



Uncompromised value

Philips Diamond Select helps Milford Regional Medical Center add advanced Multislice CT capability

Who/where

Milford Regional Medical Center
Milford, Massachusetts, USA

Challenge

The community hospital wanted to replace their aging single-slice and four-slice CT systems with two state-of-the-art multislice systems. They were looking for faster acquisition times and advanced post processing packages available to help alleviate a growing CT patient back log and to expand their clinical capabilities into CTA, cardiac studies, and stroke assessment.

Solution

Philips Diamond Select Brilliance 40 CT, and a new Brilliance 64 CT with the Extended Brilliance Workspace.

Situated roughly 40 miles west of Boston, Massachusetts, Milford Regional Medical Center fills the role of a full-service, community and regional teaching hospital. Milford Regional serves a 20 town area in the south central portion of the state and is committed to preserving a community hospital environment, while at the same time providing the latest equipment and clinical capabilities for its patients.

According to Mrs. Linda Egan, Department Manager, Chief CT Technologist, and PACS Administrator for Milford Regional, “We want to be on the cutting edge. That’s true with everything the hospital does. We’re doing what we can, within our budget, to provide the best for the community. The fact that our patients don’t have to travel to Boston or the major centers to get the highest level of care is really helpful.”

The challenge

To maximize workflow and help keep pace with a growing patient volume, Milford Regional Medical Center needed to update their aging single-slice and four-slice CT scanners.

As Lead CT Technologist Donna Langeveld points out, the older CT systems had a number of limitations. “Scanning times were long and when patients had to hold their breath it was for extended periods of time. Reconstruction times were slow, post

processing was very complicated and time consuming, so we weren’t able to get through as many patients.”

Radiologists were also reluctant to use the single-slice system, feeling the technology was outdated and not delivering the results they needed. This contributed to a growing exam backlog for the hospital. Milford Regional was running outpatient exams until 10 p.m., because it couldn’t keep up with the increasing number of patients. “The time was right to replace our single-slice and four-slice CT systems,” says Mrs. Egan.

Faster acquisition speeds and advanced post processing capabilities associated with state-of-the-art multislice CT were their top priorities. They also wanted to greatly expand their clinical capabilities, with CT Angiography (CTA), cardiac studies and stroke assessment. Milford Regional needed to accomplish all this while staying within a limited budget.

PHILIPS

The solution

Originally Milford Regional felt that they would only be able to afford a new 64-slice system and perhaps a new 16-slice system. But the Philips representative understood the hospital's underlying desire to maximize their CT capabilities and proposed a refurbished 40-slice instead of a new 16-slice scanner.

"We're doing what we can, within our budget, to provide the best for the community"

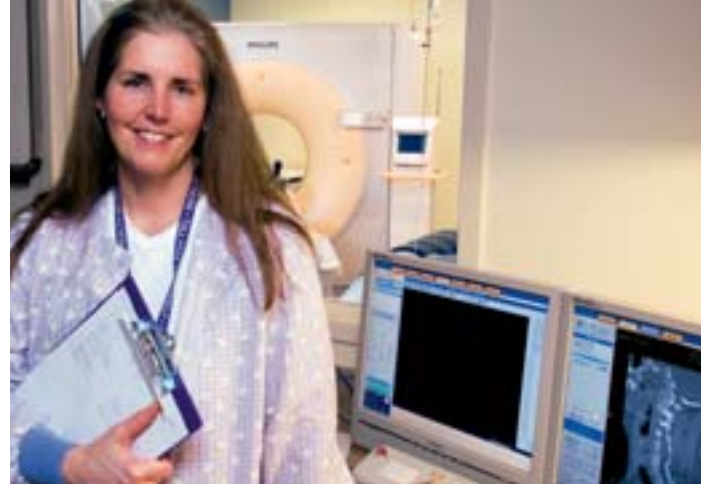
The hospital chose a refurbished Philips Diamond Select Brilliance 40, and a new Brilliance 64 channel scanner to replace its two existing CT scanners. Opting for the refurbished system turned out to be a key component of the decision, as it gave the hospital the flexibility to add a high level of CT performance for their patients and stay within budget.

The Philips Diamond Select program provides customers with an economical solution to their needs by offering reliable refurbished equipment. As the name suggests, only diamonds - reliable systems with a solid service history - are selected to undergo the thorough refurbishing process.

After disassembly, inspection and disinfection, all exterior parts of the system are repainted. Most importantly, all vacuum components - like the X-ray tube - are renewed to ensure excellent image quality, and the system is upgraded to the latest software level. All Diamond Select systems are sold with the same comprehensive Philips warranty and service found with new systems.

In the Diamond Select Brilliance 40, Milford Regional found a good balance between their

Mrs. Linda Egan,
Department Manager,
Chief CT Technologist,
and PACS Administrator
for Milford Regional



desire for advanced CT performance, and their insistence on having two scanners. "It really met our needs because as a community institution we could never have afforded to purchase two new high-end multislice CT scanners at the same time," says Mrs. Egan. According to her, many community hospitals only have one multislice CT, which means they have no CT capacity should that system need service. "Especially with trauma cases, which often come in unexpectedly, you always want to be sure that you have CT available. That's why we choose to have two scanners at this institution, on alternating service schedules, so we are never without CT capability."

Since the Diamond Select Brilliance 40 and the new Brilliance 64 share the same platform, the software and applications packages work on both systems.

