SUMMER 2011

summamagazine

MORE THAN HEALING:

Today's Research and Innovation at Summa Improves Tomorrow's Patient Care

STEMI
Saving Time, Saving Lives

Summa Health System's Institutional Review Board

Improving Behavioral Healthcare

For more than 30 years, the Summa Foundation has worked to support research, medical education and special programs at Summa Health System. Through our focus on quality care, clinical research and urban health learning, Summa is also attracting the best medical talent and developing minds to improve patient outcomes and pioneer new medical technologies. The ripple effect of these efforts demonstrates Summa's strong commitment to the vitality and sustainability of our community.

SUMMA Foundation

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SUMMA MAGAZINE

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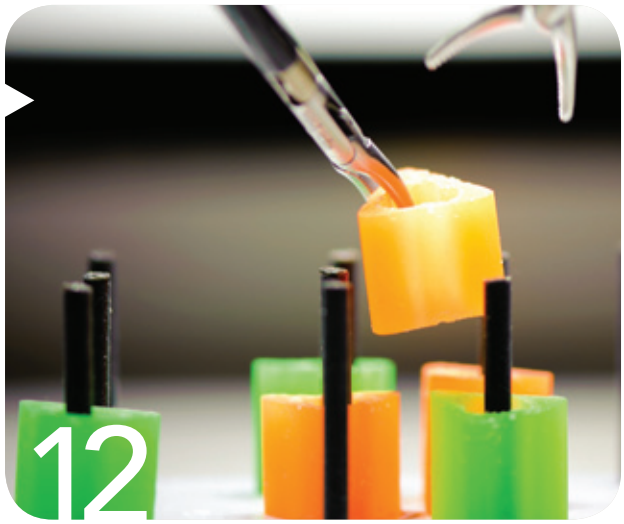
More Than Healing:
Today's Research and Innovation at Summa Improves Tomorrow's Patient Care

Research and innovation are the engines driving modern medicine to new heights at Summa Health System and throughout the world.

Fundamentals of Laparoscopic Surgery Trainer device in Summa Health System's Virtual Care Simulation Lab.



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inthisissue

Dear Friends,

Back in 1935, the All-American Soap Box Derby was still a fledgling event. Fifty-two cities held local races and sent their champions to Akron that year. This was the first time it was held in Akron, and only its second year of being a national competition. Graham McNamee, NBC's top radio sports broadcaster, was in town to cover the race along with his colleague Tom Manning.

Deciding to broadcast the finish of the race from the side of the track, McNamee and Manning were knocked to the ground when young racer Paul C. Brown of Oklahoma lost control of his derby car and hit them. McNamee suffered a concussion, landing him at Akron City Hospital for two weeks to recover.

All of this was caught on newsreels by three companies filming the race, and the wire services picked it up for the newspapers. Manning, whose injuries were minor, explained it all to the NBC listeners, according to the official soap box derby website. The mishap even garnered a mention in TIME magazine. The publicity from the accident generated more interest in the race and the following year's competition saw entrants from 117 cities and the first international racer.

Despite scandal and economic woes over the years, the 74th All-American Soap Box Derby will take place later this month and "25 Hill," a feature film about the derby by actor Corbin Bernsen, had its red-carpet premiere right here on Main Street.

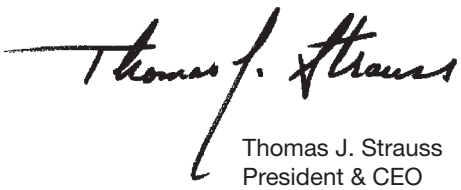
In 1935, a popular broadcast journalist impacted the course of Akron's soap box derby history.

Today, researchers at Summa Health System are working to impact the course of medical history.

