A Vision Takes Shape at Saint Mary's Health Care

The Lacks Cancer Center Opens Its Doors

By Jan Andersen

Dr. Thomas Gribbin and his team at Saint Mary's Health Care in Grand Rapids have been resolutely pursuing a vision: to build a physical facility that would allow them to fully practice the comprehensive model of cancer care they have been developing for the past three years. In December 2004, that vision was realized when The Lacks Cancer Center at Saint Mary's officially opened its doors.

The building was designed and constructed around a model of care that acknowledges and embraces every aspect of a patient's life. At the heart of this model are coordination and collaboration: multiple services in one location, timely and convenient treatment planning, open interactions among collaborating specialists, and the integration of family and friends into the caregiving process. The model is driven by the recognition that patients are whole individuals who are em-

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The Lacks Cancer Center is the result of unprecedented generosity. Donors, employees, corporations, foundations and other funding partners joined forces to provide more than $42 million in philanthropic support for the 180,000-square-foot, five-story Lacks Cancer Center.

A Building to Transform Cancer Care

On February 7, 2005, the only dedicated comprehensive cancer hospital in western Michigan officially opened its doors. The Lacks Cancer Center at Saint Mary's Health Care in Grand Rapids is the state's newest state-of-the-art healing environment for cancer care, offering both inpatient and outpatient services.

The new facility was built to accommodate some of the latest healthcare technologies available, but its structure and all of its systems were designed with the needs of patients and families in mind.

The 180,000-square-foot, five-story building contains sun-filled hallways and guest-friendly inpatient rooms. A stunning art collection, natural materials like wood and stone, and subdued lighting all contribute to a peaceful environment. The top floor features an indoor conservatory and an outdoor rooftop garden with a labyrinth. The perimeter around the top of the building, one ninth of a mile, is ideal for year-round walking and exercise, with wide views of Grand Rapids to break up any monotony. The Warren Reynolds Library on the second floor is a community resource open to the public. On the first floor there is a one-stop Shoppe featuring professional services such as shaves, manicures, pedicures and skin care, along with turbans and wigs, swimsuits and prosthetics.

Each of the 42 private inpatient rooms is located within a few feet of a nursing station. The stations were designed by Steelcase specifically with The Lacks Cancer Center's model of care in mind. Lacks uses an electronic medical record, as well as CPOE (Computer Physician Order Entry) for medication orders. The computer systems are all wireless, and charting is done on computer at the bedside or at the point of care, rather than at a nursing station.

Four state-of-the-art operating suites were built oversized to accommodate the installation of future technologies still in development. Materials like jointless Corian walls were used to make the ORs easy to maintain.

The Lacks Cancer Center was designed to be Michigan's first "green" hospital — a facility that meets the requirements of the Leadership in Energy and Environmental Design (LEED) Green Building Rating System® of the United States Green Building Council. LEED provides a set of national standards for environmental certification, with a complete framework for assessing building performance and sustainability. It emphasizes strategies for sustainable site development, water savings, energy efficiency, materials selection, recycling systems and indoor environmental quality. All of this creates a healthier environment, which further supports care for cancer patients.

The architect for the $42 million facility was Trinity Design of Farmington Hills. Construction was led by Triangle Associates, Inc., of Grand Rapids.

bedded in a broader social/spiritual context.

The Saint Mary's team has spent a significant amount of time developing working relationships that support the psychological, emotional, social and spiritual aspects of cancer care. They coordinate efforts with a wide range of local practitioners and service providers, including family medicine physicians, psychologists, clergy and spiritual leaders, integrative medicine practitioners from The Wege Institute at Saint Mary's, and regional hospice agencies.

Dr. Gribbin says, "Most of the time, someone with a cancer diagnosis needs to see at least a medical oncologist, a radiation oncologist and a surgeon. Coordination of care needs to happen quickly and early on. But until recently, that meant they might have to go to three different offices scattered around town. For someone who is very ill, this is logistically difficult and it drains their limited resources of time and energy.

"For the last three years we've been streamlining that process for outpatients," he says. "We've offered a wide range of cancer services in one location. But our capabilities didn't extend to inpatients. The creation of The Lacks Cancer Center means we can now offer these services to both inpatients and outpatients."

DESIGNED WITH THE PATIENT IN MIND

According to Dr. Gribbin, the new building was carefully designed with two things in mind: to provide the very latest in technology for diagnosis and treatment, and to assure the very best patient care experience possible. Every system, every piece of furniture and equipment, and all staff relationships were analyzed to reduce patient stress and enhance care. (See *A Building to Transform Cancer Care*.)

