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"Because all images are moved to IMPAX Data Center, our radiologists now have rapid access to prior studies done elsewhere and can access any study done anywhere."

Dr. Lynn Witherspoon,
System VP & CMIO

Ochsner Health System, New Orleans, Louisiana, USA

IMPAX Data Center and XERO technology help Louisiana Health System rebuild regional healthcare

After Hurricane Katrina, most healthcare facilities in and around New Orleans were shuttered. Ochsner Health System escaped significant damage and helped rebuild healthcare capacity in New Orleans, acquiring and integrating three beleaguered community hospitals into its delivery network in the process. Extension of Ochsner's digital radiography and PACS to these hospitals played an important role in their recoveries.
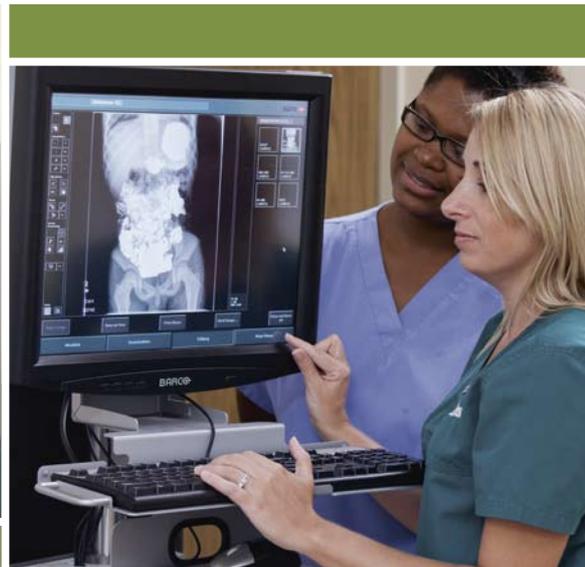
It was a 'worst case' scenario rarely seen in American history. New Orleans, one of the nation's most vibrant cities, was near ground zero for an assault by powerful Hurricane Katrina. The levees broke and the city was inundated. Katrina was responsible for the most substantial devastation of an American city since the 1906 San Francisco earthquake. Total property damage throughout southern Louisiana was estimated at $81 billion.

But Ochsner Health System and its main New Orleans site, 473-bed Ochsner Medical Center, survived thanks in part to being near the Mississippi River where flood waters rose only modestly. Other facilities were not so fortunate. In the storm's aftermath, only three of the city's dozen major facilities were able to immediately resume clinical activities. Six years later, four remain closed.

Ochsner Health System, Southeast Louisiana's largest non-profit healthcare delivery system eventually grew to 35 clinic sites and eight hospitals, doubling its delivery capacity in the six years following the storm.

Information technology focus proves valuable for service continuity after Katrina

"We've long viewed health information technology including our Electronic Health Record (EHR) and PACS as vital enablers of the high quality, cost-effective medicine we pride ourselves in," says Ochsner's System Vice President and Chief Medical Information Officer, Dr. Lynn Witherspoon.

Logically, after Katrina struck in late August, 2005, Ochsner Health System was immediately focused on extending its health information technology into the acquired community hospitals.

"Our HIS, EHR and IMPAX PACS systems were up and available to support patient care 48 hours after the storm, powered by the Ochsner Medical Center's generators and cooled by on-site wells," Dr. Witherspoon recalls. The region's power grid and other infrastructure were so badly damaged that the hospital had to be self-sufficient for more than a month thereafter.

By early the following year, the decision was made to expand the Health System through acquiring a critical access hospital south of New Orleans, then three other facilities within the city. Additional acquisitions in Baton Rouge and the North Shore of Lake Ponchartrain followed over the next several years.

"A contributing factor in those decisions was confidence in Information Services' ability to scale

Ochsner Health System, New Orleans, Louisiana, USA

Agfa HealthCare's contribution

- IMPAX Data Center Viewer, powered by XERO, an enterprise medical image viewer, allows clinicians to access patient information securely, independent of location, on a variety of browsers. It serves a key role in creating a longitudinal patient EHR, designed to store images and related information.

"The viewer has the attributes we wanted – referring clinicians can access images from IMPAX Data Center from the EHR workspace or from their browser."