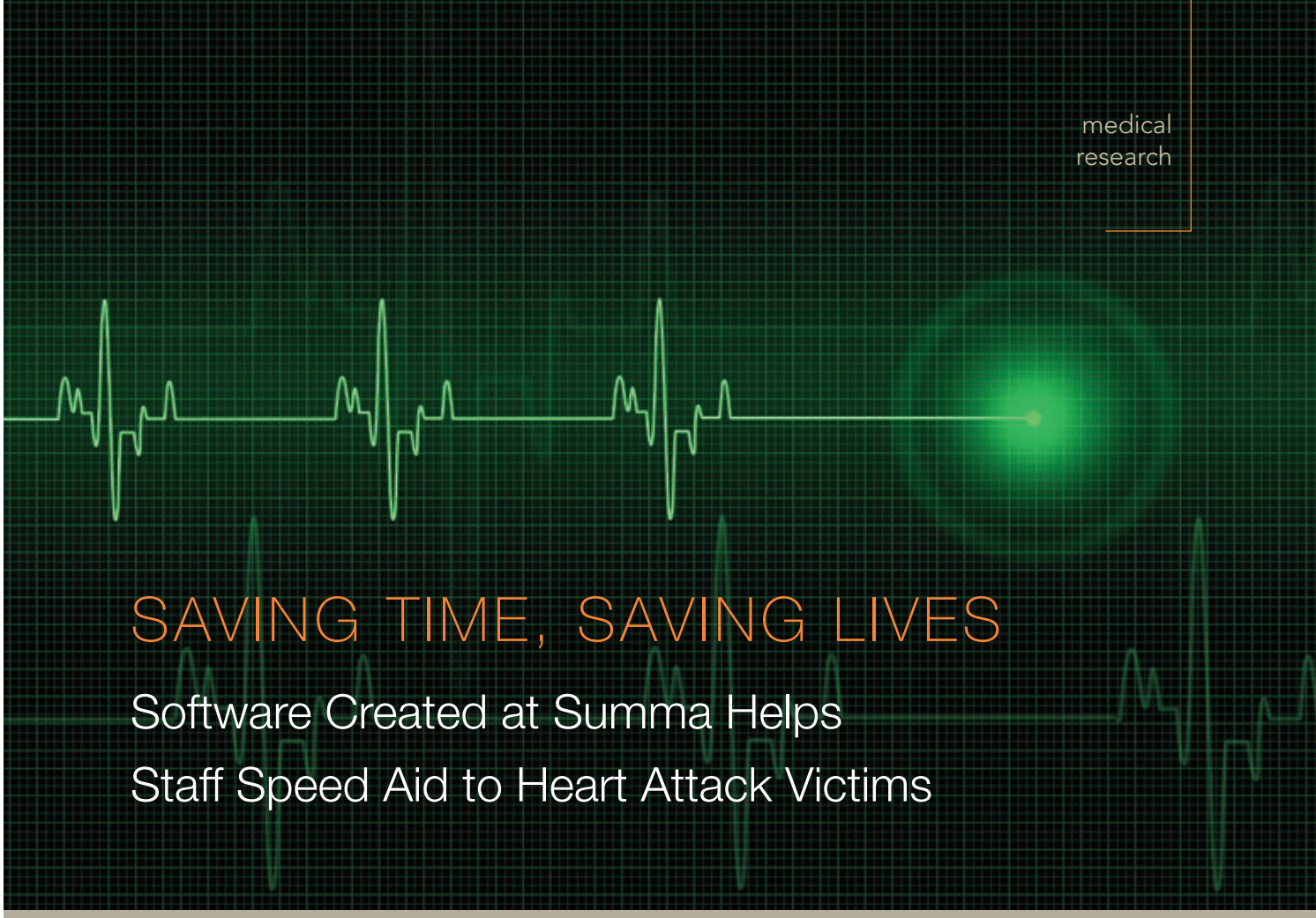
Following in the footsteps of an impressive history of medical firsts in Akron, Summa's research and medical education programs work closely with our partner organizations to foster synergy and collaboration in research and commercialization opportunities. We encourage our physicians to explore new options for medical devices and use technology to improve healthcare outcomes – pioneering discoveries that are poised to impact healthcare worldwide.