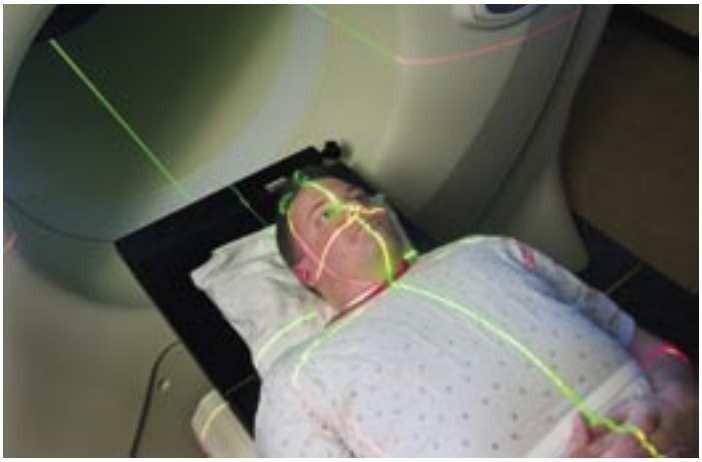
Dr. Gribbin says, "We looked at all the processes involved in the hospital and asked ourselves, 'How do we make the patient and the family welcome?' For example, how do you build a patient room that helps people eat, sleep, exercise and get better?"

They started with comfortable private rooms that are large enough to accommodate a family member staying with the patient. Windows are controlled from the patient's bed. There's a plasma screen on the wall with easy keyboard access to television, the Internet and movies. Patients and their families can eat together off china at a table in the room. There's a kitchen on the floor so meals can be ordered on demand 18 hours a day. The telephones are all speakerphones so family members who are off site can easily speak with everyone in the room.

The operating systems and care processes at Lacks reflect the same "patient and family come first" philosophy. For example, Dr. Gribbin says, "Sleep is critical to these patients and their families, so we protect a period of time at night when both the patient and the caregiver can sleep uninterrupted. If a patient has emergent needs, of course, we respond to that. But there's no routine reason someone should have blood drawn at 4 a.m."

Another process that has changed is nursing shift change. Reporting is done at the bedside using wireless computers for recordkeeping and note-taking. In the process, patients and family members are personally introduced to the next caregiver. They hear what the staff has in mind; they can immediately bring up questions and clarify treatment and diagnostic plans.

One of the most significant pieces of technology that enhances the



A patient being prepared for TomoTherapy® treatment. With TomoTherapy, a radiation oncologist sculpts precise radiation beams to hit hard-to-reach tumors. Built-in scanning confirms the shape and position of the tumor seconds before treatment begins and accounts for any patient movement.

Introducing TomoTherapy

One of the most exciting new technologies at The Lacks Cancer Center at Saint Mary's is the TomoTherapy Hi·Art System.® TomoTherapy is a new way to deliver radiation treatment. Using a sophisticated form of Intensity Modulated Radiation Therapy (IMRT), the equipment integrates treatment planning, patient positioning and treatment delivery in one system.

IMRT has been one of the most significant recent advances in radiation therapy. IMRT modulates the size, shape and strength of the radiation beam used in treatment — to focus a high enough dose on the tumor to kill the cancer cells while sparing as much of the surrounding healthy tissue as possible. There are different ways to accomplish this, but all forms of radiation therapy, including IMRT, suffer from a major drawback: the ability to deliver radiation with great precision is limited by the inability to locate the precise region that requires treatment each day.

TomoTherapy has solved this problem. It is the most sophisticated form of IMRT currently available. To begin, the physician uses 3-D images from a CT scanner to identify the precise contours of the tumor and any surrounding sensitive organs or structures. Once the acceptable level of radiation is determined, the TomoTherapy system calculates the appropriate pattern, position and intensity of the radiation beam to be delivered.

When it comes time for treatment, the patient makes two passes into the equipment. On the first pass, the system takes a special CT scan to verify the current position of the tumor and normal tissue, and make any final adjustments in the patient's position. The actual treatment occurs during the patient's second pass into the machine.

According to Dr. Tewfik Bichay, several clinical advantages led Saint Mary's Health Care to make a commitment to this cutting-edge technology. "From a safety point of view," he says, "TomoTherapy produces only one photon energy beam. This eliminates the possibility of accidentally irradiating a patient with the wrong photon energy beam. Also, TomoTherapy requires no heavy beam blocks and has no moving parts that come in contact with a patient. But most important," Bichay says, "TomoTherapy more accurately delivers the appropriate treatment dose to the tumor while limiting damage to surrounding healthy tissue and organs. We can now offer treatment options that haven't been available with any other technology."

Medical Director, Dr. Tom Gribbin, at a nurses' station on the inpatient unit. The unit houses 42 private patient rooms with a nursing station located between every two rooms.

