

CASE STUDY:

PinnacleHealth

Toshiba Strategic Business Agreement Allows PinnacleHealth to Streamline Operations and Improve Workflow

SITUATION:

PinnacleHealth, a multisite health care provider in central Pennsylvania, looked to replace its imaging systems with more advanced technology during a recent expansion. With PinnacleHealth's current systems each using a different platform, staff members were limited to using only the systems they were trained on, making it difficult to work across systems or in multiple locations. PinnacleHealth required a single-source vendor with leading imaging equipment to increase diagnostic confidence and streamline workflow by offering a consistent imaging platform across all imaging systems.

SOLUTION:

PinnacleHealth selected Toshiba America Medical Systems as a strategic business partner and will purchase \$30 million of equipment over the next three to four years. Working with Toshiba, the only imaging vendor offering a consistent platform across all its imaging systems, PinnacleHealth staff members were trained to use the uniform platform, resulting in improved workflow and efficiency, with staff able to operate multiple systems across multiple

locations. Additionally, Toshiba's flexible service agreement allows PinnacleHealth to modify its service agreement as its needs change, using Pinnacle's in-house service team and calling on Toshiba's service team when outside help is needed.

BENEFITS:

- **More Choices to Meet Imaging Needs, Without Compromise:** Toshiba's comprehensive and diverse line of premium, patient-focused imaging systems enables PinnacleHealth to use the right imaging system to meet the needs of each department or location without sacrificing image quality, patient comfort or staff efficiency.
- **Improved Workflow Through Consistent Imaging Platform:** Toshiba's uniform imaging platform across all systems allows PinnacleHealth's staff to train on the Toshiba platform and work throughout multiple locations using multiple Toshiba systems without requiring additional training for each new system.
- **Streamlined, Rapid Technology to Quickly Diagnose Emergency Patients:** Toshiba's technology, including the RADREX™-i digital radiographic system and the Aquilion® ONE dynamic volume CT, allows for rapid

evaluation of emergency patients when time is of the essence, improving workflow and patient throughput in emergency settings.

- **Service Flexibility:** Toshiba's InTouch Flex Service Agreement allows PinnacleHealth to adjust its service agreement to meet its current needs, using Pinnacle's in-house team and Toshiba's service team as needed, providing the facility the utmost in flexibility.



PinnacleHealth in central Pennsylvania

PINNACLEHEALTH  **Proven.**



PinnacleHealth selected equipment, including Toshiba's Kalare, based on its ability not only to provide high-quality imaging, but also improve workflow and efficiency in emergency settings.

Ranked as one of *U.S. News and World Report's* best hospitals, PinnacleHealth in central Pennsylvania was expanding its operations and wanted to streamline its imaging equipment across all facilities to offer premium imaging equipment and improve workflow. As one of the largest health care providers in the region, PinnacleHealth's network includes four campuses, FamilyCare physician practices, home health and hospice services, FirstPlace urgent care center, outpatient surgery and imaging centers, inpatient and outpatient care, and an array of other health care services.

PinnacleHealth owned systems from multiple imaging vendors, all of which offer different operating platforms. This meant PinnacleHealth technologists and sonographers were limited to using only the systems they were trained to use and they could not work across multiple systems or in multiple locations without additional training. With more than 300,000 patient cases annually, PinnacleHealth also required premium technology to serve a range of imaging needs in order to diagnose a variety of conditions.

Finding a Partner, Not Just a Vendor

PinnacleHealth planned to use its expansion as an opportunity to replace its imaging systems with high-end imaging equipment using a consistent platform from a single-source vendor. By identifying one vendor to act as a true strategic partner, PinnacleHealth planned to streamline and improve imaging across the entire network while maintaining its high standards of care. Leading the search for a strategic imaging partner was Karen Botts, director of Imaging, PinnacleHealth.

"We needed a diagnostic imaging vendor who could offer leading technology using a consistent platform, but also a vendor to act as a partner through the planning and installation of the new equipment to ensure we were up and running from day one," explains Botts.

Another consideration PinnacleHealth faced in selecting the right partner was a flexible service agreement to accompany the equipment purchase. "In terms of service, we needed flexibility," explains Botts. "We have a strong in-house service team, so we didn't need a full-service agreement, but we still wanted to have support from the vendor's service team when we needed it."

After researching multiple vendors and visiting multiple imaging sites, PinnacleHealth selected Toshiba America Medical Systems and signed a strategic business agreement to acquire \$30 million of Toshiba equipment over the next three to four years. Toshiba met all of PinnacleHealth's criteria for providing advanced technology: a range of imaging options to meet their varying needs across multiple locations; a consistent platform used across all imaging systems; and the willingness to work side by side during the planning, installation and ongoing support of

the imaging systems. Toshiba was willing to create a flexible service agreement to meet PinnacleHealth's unique needs and ensure its imaging departments would operate smoothly.

Planning, Installation and Training

PinnacleHealth sought input from the hospital's staff regarding which equipment to purchase to best suit their needs. "Toshiba was very accommodating to all of our staff," says Botts. "The staff felt involved in the selection process, which created a sense of excitement toward using the new equipment. This boosted morale with imaging staff and helped them feel as valued as they are."