Dr. Lynn Witherspoon, System VP & CMIO

IMPAX Data Center and XERO technology

- Enables point-of-care access to complete patient images and data
- Reduces costs by saving time; expediting patient care through increased productivity
- Doesn't require installation of client software
- Uses existing infrastructure to connect across traditional healthcare environments; not just PACS
- Works off any standard Internet browser/modest broadband connection

Ochsner core systems, creating a standard clinical care environment, staff consolidation, and cost savings," Dr. Witherspoon explains. "Access to patients' health records and medical images anywhere in the system was huge."

"Agfa HealthCare immediately reached out to Ochsner Health System after the storm to help us extend digital imaging capabilities into the acquired community hospitals," Dr. Witherspoon says. "They provided equipment, support, services – anything we needed – with just a handshake in those early post-Katrina days. Agfa HealthCare was there for us and for the citizens of our community."

An integrated EHR with data and images shared throughout a large community

With the successful aggregation of clinical data and clinical deployment of Ochsner's EHR prior to Katrina, enterprise image management seemed a natural next step. "The objective was to provide physicians point-of-care access to the longitudinal medical record including images from all radiology modalities as well as Nuclear Medicine, Cardiology, Obstetrics, Ophthalmology, and other imaging 'ologies'," Dr. Witherspoon says.

Early efforts to build a central image management platform had been unsuccessful, and further efforts to identify a partner for such a facility were interrupted by Hurricane Katrina. After PACS was deployed across the growing Health System, Ochsner returned once again to enterprise image management. Agfa HealthCare's recently developed IMPAX Data Center had by then been successfully deployed in Europe and was offered to Ochsner about 18 months after the storm. "We were impressed with Agfa HealthCare's performance after Katrina as well as their successful deployment of IMPAX Data Center in Europe," Dr. Witherspoon recalls. "It was the solution we were looking for; a means to aggregate all of any patient's medical images, no matter where collected in the system, and the capability to display them not just for radiologists but for any provider anywhere within Ochsner Health."

"We began building IMPAX Data Center in early 2008 and were quickly able to centralize images created in any of our regional IMPAX PACS instances. In addition, we have successfully included DICOM images from other sources including Cardiology, Ophthalmology, and Nuclear Medicine. Lessons from Katrina dictated that we include disaster tolerance in our plans and Agfa HealthCare provided a mirrored solution for both the database and the Storage Area Network (SAN). We installed the replicated database and storage facilities in a back-up data center remote from our main campus data facility," Dr. Witherspoon continues.

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Did you know …

- Images stored to IMPAX Data Center are immediately replicated to a redundant facility to provide disaster recovery assurance.
- Today's Ochsner Health System is divided into three regions: New Orleans; the communities across Lake Pontchartrain north of the city; and the City of Baton Rouge, the State of Louisiana's capital.

In addition to the expected cost reductions associated with eliminating traditional X-ray management, IMPAX Data Center also enabled Ochsner to better leverage radiologist resources. "Because all images are stored to IMPAX Data Center, our radiologists now have more rapid access to prior studies done elsewhere and can access any study done anywhere in the system on a near-real time basis," Dr. Witherspoon says. "Requiring specialists on-site everywhere to interpret Ultrasound, CT, MR, Nuclear Medicine, and other special studies is expensive and not realistically achievable across our growing system. Being able to process work from other regions both improved time to interpretation and reduced the number of radiologists we would otherwise require," he adds.

Successfully accessing images and data from remote locations

Finding a satisfactory image viewer proved a bit more illusive. Ochsner required that the viewer be accessible from the EHR or just a Web Browser with no additional software requirements. Additionally, the viewer needed to access IMPAX Data Center throughout all regional facilities. With a plethora of choices, Agfa HealthCare made its IMPAX Data Center Viewer powered by XERO available to Ochsner. "The viewer has the attributes we wanted – referring clinicians can access images from IMPAX Data Center either from within their EHR workspace or from their browser. The viewer uses the latest web technologies to render images in the browser and doesn't require any software to be installed on the workstation. And it behaves like a viewer should – clean user interface, fast, integrated images and reports, and it provides a good image manipulation tool set. We are in the process of replacing our old legacy PACS viewer in conjunction with our deployment of a new EHR," Dr. Witherspoon says.

Dr. Witherspoon cites the benefits of collaborating with a knowledgeable IT solutions provider. "Choosing the most appropriate IT and network solutions partner is critical, but in this case it came with a bonus. Agfa HealthCare not only provided excellent technology and solutions for our clinical image management needs, but they went the extra mile for us after Katrina. Their solutions support our mission to expand services throughout New Orleans and the surrounding region by growing our Health System," he says. •

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