedroom suites. The smallest suite occupies an area of 169m², the largest covers 780m². It is one of the most expensive hotels in the world and characterizes itself as the world's only '7-star' property.



NATIONWIDE PACS STORES AND CONVEYS VAST AMOUNTS OF IMAGES AND DATA

Agfa HealthCare's technology and expertise link Estonia's medical centers and nearly 1,000 physicians

INTERVIEWEE Andrus Aavik, Board Member (Foundation of Estonian PACS), Head of Biomedical Department (Tartu University Hospital)

INSTITUTION Foundation of Estonian PACS, Tartu & Tallinn, Estonia

Estonia's two largest medical institutions, Tartu University Hospital, and North-Estonian Medical Center, are the foundation of a nationwide Picture Archiving and Communications System (PACS) serving 24 hospitals, 6 major medical centers, and nearly 1,000 private physician offices throughout the Baltic republic. Agfa HealthCare's IMPAX 6 PACS technology provides the backbone of this network, contributing to significantly improved patient throughput, higher image quality, and better service by Estonia's healthcare providers.

GROWING A DIGITAL NATION

In the mid-1990s, the Estonian government proactively established a telecommunications infrastructure throughout the country employing a 1 Gigabit (Gb) bandwidth capacity. Healthcare providers used this national high-speed network to link main and satellite facilities for voice and data exchanges. In 1999, an experimental multinational PACS was set up as part of the Baltic International Telemedicine Network (BitNet). Medical records and scanned films were sent between

a prominent Swedish hospital, four Estonian institutions, and hospitals in nearby Latvia and Lithuania to enable teleconsultation. Between 2001 and 2002, all independent Estonian hospitals were merged into one national group. At that time, Tartu University Hospital installed an IMPAX™ PACS from Agfa HealthCare. IMPAX provided the multi-modality capacity to bring all digital modalities to a single workflow and provide distributed image viewing throughout the 850-bed Tartu University Hospital, employing DICOM standards.

COUNTRYWIDE PACS

The nation's second largest hospital, 750-bed North-Estonian Medical Center in Tallinn soon installed its own IMPAX PACS. In 2006, the two institutions linked their PACS and servers using the high-speed telecommunications

"The ability of IMPAX to easily accept the output of numerous modalities, workstations and software is absolutely crucial to our success."

Andrus Aavik, Board Member (Foundation of Estonian PACS), Head of Biomedical Department (Tartu University Hospital)

FOUNDATION OF ESTONIAN PACS, TARTU & TALLINN, ESTONIA: 24 hospitals, 6 major medical centers. Nearly 1,000 private physician offices.

CHALLENGES: Centralization of patient images and data. **SOLUTION:** IMPAX 6 PACS.

BENEFITS: Improved patient throughput. Higher image quality. Better service by Estonia's healthcare providers.

network and made imaging available to other healthcare providers forming a countrywide PACS. Physicians use IMPAX' powerful viewer applications to search the main servers at either hospital for patient studies. Images and data can even be stored short-term on the computer or workstation's hard drive. The PACS network is today owned by a private, non-profit organization: the Foundation of Estonian PACS. This group is primarily funded by the two major hospitals, with individual hospitals and physicians providing funding based on an average use.

IMPAX INTEGRATION CRUCIAL TO SUCCESS

"The ability of IMPAX to easily accept the output of numerous digital modalities, workstations and software is crucial to the success of this effort," says Andrus Aavik, Board Member of the Foundation, and Head of the Biomedical Department, Tartu University Hospital. Aavik adds many Estonian hospitals and nearly all general practitioners using the Foundation's PACS now provide better service to patients. "First, whenever a patient changes doctors or moves to another part of the country, his or her medical information follows them digitally. Wherever there's a network workstation or one accessed via WEB1000, a doctor can have access to all necessary files." The system also improves overall image quality. "Putting all digital image files on a unified, national network encourages every practitioner to excel in their profession," concludes Aavik. •



BARCELONA'S QUIRÓN HOSPITAL OFFERS ITS PATIENTS THE VERY BEST IN DIAGNOSTIC IMAGING

With complementary CR and DR systems, the Radiology Department provides its patients fast, safe and reliable diagnostic imaging services whatever their particular needs may be

INTERVIEWEE Dr. Xavier Lucaya, Radiology Department CRC/Quirón Hospital
HOSPITAL Quirón Hospital, Barcelona, Spain

The new Quirón Hospital sits on a hill above the bustling city of Barcelona in a relatively quiet, but highly accessible, residential area. Designed by the renowned Catalan architect, Albert de Pineda, the hospital caters to privately insured patients, many of them VIPs such as players from FC Barcelona, and also accepts publicly insured patients. The 56,250-m² hospital is part of the Quirón Group, which includes several other private healthcare facilities throughout the country and is the premier private healthcare provider in Spain. In fact, the new Quirón Hospital is located only about 400 yards from the small original clinic built in 1943. In the 1970s, a large number of Catalan doctors had the opportunity to train in the US, and on their return to Spain, many of them joined the Quirón Group, thereby further enhancing its reputation for excellence in healthcare.