Under the agreement, PinnacleHealth initially purchased four Kalare™ X-ray systems; six RADREX™-i systems; two Infinix™-i machines; two T.RAD™ systems; two Vantage Atlas™ MR machines; two Vantage Titan™ MR systems; five Aplio™ ultrasound systems; one Aquilion® 16 CT system; two Aquilion 64 systems; one Aquilion ONE dynamic volume CT system; and one Aquilion Premium.

Shortly after the agreement was signed and equipment was selected, Toshiba and PinnacleHealth planned the installation and training. Toshiba conducted extensive training for PinnacleHealth staff members at the Toshiba Education Center in Irvine, Calif., and on-site at PinnacleHealth. "Training at the facility in California was very helpful for our staff, who were able to gain valuable knowledge of the Toshiba systems before they were used at our facility," says Botts. "This meant the staff members were ready to use the systems immediately after they were installed."

According to Botts, very few issues arose during the planning and installation process. However, on the rare occasion an issue occurred, Toshiba responded quickly. "We felt Toshiba listened to our concerns and acted upon them immediately," continues Botts. "They were always willing to draft an alternate plan or rearrange staff accordingly to meet our needs."

Since one aspect of selecting the right imaging partner included flexible service, PinnacleHealth and Toshiba worked together to create Toshiba's new InTouch Flex Service Agreement. The agreement is the first of its kind in the diagnostic imaging industry and allows PinnacleHealth to secure fixed pricing for both the full-service and partnership agreements at the point of purchase. After the initial warranty, PinnacleHealth has the flexibility to convert the agreement back and forth between a full-service security agreement and a partnership agreement, as needed. This flexible service approach enables PinnacleHealth

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— Karen Botts, director of Imaging, PinnacleHealth

to adapt service plans throughout the lifetime of the agreement to match its real-time needs.

Improving Efficiency in the Emergency Department

With nearly 90,000 projected patient visits annually to the Emergency Department (ED) over the next few years, PinnacleHealth selected equipment based on its ability not only to provide high-quality imaging, but also improve workflow and efficiency in emergency settings. One example is Toshiba's RADREX-i digital radiographic (DR) system, featuring a 600-pound table-weight limit, 600 KHU X-ray tube and an 80-kilowatt generator. The RADREX-i is designed for high-volume settings and enhances workflow through automated features and the RexView, a color LCD screen located on the overhead tube crane (OTC). This feature eliminates the need for the technologist to wait in the control room to check images. Instead, after the exposure, the technologist can immediately go back into the room with the patient and make a decision to accept or reject the image from the RexView screen. This feature provides tremendous benefit in emergency settings where time is of the essence and decisions must be made quickly.

"With the anticipated high volume of our emergency department, a DR system, like the RADREX-i, is helping us improve workflow and efficiency tremendously," explains Botts. "A DR system allows us to provide patients with a fast, accurate diagnosis by quickly displaying clear images without artifacts. With our previous computed radiography (CR) system, this streamlined approach wasn't possible."

Additionally, Toshiba's Aquilion ONE dynamic volume CT is helping to improve patient care in emergency settings by quickly diagnosing life-threatening conditions, like stroke. The Aquilion ONE's fast, comprehensive exam images stroke patients within minutes. Using 320 multi-detector rows, the Aquilion ONE captures up to 16 cm of anatomical coverage, enough to image the entire brain and show brain function and blood flow. This type of data is helping PinnacleHealth physicians detect if the patient

is having a stroke, the type of stroke and how much damage has been caused, in order to plan appropriate treatment. PinnacleHealth used this technology to receive a Joint Commission's Certificate of Distinction for Primary Stroke Centers accreditation, which requires centers to diagnose stroke within 45 minutes of patient arrival.

The Aquilion ONE features a 660-pound patient table, and is also being used to assess chest pain in the ED. The Aquilion ONE's ability to show the entire heart and image the surrounding areas allows physicians to quickly evaluate if the chest pain is caused by a condition in the heart or in another region. With a large majority of ED patients presenting with chest pain, quick and accurate evaluations of these patients improves treatment and patient throughput in the ED.

Advancing Patient Care and Efficiency Through The PinnacleHealth Network

PinnacleHealth has streamlined its operations and increased efficiency throughout its entire network using its suite of Toshiba systems. Previously, staff members were limited to performing patient exams on specific systems in designated locations. Now, with Toshiba's imaging systems, staff members are able to use all of the equipment, making the process of scheduling and performing exams more streamlined and efficient. Beyond the installation and training, Toshiba assisted PinnacleHealth in its marketing efforts to educate the surrounding community that it was now home to the most advanced imaging equipment in the region.

Toshiba's equipment has improved day-to-day imaging operations and allowed PinnacleHealth to begin a cardiac CTA program using the Aquilion CT line. With systems like Toshiba's Aquilion 64, Aquilion Premium and Aquilion ONE, PinnacleHealth is performing an average of 3,000 to 3,500 CT procedures monthly, 200–300 more than they used to without adding staff.

"Partnering with Toshiba has provided a tremendous benefit to our health care facility and its surrounding community," Botts says. "Not only did it help us streamline our operations and improve our workflow, Toshiba's cutting-edge technology is helping us serve the people who matter most – our patients."



The RADREX-i is designed for high-volume settings and enhances workflow through automated features and the RexView, a color LCD screen located on the overhead tube crane (OTC).



**TOSHIBA AMERICA
MEDICAL SYSTEMS, INC.**

2441 Michelle Drive, Tustin, CA 92780
(800) 421-1968
www.medical.toshiba.com
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