"For us," says Mrs. Egan, "this was the way to go. Because of the dual purchase the majority of software packages that we would have had to purchase to use with the Brilliance 64 came as a special packaged deal with the Diamond Select Brilliance 40. We were able to get the software in a

single package. It represented a great value for us and saved a lot of money."

A new perspective on refurbished equipment

While acknowledging that many people have historically viewed pre-owned equipment skeptically, Milford Regional's Egan felt the Diamond Select system deserved serious consideration. The overriding criteria for her were the state of the technology and the value she was getting for the money.

"With used or refurbished equipment, you really have to ask yourself, is it going to meet my needs in three to five years?" she says.

Referring to their Brilliance 40, she adds, "This Diamond Select system is state-of-the-art. When the system rolled in the door, it was just like it rolled off the factory floor. Everything is like it came new out of the box. It meets our needs now, and in three to five years it will still be a highly functional CT. And if we want to upgrade the 40-slice to a 64-slice at some point, we can do that."

"Especially with trauma cases you always want to be sure that you have CT available"

Enjoying a new level of functionality and speed

Since the installation of both systems, Mrs. Egan notes a significant improvement in the CT workflow and a much higher degree of satisfaction from the radiologists. "It is amazing that because of the speed of these systems, now we can take pictures and even stop heart motion. We're able to come up with new and better ways to look at things we never thought we could look at before," she says. "We have a lot more options for manipulating the images, creating different views, and seeing around different structures than we used to. The physicians, even the clinicians, are really impressed by these systems. Pulmonary embolism, CTAs of the chest, carotid arteries, we can do all those studies much easier and much faster than before."

Patients also benefit from the two new multislice systems. According to Mrs. Langeveld, "We get them on and off the table quicker. If we're doing an abdomen or chest they don't have to hold their arms up over their heads as long. And breath holds are a lot shorter compared to the older systems. They used to be up to 20 - 30 seconds, and now we're down to 5 - 10 seconds tops."

The staff at Milford Regional is also impressed with the background reconstruction. The Diamond Select system came with an Extended Brilliance Workspace (EBW) which is described by Mrs. Egan as "a real productivity tool," permitting the technologists to concentrate more on their patients. "Physicians can use the EBW as a review station, or to do reconstructions, and in the meantime we can continue to get our patients through. The days when we had to wait for the

scanner to catch up are over." Having two high-end Philips CT scanners, the hospital's volume has grown tremendously. Currently they are completing over 2000 exams a month, and looking to increase to more than 100 exams a day.

"We are able to come up with new and better ways to look at things we never thought we could look at before"

Discussing other advantages of the new systems, Mrs. Egan points to multiple studies, such as neck, chest, abdomen, and pelvic CT performed on oncology patients. "The contrast boluses are reduced due to the speed on the machines," she says. "And you get much clearer, faster images, you can do many thin sections and create sagittals and coronals. The doctors can't

believe they are the same images they used to see. The pathology is a lot clearer." According to Mrs. Egan there's no difference in the image quality between the new and refurbished system. "In fact," she explains, "some of the radiologist ask us, 'Which system did this image come from?'"

Mrs. Langeveld notes the added flexibility she and the other techs now have in post processing with the data from an initial scan. Even when clinicians decide they need to focus on something different than the original area of interest. For example she says, "If the patient leaves after their scan, and the radiologist detects a lung nodule, we don't have to rescan the patient and expose them to additional radiation. We can just retroactively reconstruct the images, and make the images available for the radiologist to check for lung nodules."



Patients also benefit from the two new multislice systems

A future with expanded applications

One of the most exciting aspects of Milford Regional's new multislice CT capability is the greatly expanded range of applications they now plan to pursue for their patients. People are looking forward to taking full advantage of the speed and potential of the new scanners. High on that list of new applications will be more cardiac work. "Here at Milford we've never had cardiologists involvement with CT before, and now our cardiologists really want to get going with this new technology," says Mrs. Egan. "Since we are a certified stroke center within the state of Massachusetts, I'd also like to get the brain perfusion going so we can be more effective in assessing stroke patients and applying thrombolytics."

"Our cardiologists really want to get going with this new technology"

With these new applications in mind, Mrs. Langeveld points to another key advantage of having two high end multislice systems. "You can do cardiac work or brain perfusion on either system. If you had a 16-slice system you might have to say, 'well we can't do that study on this system. We can only do the cardiac work on the 64-slice system.' So now if a case comes in we can put it on whichever system is available. There's no waiting."



Advice to other community hospitals

After her recent experience with the Diamond Select Brilliance 40, Mrs. Egan is very enthusiastic about the value of the Philips Diamond Select program. "We've had no trouble with either of our scanners. If I look at both of them side by side, the new one and the Diamond Select, you would never know that one was refurbished. There's no difference," she says. In fact the response has been so positive she reports that the hospital is considering purchasing another Diamond Select CT scanner for their new, major cancer center which is currently under construction. "Diamond Select is a perfect name because it really is a diamond in the rough. You get your value. It is well worth the money that

you are spending for what you are getting. And it's state-of-the-art technology. I would recommend everyone to consider it."

Mrs. Egan believes having two high-end multislice scanners is directly in line with Milford Regional Medical Center's commitment to new technology. There is a fundamental drive to serve their community with faster more confident diagnoses, and greater care. "Not too many community hospitals have two multislice scanners, a 40 and 64," notes Mrs. Egan. "We're only a 126-bed hospital, but we have some pretty impressive equipment to help take care of our patients." She quickly adds, "After all, they deserve it."



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Philips Medical Systems is part of Royal Philips Electronics

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Printed in The Netherlands
4522 962 25861/728 * JUL 2007

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