The Quirón Hospital today can boast of highly trained and professional staff, pleasant and efficient facilities, and the very best in technical equipment and laboratory facilities. The Barcelona hospital includes its own commercial center and cafeteria, 160 consultation offices, 11 physiotherapy cabinets, 252 beds, including 39 suites and 4 private VIP suites, in addition to a modern and highly efficient radiology department, which is centrally located on the ground floor in proximity to all other critical services.

CARE, COMFORT AND PRIVACY

Dr. Xavier Lucaya, Radiology Department CRC/Quirón Hospital, has worked at the Quirón Hospital for over 35 years specializing in pediatric radiology. He is understandably proud of the new, state-of-the-art radiology department and of the role Agfa HealthCare has played in its development and realization.

"I have always had a fantastic relationship with Agfa HealthCare. In addition to having very good solutions, the people at Agfa HealthCare are friendly, helpful and very professional," says Dr. Lucaya.

"When we were designing this radiology department, I talked with many technicians and they all advised me to have an Agfa HealthCare CR system along with a DR flat-panel system. The combination of Agfa HealthCare's DX-Si next to a DR system has been perfect for us."

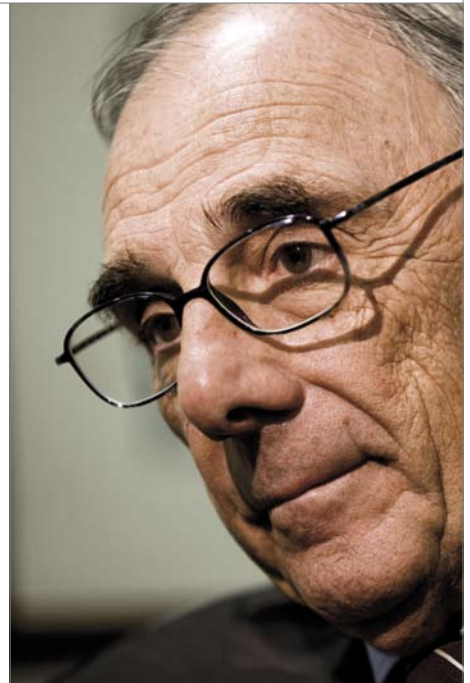
AT QUIRÓN HOSPITAL, CR AND DR WORK HAND-IN-HAND TO MEET EVERY DEMAND

"You have to understand that this hospital is also for VIP persons – such as politicians, movie stars, sports personalities, and so on – and they do not like to be kept waiting, nor do they even like to be seen in a hospital environment," says Dr. Lucaya. "That is why, when we had the opportunity to contribute to the design of the new radiology department, we made sure that both privacy and efficiency were given priority. I knew what I wanted, having visited several hospitals in the US and copied them a bit. I wanted 2 CTs, 2 MRIs, digital mammography, digital fluoroscopy, flat panel DR, a CR system and private waiting rooms."

At the Quirón Hospital, where all critical services are centralized, CR and DR really do complement one another.

AGFA HEALTHCARE'S CONTRIBUTION

DX-Si, a groundbreaking compact solution, designed for decentralized or in-room use for general radiography, pediatric and emergency environments.



"The throughput of our equipment is incredible and the reliability is impeccable – we have no down time. Every modern radiology department should work with digital radiology."

Dr. Xavier Lucaya,
Radiology Department CRC/Quirón Hospital

"They work together beautifully. The DX-Si system is both flexible in its use and it can be taken directly to the point-of-care. With a DR flat panel it is sometimes difficult to obtain a particular projection, but with Agfa HealthCare's system you can get projections that would otherwise be very complicated to obtain." This is particularly valuable in difficult situations such as ICU, OR, trauma and pediatric exams, where patient positioning is often complicated.

DID YOU KNOW...

- » With the DX-Si system, technologists can stay with the patient during the entire examination, which is of particular benefit to children, older or anxious patients.
- » Thanks to the DX-Si system technologists take measurably fewer steps throughout the day.

DOSE REDUCTION, FEWER REPEATS AND BETTER THROUGHPUT

“We are absolutely satisfied with the image quality too,” says Dr. Lucaya. “What is more, the throughput of our equipment is incredible. We used to have four units in the former conventional radiology unit at the old clinic, with around 30,000 exams a year. Here we have two units, with about 75,000 exams a year. The reliability is impeccable – we have no down time because we have six cassettes, so there is always a back-up cassette. Every modern radiology department should work with digital radiology.”

