

# The Future of Healthcare: Integrated Diagnostics

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**SIEMENS**



# The Future of Healthcare: Integrated Diagnostics

How Siemens technology improves workflow and keeps patients at the center of healthcare treatment.

**“Our relationship with Siemens is unique, unusual and unprecedented. We have never partnered with a vendor like Siemens. We know they will lead us into the future with a great deal of credibility and pride.”**

**Karen M. Armstrong,  
FACHE**

Senior Vice President/CIO  
Susquehanna Health  
Williamsport, Pa.

In 2000 Siemens embarked on a vision to help healthcare organizations not only place patients at the center of care but connect the entire care continuum—from prevention and early detection to diagnosis and therapy through ongoing care. As a first step, Siemens added healthcare information technology to its leading medical imaging equipment portfolio and began work to integrate these two areas.

Molecular imaging was later added to its core offerings, then in 2007 Siemens rounded out its vision by acquiring leading laboratory diagnostic companies, making it the first integrated healthcare company offering three major disciplines: medical imaging, laboratory diagnostics and healthcare IT.

By combining the three areas into a single portfolio, Siemens is positioned to advance the depth of integration and analytics necessary to improve the practice of medicine, while driving quality up and costs down in an era of increasing demand. This level of integration will provide hospitals and healthcare systems a comprehensive solution that improves workflow, patient outcomes and the overall quality of care, while enabling the delivery of patient care in a way that is personalized for each patient.

“Siemens has a unique vision that is very broad in spectrum regarding what healthcare can be in the future,” says Karen M. Armstrong, FACHE, senior vice president/CIO, Susquehanna Health, Williamsport, Pa. “They have considered how a patient

would track through a system and how a patient’s disease process could be diagnosed and treated. The vision of integration and interoperability among all the steps along the continuum is very important for an efficient process and for accuracy.”

An integrated technology portfolio will help healthcare providers shift their practice of medicine to be more proactive by allowing physicians, for example, to take informatics aggregated from different sources and a patient’s genetics into consideration when deciding what form of treatment to use. This approach enables personalized therapy because it is based on information that is unique to the patient. Ultimately, diseases can then be predicted in healthy individuals even before symptoms appear, and

therapies will be based on individualized treatment plans based on genetic makeup and how far a particular disease has progressed.

“Clinicians need to know unique information about the patient to provide personalized therapy, and this is where integrated diagnostics plays a key role in personalized medicine,” says Luis LaSalvia, MD, head of integrated diagnostics and market development, Siemens Healthcare Diagnostics.

“With molecular diagnostics, for example, when clinicians know the genotype of a particular disease, they can better care for patients with an appropriate course of treatment that takes genetic information into consideration. This kind of information integration will even go to the next level in the future.”

Susquehanna Health understands how important information integration combined with analytics is to improving the quality of patient care and to delivering individualized medicine. Sharing Siemens’ vision, it is well on the way to fully executing integrated healthcare. Susquehanna is now actively adding Siemens medical imaging solutions

and laboratory diagnostics, which include full lab automation, to its existing Siemens healthcare IT platform. By using a single vendor for all three disciplines, Susquehanna is working together with Siemens to create a sophisticated information system that integrates diagnostic information and bioinformatics to aid in clinical support and ultimately delivery of personalized medicine.

“From a CIO perspective, it is important for me to have a one-vendor approach to anything we do with information technology, but especially for the lab,” says Armstrong.

### The Future of Medicine

Integrated diagnostics is a topic that is top of mind for many clinicians who believe the future of medicine is headed toward a model where molecular medicine will lead to an earlier diagnosis. To take full advantage of integrated diagnostics, IT is a critical component. In addition to seamless access to clinical information, IT allows clinical decision support capabilities through data mining and data aggregation.

“If we push the limit of integrated diagnostics, and if we

can actually make decisions totally based on data evidence and use software to come up with that output, the clinician can review the potential negative and positive sides of treatment options,” says King Li, MD, chair, radiology, Methodist Hospital, Houston, who is a leader in molecular imaging research. “If we can do this, then we can actually change the way we practice medicine today.”

### Universal Benefits

The benefits of an integrated diagnostics solution that hospitals can experience are realized from patients to clinicians:

- **Patients:** They will be able to receive the most specific tests and procedures and receive therapies according to their particular health and disease state. This kind of healthcare delivery will result in more personalized treatment.
- **Hospitals:** With an increase in technology, hospitals will be able to improve workflows, which will lead to reduced errors, increased quality and lower costs. In addition,

there will be a clear point of competitive differentiation.

- **Clinicians:** If the system is more efficient, clinicians will have faster and easier access to the information and can produce better patient outcomes. They can make the optimal treatment decision sooner because they will have a complete diagnostic picture of the patient. They can treat disease and proactively manage patient care based on all the information they have from the whole patient experience.

From prevention to early detection to accurate diagnosis to personalized therapy and ongoing care, Siemens considers each phase of the healthcare continuum so it is integrated with a workflow oriented IT platform.

“With the big picture perspective that these systems can provide, healthcare delivery will be more efficient, patient outcomes improved and costs reduced,” says LaSalvia.

*For information, visit [www.siemens.com/integrated-diagnostics](http://www.siemens.com/integrated-diagnostics)*

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