The innovative, entrepreneurial spirit that made the All-American Soap Box Derby a success continues to thrive at Summa. As Akron develops the biomedical corridor and partners with researchers from around the globe, we at Summa are committed to supporting high quality, creative research which will advance medical knowledge and improve the overall care of our patients and the health of our community.

Yours in good health,



Thomas J. Strauss
President & CEO
Summa Health System



SAVING TIME, SAVING LIVES

Software Created at Summa Helps Staff Speed Aid to Heart Attack Victims

Last year, paramedics rushed a man in his late 40s with a blockage to his left coronary artery to Summa Akron City Hospital's Emergency Department. He was a victim of a massive heart attack – the one frequently dubbed "the widow maker."

"He was really as sick as you can get," said Brenda Kovacik, R.N., cardiac care unit manager. "He was on a ventilator. We were using a balloon pump. Most people don't survive that type of cardiac event."

This patient did. Within a few days of his arrival, Kovacik said, he was sitting up in bed, talking and generally looked wonderful. His survival and speed of recovery are due, thanks in large part, to a new software system designed at Summa to help cardiac staff move patients through the door-to-balloon (D2B) process as quickly as possible.

Each year, according to the American Heart Association (AHA), nearly 400,000 people suffer an ST segment elevation myocardial infarction (STEMI), putting them at high risk of death. Both the AHA and the American College of Cardiology recommend healthcare providers treat these patients with a balloon angioplasty or a stent within 90 minutes of receiving the patient into the emergency department (ED). Extra minutes beyond that mean more cardiac tissue death, so truncating this time frame is highly advantageous.

Here is where the development of Summa's STEMI computer software has made a measurable difference.

Changing the System

On average, Summa receives and treats 300 to 400 STEMI patients each year. In 2006, healthcare providers kept track of D2B performance with pencil and paper, relying on individual computational skills to keep accurate records. Kovacik noticed that, while Summa already had a fast D2B time for STEMI patients – 83 minutes – there was room for improvement. From the emergency medical technicians (EMTs) to the EKG technicians to the cardiac catheterization lab (cath lab) staff, Kovacik knew it was possible for Summa to streamline the process even more by shearing away any action that didn't provide additional value to the patient.

"First, we had to recognize that each person along the path had an opportunity for improvement, as well as error and delay," Kovacik said. "We broke down the process and gathered feedback from staff about what would help them increase their speed dramatically."

At the same time, the AHA launched an initiative focused on using evidence-based research to cut D2B times nationwide, which bolstered Kovacik's plan to help make the time savings a reality at Summa. She enlisted her husband, Mark Kovacik, a research associate in Summa's Walter A. Hoyt Jr. Musculoskeletal Research Lab, to conceive and design a computer software system to assist in reducing the D2B time in Summa's Akron City Hospital emergency department.

The time improvements are important from a monetary perspective because the Center for Medicare and Medicaid Services considers acute myocardial infarction incidents one of the core measures to determine reimbursement rates. However, that wasn't the reason Summa decided to refine its D2B process.

"It's more than just working to save a person's life. If we don't get them the proper treatment within 90 minutes, they could have continued problems after the cardiac event," Brenda Kovacik said. "The faster we move and get the artery open, the better long-term outcomes the patient will have."

recorded on the patient's chart. Entering the data into the software system during the treatment process would cause undue delay.

Once all the times are in the system, the software automatically calculates the intervals, identifies spots where timing is sluggish and emails feedback to the patient's healthcare providers within 48 hours. Giving feedback to staff in a timely manner is far more effective than waiting weeks to discuss performance, according to Mark Kovacik.

"Everyone recognizes that the data doesn't lie," he said. "And we're not using these findings to point fingers.

The result: a user-friendly computer interface that keeps track of the duration of each D2B step and allows nurses and doctors to pull reports about unit performance.