Another important factor is dose reduction, which can be significantly lowered. “Dose reduction is of paramount importance in pediatrics. It is now becoming an important issue in adult radiology too,” says Dr. Lucaya. “It is my firm conviction that doses must be brought down, and Agfa HealthCare is helping us do just that.” In addition, the repeat rates have decreased significantly since the new system has been in place at Quirón Hospital. “We take an exposure,” says Dr. Lucaya, “and we know it will be good technically. In the past, we had to repeat many exposures. However, if the patient holds still, we never have to repeat now. We are down from a repeat rate of 7 or 8% to around 1 to 2%.”

The level of patient satisfaction has also increased. “This is due not only to patient comfort in certain situations, but also because the DX-Si system is very fast, and the technician remains in the room with the patient.”

RADIOLOGY FOR TODAY AND TOMORROW

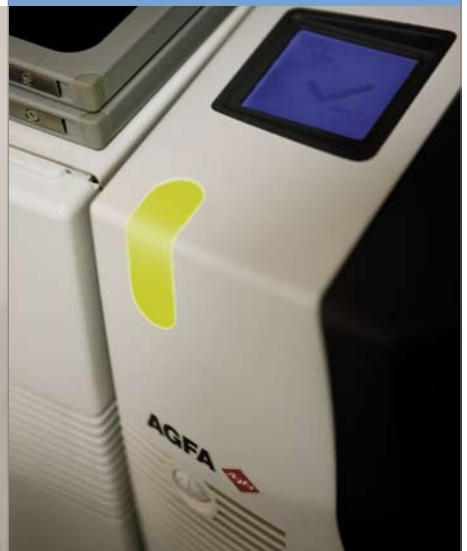
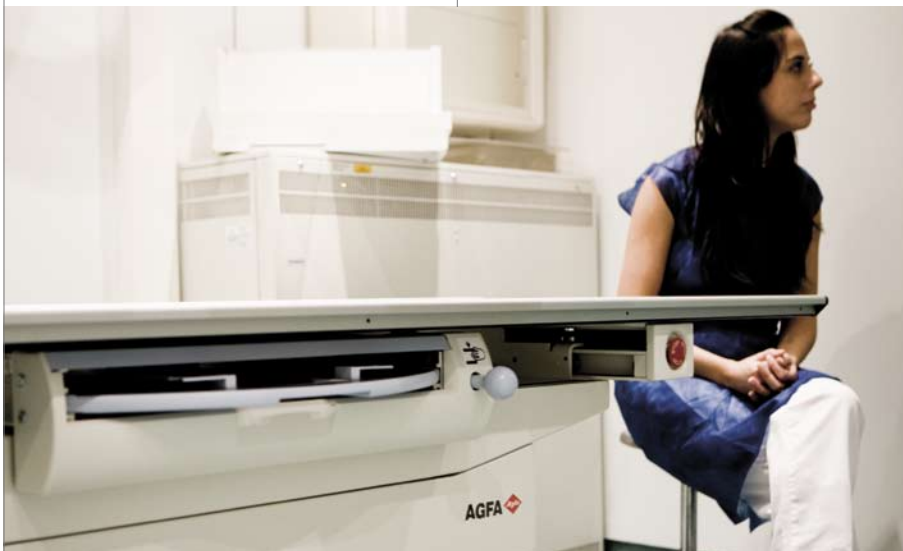
“Radiology has become a very complicated specialty today: people are very demanding, and the number of exams are going to increase in the future, augmenting the demand for radiology skills and techniques. In the past, if you had knee pain, the doctor would prescribe aspirin and tell you to come back in two weeks. Now you have an MRI (Magnetic Resonance Imaging) immediately, and you can see what is wrong. In retrospect, I realize how difficult it must have been for physicians to recognize diseases of internal structures only 25 years ago. Advances in diagnostic imaging have

really changed the practice of Medicine,” says Dr. Lucaya.

He is more than pleased with the Agfa HealthCare solution and with the considerable help and cooperation of the people at Agfa HealthCare as well. “For me, Agfa HealthCare is the past, the present and the future,” concludes Dr. Lucaya. •

DX-Si SYSTEM/MUSICA®/NX WORKSTATION

- » Compact DX-Si system designed to be placed near the patient, enhancing workflow flexibility while offering outstanding image quality.
- » MUSICA processing software provides reliable, outstanding image visualization with automatically optimized image processing.
- » NX intuitive CR workstation allows easy access to most common tasks with minimal mouse clicks, which enhances efficient workflow.



