

thought-leaders and experts in the fields of radiology and pathology, it was clear that the participants had reached a conclusion: The integration of technology is critical to advancing personalized medicine.

As the independent disciplines of laboratory diagnostics and medical imaging are bridged through IT solutions and collaborative efforts, healthcare is moving into a new era of streamlined workflows, improved clinical outcomes, and more affordable care. Vital information from multiple sources and multiple modalities will reside in one electronic patient report accessible by all physicians along the care continuum. The result will be earlier, quicker diagnoses and improved quality of life for patients.



The two days in Philadelphia were filled with lively discussions and interesting lecture sessions.

## Wired for Success

Susquehanna Health, located in North Central Pennsylvania, has an ambitious mission to create the healthiest region in the United States. It was named one of the nation's Most Wired Hospitals by *Hospital & Health Networks* magazine for eight consecutive years and partners with Siemens to help deliver high-quality care to its community.

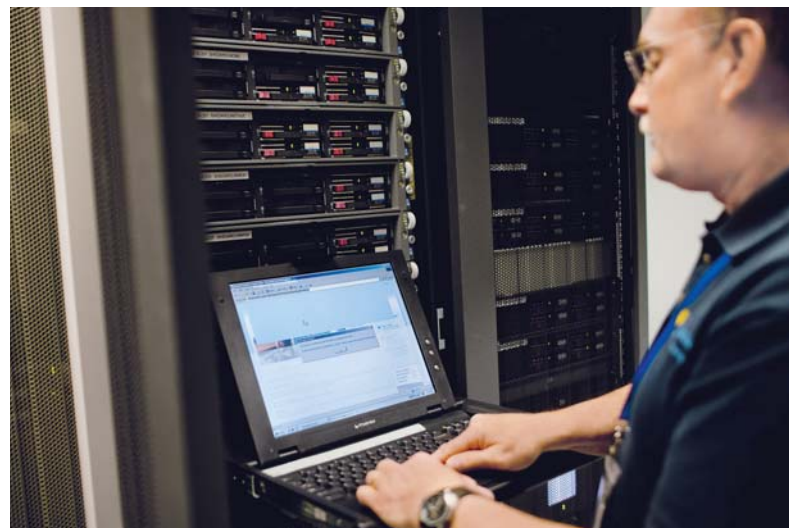
Susquehanna Health is a three-hospital health system comprising Divine Providence Hospital, Muncy Valley Hospital, and the Williamsport Hospital & Medical Center. Serving patients in an 11-county region, Susquehanna Health offers a broad array of services, including cardiovascular care and cancer treatment. From prevention and early detection to diagnosis, therapy, and follow-up care, Siemens technology is integrated throughout Susquehanna Health to offer patients a full spectrum of personalized care.

Susquehanna Health uses a strong health-care information technology (IT) platform to facilitate the integration of medical imaging with laboratory diagnostics throughout the facility. "Susquehanna has been a Siemens customer for over 30 years. We feel very strongly that Susquehanna should have one common platform for our IT, and Siemens was the vendor of choice for that whole endeavor," says Karen Armstrong, Senior Vice President and Chief Information Officer (CIO). "As the practice of medicine evolves and

becomes more complex, the need for a well-executed technology strategy is without question."

### The Power of Interoperability

As the first facility in the world to go live with both Soarian® Clinicals and Financials, Susquehanna Health realizes the power of interoperability to deliver advanced healthcare. According to George Manchester, MD, Executive Vice President and Chief Medical Officer (CMO) of Susquehanna Health, one of the primary



Results and reports from the imaging department (top) and the laboratory (middle) are stored and managed in the IT department (bottom) and made available to everybody involved in the patient-care process – when needed, where needed.

benefits of a hospital-wide integration of systems is the free flow of data and information between the different systems and components. "There are so many different data sources that you're looking at, and Siemens gives us the ability to access many different kinds of data and pull from many sources in an easily accessible manner," explains Manchester. Because Susquehanna Health houses a Siemens IT platform as well as Siemens imaging and lab technologies, having the Soarian workflow engine that can speak to all three of those applications really makes a huge difference, says Armstrong: "The workflows can help us with notifications to both physicians and nurses. It can create a lot of efficiencies and notifications throughout the entire system."

This integrated healthcare model allows physicians at Susquehanna Health to keep the patient at the center of care. "Healthcare is sometimes like a puzzle," says Manchester. "The IT infrastructure provided by Siemens allows us to put all the pieces on the table at one time and it gives us the best chance of coming up with the right picture."