After implementing the system, changes happened quickly, Brenda Kovacik said. In the first year, D2B times dropped by 15 minutes. By 2010, they had fallen to an average of 48 minutes. Now, during the weekdays when all staff are on duty, the D2B time is often less than 20 minutes. The health system decided to push the envelope further and extend the time reduction efforts to the paramedics. It worked. EMT to balloon time – known as E2B – is now 56 minutes.

How It Works

To be effective, a new software system must be readily accessible to users and easy to understand. According to Mark Kovacik, the STEMI software is written to accommodate all levels of computer skills and does not require any special training.

The system, which currently operates on a mainframe computer, allows staff to select the date of service. It then uses color-coded fields to record the times for all points along a patient's journey through the hospital, such as when a patient enters the ED, when the EKG is complete and at what time the patient enters the cath lab. The patient encounters are transcribed retrospectively based on data manually

Instead, we're problem solving, sometimes on a case-by-case basis. Maybe there's a legitimate reason why some actions take longer and we can use that knowledge to make changes."

Performance Improvements & System Benefits

Brenda Kovacik noted that some D2B timing issues were easy to identify once the STEMI software was implemented. For example, recorded data suggested having an ED-only EKG would be helpful.

"By having someone always in the emergency department to conduct EKGs, we managed to cut the time spent getting the test by 50 percent,"

she said. “Without the data collected through the software system, we would not have known to make this improvement.”

Summa has seen further advances in EKG efficiency over the past year with many paramedics now performing the test on the way to the hospital, then faxing the results in to the ED. This step often allows the paramedics to make a quick stop-over in the ED before rushing the patient directly to the cath lab. It also helps EMS crews understand how big a role they play in ensuring patients receive proper care as soon as possible, Brenda Kovacik observed.

According to Kenneth Berkovitz, M.D., chair of the department of cardiovascular disease and system medical director, Summa Cardiovascular Institute, creating and using the software has improved patient outcomes by uniting the staff in a common goal of enhancing both individual and group performance in cardiac care.

“This software is a really incredible tool that allows us to easily see and identify where in the D2B process we have issues with slowdown and where we have opportunities to improve,” Berkovitz said. “It’s visually powerful to see all of the data or look at a case-by-case basis to see where we’ve shaved time. We now have some of the fastest D2B times in the country and this is the tool that helped get us there.”

applied to all time-sensitive services,” he said. “The biggest immediate potential is with stroke.”

Some other ideas for the software’s use have surfaced, postulating an agreement between Summa and the AHA that would establish Summa Health System as the national repository for STEMI data. Discussion includes the possibility of hospitals across the country purchasing or licensing copies of the STEMI software, then sending their information to Summa to be housed in a main data repository.

In the meantime, Summa will continue to work toward providing the highest quality care in the fastest time possible. Future success will depend on every team player.

“Everyone needs to see how their part in the process makes a difference,” Brenda Kovacik said. “This software shows them their work is important.”

-Whitney L.J. Howell

“The electronic and automated format also allows staff to run performance reports in a quicker, easier way,” said Don Noe, a research information analyst at the Musculoskeletal Research Lab who completed the now patent-pending software programming. Performance reports that once took two to three hours to create can now be compiled in three to four minutes.

“The software also removes the potential for human error,” he added. “Before we had the software, times were entered manually and staff was doing the interval calculations themselves,” Noe said. “Necessity really is the mother of invention. Now we let the computer do the math.”

Next Steps

Mark Kovacik began developing the STEMI software in 2006. It entered beta testing – testing by a limited external audience – in 2009 and officially went online in the cardiac care unit in 2010. Its resounding success prompted Summa to look toward expanding its uses.

“After a rigorous evaluation of the software, the hospital is now testing the waters to see if the system can be

Protecting Patients

The Role of Summa Health System's Institutional Review Board in Advancing Medicine

New drugs. New medical devices. New therapeutic protocols. Summa Health System tests them all through research and each has the potential to improve the health of different patients in different ways. But they do have one thing in common – Summa's Institutional Review Board.