Tim Fitzgerald, MD, director of surgical oncology, in one of four state-of-the-art surgical suites. Suites are unusually large, built to accommodate the installation of possible future technologies.

patient's care experience is one of the smallest. It's a patient tracking system that combines infrared and radio frequency technology. This electronic "tag" frees patients from their rooms. They can go anywhere in the building for as long as they like, and the nurses always know where they are. When it's time for medication or a treatment, a nurse comes to them.

MOVING AHEAD IN CLINICAL CARE

In creating The Lacks Cancer Center, Saint Mary's chose to leap ahead in terms of diagnostic and treatment devices and equipment, especially in the arena of radiation therapy. In addition to a 20-slice CT scanner and two state-of-the-art linear accelerators, the hospital purchased a TomoTherapy Hi·Art System,® at this writing the only unit in Michigan that is operational.

Tewfik Bichay, PhD, is director of medical physics at Lacks. He says, "TomoTherapy is an all-in-one system that eliminates the need for several other pieces of equipment. It combines the capabilities of a CT scanner and a high-energy linear accelerator." (See *Introducing TomoTherapy*.)

"Cancerous tissue is surrounded by normal, healthy tissue," he explains. "By its very nature, radiation therapy ends up being a process of treating not just the cancer, but the normal tissue to the maximum that tissue can tolerate. The more precisely you can shape your radiation field to the current cancerous tissue, the less surrounding normal tissue you destroy.

"Typically," Dr. Bichay continues, "a CT scanner is used to create the treatment plan and a linear accelerator is used for treatment. The appointments for these two processes might be days or weeks apart. When the patient comes back for treatment, the physical geometry has changed. The liver may have shifted or the spine isn't aligned exactly the way it was when he had the CT scan. So you have to build in buffers around your target to accommodate this shifting. When you build a bigger buffer, you're treating more normal tissue. The more normal tissue you treat, the lower the dose of radiation that tissue can take."

TomoTherapy has brought these two processes together. Bichay says, "With TomoTherapy, you combine better visualization of what's being treated with more accurate positioning of the radiation beam and better positioning of the patient. You need a smaller buffer so less normal tissue is treated, which leads to fewer side effects. This means you can put a higher dose into the target area, which means potentially a higher cure rate."

Active clinical use of TomoTherapy just started within the last two years, so there is little history to show which kinds of cancer will benefit most from this technology. The Lacks Cancer Center will be

Radiation oncologist Dr. Mike Wilkinson and radiation therapist Melissa Quinn with the center's 20-slice CT-SIM unit — only the second in North America.

Wireless technology allows medical staff to chart right at the patient's bedside using a computer on wheels. The Center also uses an electronic medical record system as well as CPOE (Computer Physician Order Entry) for medication orders.

one of the test sites to develop this history; it has been designated a TomoTherapy Center of Excellence by TomoTherapy, Inc. Dr. James Kane, medical director of Radiation Oncology, and Dr. Bichay both believe TomoTherapy will prove most useful in treating patients with spinal, cranial, abdominal, pelvic and prostate tumors, as well as patients who need retreatment for some cancers.

Along with the new physical facilities, Saint Mary's is expanding its physician specialty staff. Dr. Gribbin says, "We identified gaps in cancer expertise in Grand Rapids and have recruited new specialists to fill those gaps. We have hired a thoracic oncologist and a gynecological oncologist, and we are looking for an orthopedic oncologist.

"From my perspective," he says, "cancer care is only going to get better during the next five years. People who couldn't be treated before will have reason to hope, and more people are going to be cured. Our goal in this is to be at the absolute cutting edge in therapy and patient care for the people of West Michigan."

Thomas E. Gribbin, MD, is medical director of The Lacks Cancer Center at Saint Mary's Health Care and a member of the private practice, Cancer & Hematology Centers of Western Michigan, both located in Grand Rapids, MI. Dr. Gribbin, who is board-certified in oncology and hematology, completed his medical degree at the University of Illinois College of Medicine and his residency in internal medicine at the University of Illinois Hospital in Chicago. He completed his fellowship in hematology/oncology at The University of Michigan Hospital.

Tewfik J. Bichay, PhD, is director of medical physics at The Lacks Cancer Center at Saint Mary's. Dr. Bichay completed his MSc in radiation biology at Concordia University in Montreal, Quebec, and a PhD in medical biophysics at the University of Western Ontario in London, Ontario. Board-certified in radiation oncology physics, he completed the medical physics residency program at Ottawa Regional Cancer Center in Ottawa. ■

For More Information

To refer a patient or obtain more information about the services offered through The Lacks Cancer Center at Saint Mary's, contact:
Jeff White, Physician Relations Director
The Lacks Cancer Center
Saint Mary's Health Care
200 Jefferson, SE
Grand Rapids, MI 49503
Phone: (616) 752-6714
E-mail: whitej@trinity-health.org