DUBAI INSIGHTS

SPEED

The former president of the UAE endorsed camel racing and provided financial support for citizens who are caretakers of camels. Camel races take place on an annual basis, mostly during the late October to early April racing season. The UAE has 15 racetracks across the country with spacious and well-kept stadiums for viewers. Race distances vary between 4 to 10 km and may include anywhere from 15 to 70 camels or more. Very successful racing camels are worth millions of dollars and the most coveted prize is winning the King's Cup in Dubai.



QUEBEC'S CHUM USES IMPAX TECHNOLOGY TO SPEED UP CRITICAL PATIENT CARE

Distributed teaching facility adds Cardiovascular Suite to further improve patient info access

INTERVIEWEE Dr. Patricia Santagata, Chief of Echocardiology
HOSPITAL Centre Hospitalier de l'Université de Montréal, Quebec, Canada

Quebec's Centre Hospitalier de l'Université de Montréal (CHUM) needed a more efficient way to access and store patient exams, while providing students with a tool that was easy to learn and operate. As a distributed facility, CHUM also wanted to decrease the delays and costs of sharing patient information. As a result it implemented Agfa HealthCare's digital radiology solution, IMPAX™. To extend the benefits to other departments, in 2007 CHUM upgraded its solution with Agfa HealthCare's Cardiovascular Suite.

PROVIDING SUPERIOR CARE AND INSTRUCTION

Located in the heart of Montréal, CHUM is leading the charge in adopting technology to provide superior care. An amalgamation of three hospitals (Notre-Dame, Hôpital St-Luc and Hôtel-Dieu), CHUM conducts more than 380,000 radiology exams per year, and acts as the primary teaching center for over 200 medical students. "CHUM is unique in Canada. Our primary focus is helping patients, but we are also a teaching hospital. We need to provide our students with the tools they require," says Lyne Marquis, Administrative Coordinator, Ambulatory Cardiology Center, CHUM. "We look for new technologies to help rationalize workflow and reporting, so we can spend more time with patients and students."

CONNECTING THE DOTS IN RADIOLOGY

Traditionally, CHUM captured and archived radiology and cardiology tests and images on VHS tapes and magnetic optical disks (MOD). Locating archived patient images was time-consuming. To transfer patient files from one CHUM hospital to another, documents were sent by courier or taxi, at a high cost and taking up much time. MODs were expensive: 250 made per year, at almost \$120 USD each.

In 2006, CHUM implemented Agfa HealthCare's IMPAX solution to solve the

ongoing problems. The central repository allows its radiologists to easily access patient files and imaging from different departments. IMPAX also allows remote reviewing and distribution of patient results, through secure web-based access from virtually any location, even beyond hospital firewalls.

"With the old archiving system, it was very difficult for us to find an exam. We had to search for the tape, find an available machine and pull up the image. IMPAX offers secure, central storage capabilities, allowing physicians to access images and files easily and immediately."



Dr. Patricia Santagata,
Chief of Echocardiology

POINT AND CLICK IN RADIOLOGY

Building on the success of the IMPAX implementation, CHUM added Agfa HealthCare's Cardiovascular Suite solution for echocardiology exams in 2007, giving cardiologists the same

CENTRE HOSPITALIER DE L'UNIVERSITÉ DE MONTRÉAL, QUEBEC: 3 hospitals. 1,000 beds.

CHALLENGES: Immediate and remote access to data. Tools for physicians and students. Rationalize reporting. **SOLUTIONS:** IMPAX. IMPAX Cardiovascular Suite. **BENEFITS:** Cost savings. Dictation turnaround time decreased by 45% and productivity increased by 27%. Reduced patient wait times.

'point and click' access to patient data. Technicians and students can pull up an image or test from any computer in the facility, keeping them up-to-date at all times. "Agfa HealthCare's system offers a structured reporting feature, while doctors can access previous files and images more easily," says Dr. Patricia Santagata, Chief of Echocardiology, CHUM. Agfa HealthCare's echocardiology solution allows cardiologists to move from paper reports to standardized electronic reports.

LOOKING AHEAD

CHUM is already reaping the benefits of its investment in advanced healthcare technology. After one year with IMPAX, dictation turnaround time decreased by 45% and productivity increased by 27%. The echocardiology system reduces patient wait times while creating a better learning environment for medical students. By implementing a digital environment, CHUM also saves money on the MODs and film.