### Measurable Results

Susquehanna Health was named one of the Best Places to Work in Pennsylvania for 2008. "We believe this honor is due in part to the implementation of Siemens technologies and we have the metrics to prove it," explains Armstrong. "We conduct regular physician surveys that show that with the implementation of technology applications, physicians' satisfaction with the hospital also increases." During the last three years, overall physician satisfaction with technology went from the 86<sup>th</sup> percentile to the 96<sup>th</sup> percentile, which directly corresponds to the installation of Siemens systems. Clinician access to lab/radiology information increased to 83 percent, compared to the industry average of 74 percent. According to Donald Leathers, MD, Medical Director of Laboratory Services and President of the Medical Staff at Susquehanna Health, "I know that the implementation and integration of these technologies has increased my ability to practice pathology

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Susquehanna Health, Williamsport, Pennsylvania, USA

## Summary

### Challenge:

- Offer compassionate care that is tailored to each patient
- Increase physician satisfaction and productivity
- Aggregate data and images from multiple sources

### Solution:

- All-Siemens imaging, lab, and IT
- Create disease-specific workflows
- Notifications based on practice protocols and policies

### Result:

- Quality patient care
- Streamlined processes and lower operational costs
- Faster and easier clinician access to patient information

efficiently and accurately, because it’s easier to make accurate diagnoses when you have all the information you need.” Additionally, notes Armstrong, after the picture archiving and communication system (PACS) implementation, radiologist productivity increased by nearly 40 percent.

An additional link between technology integration and better patient care is the fact that Susquehanna Health carries the Gold Seal of Approval from the Joint Commission for Primary Stroke Centers.

“We received this award largely because Soarian and the SOMATOM® Definition CT [computed tomography] system allows our physicians to treat stroke patients very quickly and efficiently, and time is a crucial element when it comes to diagnosing and treating stroke patients,” says Armstrong.

“I think one of the trends in healthcare right now is to do more with less and do it at a higher quality,” says Leathers. “Our relationship with Siemens has made us much more efficient, while at the same time maintaining or exceeding the quality that we had before.”

Susquehanna Health is currently conducting a study to evaluate the impact of IT implementation in the emergency department. Hospital administrators are looking for additional opportunities to expedite diagnosis, particularly in heart attack and stroke patients, where quick decisions are critical to care. The impact of IT implementation on patient satisfaction and patient outcomes will also be studied.

### On the Horizon

Although this community hospital system is already well positioned to provide patients with superior care, Susquehanna Health, supported by Siemens, continues its goal of fully integrated healthcare. The hospital system is in the process of completely upgrading and automating its laboratory operations. There are also plans to completely renovate, modernize and expand capacity for Susquehanna’s cath labs, including the addition of electrophysiology services. Additionally, Susquehanna and Siemens are collaborating on the construction of a new hospital tower. Dubbed Project 2012, the



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new facility will include Siemens imaging equipment, healthcare IT, automation technologies, energy efficiency equipment, and more.

“Susquehanna and Siemens share a common goal of delivering the best possible care,” says Armstrong. “An integrated system gives our healthcare team the information they need, when they need it, allowing our patients to be treated with the highest quality at every point along the care continuum.”

*Amy K. Erickson is a health and medical journalist based in Chicago, Illinois, USA. Her work has been published in numerous magazines including CURE and Nature Medicine. This is her fourth article for Medical Solutions.*

### Further Information

[www.siemens.com/answersforlife](http://www.siemens.com/answersforlife)

## A Holistic Approach to Integrated Healthcare

Siemens is the primary provider for IT, medical imaging, and laboratory diagnostic solutions for Susquehanna Health. These solutions include:

### Healthcare IT

Soarian® Clinicals, Soarian Financials, Clinical Access, Common Clinicals, Clinical Team, Med Administration Check (MAK), Soarian Revenue Cycle, Patient Access, Soarian Scheduling, Computerized Physician Order Entry (CPOE), Soarian Cardiology, Soarian Critical Care, Soarian HIM, Data Warehouse, Soarian Portal, NextGen EMR, SIGNATURE Practice Management System, Remote Access, Siemens OPENLink Integration Engine, Biometric Identification and Sign-on, Document Imaging, HDX, Groupware

### Radiology

syngo® Suite, syngo Dynamics (Cardiology), AXIOM® Multix, MAGNETOM® Espree, MAMMOMAT® Novation<sup>DR</sup>, SOMATOM® Definition, SOMATOM Emotion, UROSKOP® Access

### Lab

Novius® Lab, RAPIDPoint® 405 Automated Blood Gas Analyzers, RAPIDComm® Data Management Solution, ADVIA® 1200 and 1800, ADVIA Centaur® CP and XP Immunoassay Systems, ADVIA LabCell® Automation Solution, CentralLink Data Management Solution