

Newton Memorial Hospital Casts A High-Tech Net Across Three Counties



IT network upgrade helps hospital service growing population over 500 square miles

On an average day at Newton Memorial Hospital in Sussex County, NJ, patients may travel long distances one way to undergo a surgical procedure or to meet with a specialist. Even the staff and physicians who work at Newton hail from all over rural Sussex and northern Warren counties in New Jersey, along with Pike County in Pennsylvania. And for good reason.

Newton Memorial Hospital is the area's most prominent medical center, with 148 acute-care beds and more than 246 physicians practicing in 40+ specialties, from cardiology and nephrology to obstetrics and pediatrics. Newton will have spent over \$23 million upgrading its Emergency Room facility, and building a state-of-the-art cardiac catheterization lab. What's more, the hospital delivers excellent care in outlying areas with satellite wellness centers and cancer and dialysis facilities. Further expansion is planned to increase bed counts and add services.

Now, a recent overhaul of the facility's Hospital Information System (HIS) by Computer Design & Integration (CDI) of Teterboro, NJ is bringing Newton Memorial's doctors, staff and patients even closer together, despite the miles that often separate them.

Technology plays a key role in communicating patient care information between the hospital and the physician practices. "Our goal was to implement an IT infrastructure with the capacity, security, and scalability to handle our growth requirements for the next decade," says Mr. Michael Zegar, Vice President of Information Technology at Newton Memorial.

It was a goal that stemmed from a large-scale study of the hospital's infrastructure capabilities, which Mr. Zegar instituted on his arrival at Newton in early 2004. Faced with heightened HIPAA-related security requirements, along with community-identified needs for better, faster and more reliable access to medical information, he and his team began to examine the foundation upon which they'd need to build this new network.

The existing IT infrastructure was inadequate and could not support the strategic plan of Newton Memorial Hospital. With its buildings erected between 1932 and today, the hospital had little fiberoptic wiring and an inadequate capacity to communicate within its own walls or outside them. "We needed to design a framework, from the ground up, that would address our current needs and provide for future expansion," he further explains.

Newton Memorial Hospital's IT team tapped Computer Design & Integration to architect the complex solution. "I had heard of CDI's reputation for the integration of complex networks," Mr. Zegar recalls, having read and heard about how disruptive an IT migration could be. "I wanted to minimize that as much as possible here at Newton."

According to Anthony Ferrante, Associate Vice President at CDI, it's his team's exhaustive approach on the front end that allows for a smooth process on the back end. "Our team of engineers and solution architects are extremely thorough in their initial analysis of what is available and what's needed, so that we can come to the table with a comprehensive plan – with no 'question marks' – before the work even begins," Mr. Ferrante explains. "Also, CDI has partnerships with the world's top manufacturers, so we can design the solution that truly works for the customer, rather than just focusing on one particular manufacturer or product and trying to make it fit," he adds.

During the front-end analysis, Mr. Ferrante's team determined that the entire facility needed to be rewired with fiber, and that all of the switches needed to be replaced. In addition, the environment lacked redundancy, security, throughput power and flexibility for future technology. Mr. Ferrante and his team designed a Cisco-based solution to solve all of the institution's current needs, while laying the groundwork for future expansion.

Newton Memorial Hospital was very comfortable with the Cisco approach. The company is a frontrunner in the industry, and spends millions each year on R&D, so the hospital can be confident that their future network solutions can service their needs for future decades.

Newton Memorial Hospital found a solid comfort level in dealing with CDI. Mr. Zegar states that "Tony Ferrante and his team of highly experienced infrastructure engineers delivered a quality product on time and within budget. We have forged a business partnership, rather than simply a salesperson/customer relationship."

The first goal was the initial CDI-installed upgrade, and according to Eileen Griffiths, Director of IT, and Mr. Russell Richter, Network Manager, it was implemented exactly as planned. CDI installed fiber and Cisco major switches throughout the facility, along with redundant 6509s in two datacenters with failover capabilities, 3750s in the IT closets, Secure Session Lockout (SSL) technology, and a 1-gigabit backbone to handle the long-range plans for PACS (digital radiology) and IP Telephony. The hospital is now working on upgrades to its clinical and financial applications, along with the integration of wireless technology.

"Wireless is mission-critical to us, because it will allow our doctors to access patient data from any location in the hospital. Wireless will help to streamline the process by saving time for our physicians while improving patient satisfaction. That makes a big difference in the quality of care for patients, and in the ease with which our physicians can conduct their practice." Continuing, Mr. Zegar states "Our mission in IT is to implement technologies that will improve our service to our physicians, patients, and employees. When it all comes together it is gratifying to see the positive impact of all this technology in helping the people we work for and care for; that's what's really important."

Computer Design and Integration, LLC is a privately-held, infrastructure services company that combines innovative and comprehensive business solutions and service with experienced professionals to simplify the complexity of emerging technologies. Founded in 1995, and named to the VARBusiness 500 for five straight years, the company is one of the fastest-growing IT consulting firms in the Northeast. CDI offers complete solutions in Architectural Design, Business Continuity, Backup and Recovery, Managed Support, Operating Systems, Enterprise Management, Networking & Security, and Application Development. For more information, visit CDI on the web at www.cdillc.com.

Newton Memorial Hospital is a short term, acute care 148-bed hospital located in Northwestern New Jersey. Newton Memorial maintains a clinical affiliation with Morristown Memorial Hospital for referral of patients. Newton Memorial Hospital physicians represent more than 40 specialties and subspecialties. In addition, its consulting staff of physician-specialists includes cardiologists, endocrinologists, gastroenterologists, nephrologists, oncologists, orthopedists, pediatric neurologists, and reconstructive maxillofacial surgeons. NMH also offers a physician referral service that matches patients' healthcare needs with an NMH practitioner. Newton Memorial Hospital offers additional services including advanced diagnostics and treatments, laboratory and pathology services, The Center for Physical Medicine and Rehabilitation, and the Center for Mental Health.

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