Physicians have diagnostic information when and where it is needed for timely medical decision making, paving the way for improved operational efficiency, increased patient safety and greater patient care. In addition, Agfa HealthCare's suite of standards-based, vendor-neutral products provides CHUM with the IT platform it needs for future technology implementations. In June 2008, CHUM implemented Agfa HealthCare's Cardiac Catheterization lab. •

LEADING JORDANIAN HOSPITAL SUCCESSFULLY RUNS HIGH VOLUME IMAGE MANAGEMENT WITH PACS

King Hussein Military Hospital-Medical City uses IMPAX to manage over 20,000 patient image results per month

INTERVIEWEES Brigadier Gen. Dr. Elian Al Jboor, Chief of Radiographers; Brigadier Gen. Dr. Mohammed Hiari, MD FRCR, Senior Consultant Radiologist and Head of Radiology Department

HOSPITAL King Hussein Military Hospital-Medical City, Jordan

Established in 1973 as the King Hussein Medical Center, the Military Hospital-Medical City is one of the largest and most prestigious multidisciplinary medical institutions in Jordan, dedicated to providing the utmost in patient care and professional training. Today, the hospital is the central facility for a total of nine hospitals belonging to the DRMS (Directorate of Royal Medical Services), spread around the country. It counts 976 beds, 13 radiologists and 45 radiographers. In 2006 the King Hussein Military Hospital-Medical City installed Agfa HealthCare's IMPAX®, being the first hospital in the country to install a Picture Archiving and Communication System (PACS). Today IMPAX forms the backbone of the institution's radiology platform, enabling it to acquire, distribute and display data and images throughout the enterprise.

FROM ANALOG TO PACS

The King Hussein Military Hospital-Medical City includes the King Hussein Hospital, the Farah rehabilitation center, a nuclear medicine facility, the Queen Alia Heart Institute and the Queen Rania Pediatric Hospital. In 2005, the hospital decided to upgrade its radiology department with a move to PACS to meet the needs of its 20,000 radiology patients each month. Prior to this, the hospital was actively using classic film solutions to meet its diagnostic imaging needs. A key challenge was to ensure that all images from the hospital's 16 modalities, which included seven X-rays, three Computed Tomography (CT) scanners, three Magnetic Resonance Imaging (MRI) units, a Positron Emission Tomography (PET) system and two fluoroscopy units, could be integrated into a single PACS solution.



“The radiology department treats nearly 250,000 patients annually through our 16 modalities,” states Brigadier Gen. Dr. Mohammed Hiari, MD FRCR, Senior Consultant Radiologist and Head of Radiology Department at the King Hussein Military Hospital-Medical City. “That kind of volume required us to actively seek out solutions where we could manage and archive our images in a more efficient manner than stocking them in large filing rooms”. To meet these specific needs, the hospital appointed Agfa HealthCare as its PACS provider in 2005, with a view to ensuring that the solution was installed in 2006.

RELIABLE, EASY TO USE AND COST-EFFECTIVE

“One of our main concerns with the introduction of a PACS system into our facility was the fact that the hospital had, in general, very little background with these kinds of IT solutions”,

AGFA HEALTHCARE'S IMPAX PACS

- » Comprehensive, next-generation solution for managing patient data.
- » Web-deployable image and information management solution.
- » Streamlines workflow.
- » Delivers increased efficiency and productivity to hospitals of all sizes.
- » Seamless interface with wide range of non-Agfa HealthCare imaging support systems.

states Brigadier Gen. Dr. Mohammed Hiari. “We were worried that both physicians and technicians would reject the solution. Therefore we actively looked towards a company like Agfa HealthCare to implement PACS, not only in terms of the solution, but also to help us educate its users”.

As part of the agreement, Agfa HealthCare provided key user training across



“In terms of reliability, we also have a success story to tell. We chose Agfa HealthCare because they were able to ensure us that they would continue to provide us the best quality service we needed.”

Brigadier Gen. Dr. Elian Al Jboor,
Chief of Radiographers

the facility, allowing radiologist, radiographers and interns to become acquainted with IMPAX. “We were astonished to see that it only took two hours of training per user to enable them to actively perform tasks in the system,” adds Brigadier Gen. Dr. Elian Al Jboor, Chief of Radiographers at the King Hussein Military Hospital-Medical City. “It was amazing. We had also challenged Agfa HealthCare to deliver a solution that would allow us to obtain and manage the information with only one or two clicks, ensuring ease of use. The fact that the solution met that expectation also ensured its introduction, even with those who were skeptical at first. It was a complete success.”

A second key priority for the hospital was to save costs by reducing the total space required for archiving and improving the overall workflow efficiency. “We quite simply saved around \$350,000 USD per year after the introduction of PACS. This has allowed us to re-invest in other areas, enabling the department to grow and meet some of the most modern standards”, states Brigadier Gen. Dr. Elian Al Jboor. “As the only hospital with PACS in the market, we are very proud of our solution; it is a success story all around.”

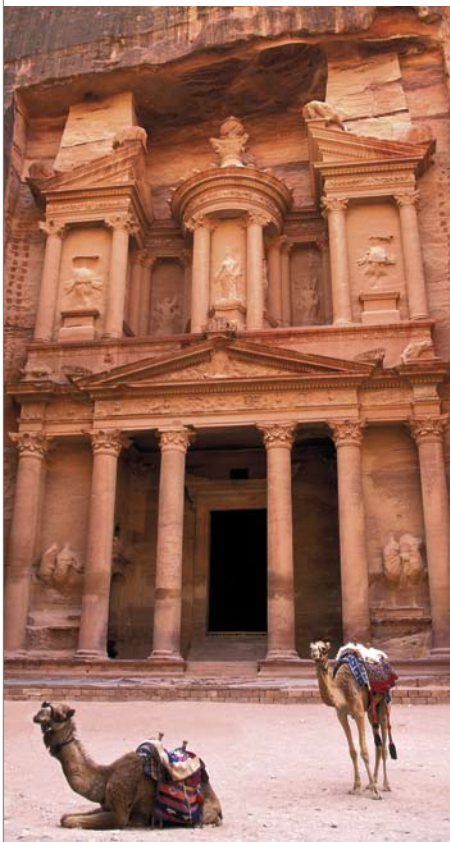
AGFA HEALTHCARE’S CONTRIBUTION

IMPAX Picture Archiving and Communication System (PACS) that optimizes the sharing, management and digital storage of images/information from any digital imaging modality.

He continues: “In terms of reliability, we also have a success story to tell. We chose Agfa HealthCare because they were able to ensure us that they would continue to provide us the best quality service we needed. And they have responded to this very effectively. Overall our down times are almost non-existent and when we have specific technical issues, the company provides us with rapid and efficient help, instantly and on site”.

IMPROVED PRODUCTIVITY, SATISFIED PATIENTS

The introduction of PACS has drastically improved the facilities’ overall workflow and, as a result, productivity. The solution has allowed the hospital to deliver reports within 24 hours, reducing the overall waiting times by two days. “All 20,000 studies per month are being reported on,” says Brigadier Gen. Dr. Mohammed Hiari. “We deliver our reports within the space of a single day, which is beneficial to both the clinician and the patient.”



The availability of digital images has also ensured the King Hussein Military Hospital-Medical City can offer its patients the best results, in the shortest period of time. “Overall we are now able to provide an excellent service to our patients, and especially chronic patients, who need immediate attention and require on-the-spot diagnoses. Reading has become easier and more efficient – a clear benefit for us.” Furthermore, as part of its service, the hospital provides each patient with a cd-rom of his or her images, which can be taken home with them.

“We only see positive results from the implementation of PACS in our hospital”, concludes Brigadier Gen. Dr. Elian Al Jboor. “Patient waiting times are down, productivity is up, and we are seeing clear savings and high rates of user satisfaction. In short, a success all round.” •

“Overall we are now able to provide an excellent service to our patients. Reading has become easier and more efficient – a clear benefit.”

Brigadier Gen. Dr. Mohammed Hiari, MD FRCC,
Senior Consultant Radiologist and Head of
Radiology Department



DID YOU KNOW...

- » The King Hussein Military Hospital-Medical City belongs to the DRMS. Other Jordan hospitals belonging to this group are the Prince Rashid Military Hospital, the Prince Hashim Military Hospital, the Queen Alia Military Hospital, the Princess Ashfeh complex, the Prince Ali Military Hospital, the Prince Zaid Military Hospital, the Princess Haya Military Hospital and the Queen Rania Pediatric Hospital.
- » The total number of beds at all DRMS sites is 2,418. Every year 675,000 studies are performed. The group counts 34 radiologists and 135 radiographers.

DUBAI INSIGHTS

JOURNEY

Public transport development and integration is a major component of Dubai's transport strategy with much hope being pinned on the fully automated Dubai Light Rail (DLR), a 72km light rail system for the city. The two lines and 41 stations, of which nine underground, will be completed by 2010.



A HOME RUN FOR ORTHO SUBSPECIALTIES AND SPORTS MEDICINE

Georgia-based healthcare group adopts scalable IMPAX technology for physicians' efficiency

INTERVIEWEE Dr. Stanley Dysart, one of Pinnacle's directors and leading physicians

INSTITUTION Pinnacle Orthopaedics & Sports Medicine, Georgia, US

Pinnacle Orthopaedics & Sports Medicine, a diagnostic and treatment group in Georgia, is a leader in the United States for advanced procedures such as total joint replacement, limb lengthening, synthetic bone grafts and other life-improving and life-saving practices. The physicians who research and implement these specialized advancements are among the most qualified and dedicated in the country. The organization often makes medical news for its innovative approaches and 'can do' attitude toward any kind of orthopedic problem.

THE DIGITAL LANDSCAPE

Nearly 57,000 imaging exams are conducted each year under the direction of Pinnacle physicians. Recently they implemented Agfa HealthCare's IMPAX™ Picture Archiving and Communications System (PACS), providing medical staff with digital tools to review, measure, plan and evaluate the results of a patient's treatment. In a comprehensive all-in-one workstation, they have rapid access to all patient images, as well as measurement, surgical planning and templating tools. "Advanced digital technology helps us do our jobs better and lets our patients know that we're a cutting edge organization," says Dr. Stanley Dysart, one of Pinnacle's directors and leading physicians. "There were several things we liked about the Agfa HealthCare portfolio. They produce state-of-the-art technology and they are a progressive, research-oriented organization dedicated to supporting its installed products even as new technologies come down the road."

The relationship goes back several years. Dr. Dysart recalls first surveying the digital landscape at the RSNA annual meeting in Chicago a few years ago and being impressed both with the customer support network and the strength of Agfa HealthCare's research and development. "We wanted to associate with a company that's going to be around for a long time," he says. "That's why we selected

Agfa HealthCare. As far as support is concerned, there is no avoiding the fact that even the best products will occasionally have technical issues, and we wanted to be confident that the technical assistance and collaboration was there. Agfa HealthCare has a large sales and support staff, and we know they'll always be there for us when we need them."

LOOKING AHEAD

"Agfa HealthCare's PACS solution is scalable, so our solution can grow with us," Dr. Dysart says. With IMPAX, Pinnacle has an image and information management system that's completely digitized and web-deployable among all of its sites, helping Dr. Dysart and his colleagues streamline their workflow, which in turn aids in timely and effective diagnosis and treatment.



"Agfa HealthCare's PACS solution is scalable, so our solution can grow with us."

Dr. Stanley Dysart,
one of Pinnacle's directors and leading physicians

PINNACLE ORTHOPAEDICS & SPORTS MEDICINE, GEORGIA:

Founded in 1997. Ten fully-staffed sites in 9 Georgia towns. Affiliated with 11 hospitals. Nearly 57,000 imaging exams annually. **CHALLENGES:** Access to digital tools to review, measure, plan and evaluate the results of a patient's treatment. **SOLUTION:** IMPAX PACS/CR/FLFS software. **BENEFITS:** Scalability. Cost reduction. Elimination of physician frustration.



EDUCATING PATIENTS

Dr. Dysart is a great proponent of the digital streaming technology that goes along with IMPAX. "I can sit with a laptop and show my patients the part of their body that we're diagnosing and treating. I can show them a virtual image of what we're going to do and how it will look afterwards. This is a huge advantage. Patients feel that we're doing everything we can to keep them totally informed of their situations, as well as our ability to diagnose and treat effectively. It is our job as physicians to educate our patients, and we can do that much better with a digital solution." Pinnacle acquires images using Agfa HealthCare's CR solution, a versatile, decentralized computed radiology digitizer. By using software designed specifically for full leg/full spine (FLFS) imaging, images are automatically assembled and misalignments are corrected with minimum manual interaction. This further improves the Pinnacle physicians' efficiency while providing them the high-quality diagnostic images they appreciate. •

NEW ENTERPRISE-WIDE PACS LINKS NUMEROUS MODALITIES AND REMOTE SITES AT NOTABLE OMAN MEDICAL CENTER

Agfa HealthCare's IMPAX 6.0 enhances both diagnostic imaging and treatment excellence at the Royal Army's Armed Forces Hospital

INTERVIEWEE K.B. Janardhan, Senior Manager, Healthcare IT, Imaging & Equipment, Ebin Rushed Pharmacy Co., LLC
HOSPITAL Armed Forces Hospital, Sultanate of Oman

Located on the Arabian Sea, Oman offers both citizens and visitors an attractive blend of deserts, mountains and beaches with all the modern comforts of a bustling metropolitan life. This includes the latest advantages in digital medical imaging that are now available to personnel associated with this nation's military, thanks to a close relationship between Agfa HealthCare and its Oman business partner, Ebin Rushed Pharmacy Co. The two have successfully collaborated to install and commission an enterprise-wide IMPAX™ 6.0 Picture Archiving and Communication System (PACS) from Agfa HealthCare at the main Armed Forces Hospital.

OPEN PACS ARCHITECTURE SUPPORTS PLANNED GROWTH

The system links the hospital's Computed Radiography (CR) systems with other modalities including Ultrasound (US) scanners, a Computed Tomography (CT) unit, an ortho-pantograph panoramic imaging unit, and will interface and support the hospital's newly ordered 64 Slice CT scanner, a 1.5 Tesla Magnetic Resonance Imaging (MRI) scanner and several Direct Radiography (DR) systems. Additionally, two remote medical sites are served by the IMPAX PACS.

Agfa HealthCare has also installed its Radiology Information System (RIS) with voice recognition software and integrated it with the facility's internal Hospital Information System (HIS), thereby permitting a superb, streamlined seamless workflow that helps reduce hardcopy printing.

The IMPAX PACS also provides Internet distribution of diagnostic quality images to physicians, as well as an integrated Electronic Patient Record (EPR) throughout the hospital.



MAIN HOSPITAL/SITES LINKED BY HIGH-SPEED FIBER OPTIC

The two remote Royal Army sites within Oman, the MAM Hospital and SAFTR Training Center, which processes new recruits including their initial medical examinations, use Agfa HealthCare's NX workstations to acquire, display and transmit images to the main hospital for diagnosis and results reporting.

The main PACS server and 5 terabyte Storage Area Network (SAN) as well as the associated digital storage devices, are located at the Armed Forces Hospital's centralized ITS center with robust fiber optic lines providing high speed connectivity between all modalities and remote sites.

Agfa HealthCare personnel and Ebin Rushed engineers worked closely with the hospital's physicians, clinicians and IT staff to gain a thorough understanding of the

AGFA HEALTHCARE'S IMPAX RIS/PACS

- » Supports a complete electronic healthcare workflow, including EPR of patient images, treatment data, demographics and other critical functions.
- » Interfaces with a hospital's current and future HIS.
- » Digitally managing all imaging functions boosts efficiency, improves workflow and increases productivity.

system This was successfully achieved through various training sessions, as well as through their on-site availability nearly full-time in the initial days following installation and deployment.

Additionally, an Armed Forces Hospital radiology technologist and a IT specialist were sent to a two week PACS administrator's course at an Agfa HealthCare training site in the UK.

AGFA HEALTHCARE'S NX WORKSTATION

- » Features intuitive interface on a simple touch screen.
- » Offers complete ease of use at the point-of-care.
- » Communicates seamlessly with PACS, RIS and HIS systems for improved interoperability.

Agfa HealthCare has a three-year maintenance contract for this system. Additionally, the company has just received additional orders from the hospital for multiple workstations as well as a DICOM projection theater. These technologies will enhance the diagnostic imaging functionality, patient service and staff productivity within this prestigious facility.

“A fully redundant disaster recovery remote site for the Armed Forces Hospital is also planned,” says K.B. Janardhan, Senior Manager of Healthcare IT, Imaging and Equipment at Ebin Rushed, “it will likely become a reality by the end of this year.”

“Other Oman medical institutions have shown keen interest in the Armed Forces Hospital PACS installation.”

K.B. Janardhan, Senior Manager,
Healthcare IT, Imaging & Equipment



FACILITY A SHOWCASE FOR OTHER PROJECTS

Other Oman medical institutions have shown keen interest in the Armed Forces Hospital PACS installation. Says Janardhan, “We have already brought various other interested parties here, including the Ministry of Health’s (MoH) Royal Oman Hospital, because this is currently the only working site in Oman with a fully integrated and functional RIS/PACS with voice recognition software.”

In addition, the Royal Oman Police Hospital has approached Ebin Rushed to upgrade its present departmental mini PACS to a full fledged enterprise-wide PACS with integration to its internal HIS. Finally, Janardhan says the MoH is planning to add a polyclinic mini PACS system in the near future. “We look forward to a continued and fruitful co-operation with Agfa HealthCare in Dubai and Belgium as we embark on even more ambitious projects in Oman,” he concludes. •

“We look forward to continued support from Agfa HealthCare in Dubai and Belgium as we embark on even more ambitious projects in Oman.”

K.B. Janardhan, Senior Manager,
Healthcare IT, Imaging & Equipment



DID YOU KNOW...

- » Before 1970, only three schools existed in Oman serving 1,000 students. After Sultan Qaboos Bin Al Said came to power, that number grew to 1,000 state schools with over a half million students enrolled.
- » Oman has invested heavily in a national health service, which the World Health Organization says will lead to universal health care access for all citizens within a generation.

Healthcare transformation

We'll take you there.

Your radiology department and your path to digital is unique. Yet, your goal to provide the highest level of care is shared worldwide. We know. Found in 1 of every 2 hospitals, Agfa HealthCare works alongside radiologists every day. Our systematic steps to integrated digital radiology allow you to advance at your own pace, without jeopardizing current systems or investments. This allows you to choose the solutions you want: advanced imaging systems, integrated RIS/PACS/Reporting, sophisticated data management, or integrated digital workflows for radiology, mammography, cardiology and the healthcare enterprise. So as you consider your chosen path, let our proven experience support your next step, and every step after that.

Learn more about our proven solutions. Visit www.agfa.com/healthcare.

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