Most patients who agree to participate in clinical trials have likely never heard of an institutional review board (IRB). IRBs serve as objective third parties in all discussions about medical research involving human subjects. In addition to safeguarding patient safety, these committees ensure the nature and manner in which proposed research will be conducted are both ethically and scientifically sound. Think of them as the safety net for clinical investigations.

Formal, regulated IRBs are a relatively recent directive. The National Institutes of Health's Policies for the Protection of Human Subjects, first issued in 1966, achieved regulatory status on May 30, 1974. Promulgated by the Department of Health, Education and Welfare (now the Department of Health and Human Services),

the regulations established the IRB as one mechanism through which human subjects would be protected.

Despite being mandated by the Department of Health and Human Services, these committees – of which Summa has two – operate largely in the background. And their charge is more than merely green-lighting research, said Jessica Conrad, Summa's IRB manager.

"Our IRB is here to minimize the risks associated with a study and to make sure our patients know exactly what to expect if they participate," Conrad said. "We catch problems and ask questions about research projects that could affect human health – it's something we take very seriously."

Monitoring studies conducted at Summa keeps the IRB committees busy. In 2010, both groups completed approximately 1,600 reviews and approved 150 protocols. Proposals come from pharmaceutical companies and device manufacturers, as well as from Summa's physicians, nurses and other clinical staff.

Who Serves?

As a federal requirement, all IRBs share some characteristics. Every committee must have at least five members, both male and female, and they must come from varied professions. Specifically, IRBs must include at least one individual from these areas: a scientific concentration, a non-science field, and sectors wholly unaffiliated with the reviewing institution.

Summa takes extra steps, however, to guarantee that it analyzes study proposals from all angles, Conrad said. To delineate between which investigations were conceived outside the health system and which are borne of the institution, Summa operates two committees – IRB1 and IRB2. IRB1 tackles submissions from pharmaceutical companies and device manufacturers. Summa investigator-initiated study protocols fall under IRB2's jurisdiction.

Members appointed to serve on both committees reflect the nature of the studies reviewed. While both bodies have a medical librarian, a lab technician, and a nurse, that is where they part ways. IRB1 also relies on two infectious disease specialists, two oncologists, and an emergency room physician. IRB2 is rounded out with a psychologist, an obstetrician, a surgeon, an ICU doctor, a family practitioner, and a cardio-pulmonary statistician. The remaining members, such as retired nurses, school teachers, and lawyers, are recruited from the community. All members are selected based on their levels of expertise and how their knowledge can strengthen submitted protocols. They do receive instructions on how to work within the IRB framework, however.

"Once members accept the appointment to the IRB committee, we review the process and educate them so they know what IRB participation calls for," Conrad said. "Every new member is paired with an experienced member who can mentor and train them."

At Summa, simply agreeing to become a member of an IRB isn't enough. Appointees must make the time commitment to read protocols and attend monthly meetings. According to Conrad, Summa experts must attend 70 percent of the IRB meetings, and community members are expected to be present at 50 percent.

Why Community Members?

Although all research submitted for IRB approval has a solid foundation in science, not everyone who participates as a study subject has the same level of scientific understanding. This reality makes it necessary to incorporate community members – most of whom are from outside the hard sciences – to analyze proposals through a lay person's eyes.

"Many times the medical people involved with the IRB wouldn't see any problems with a proposal, and from their perspective, they were right," said Richard Haas, a former Goodyear

attorney who served on Summa's IRB committee until 1997. "But, coming from a lay person's perspective, I could see how some people could be confused about why they would be asked to participate and what they could and could not do if they did get involved."

Community members are an excellent second set of eyes – outsiders who can step into a discussion and ask for greater clarity. It is also helpful, Conrad said, to include community members from a variety of ethnic and racial groups.

"Having board members of Hispanic or other ethnic descent will definitely give you a different perspective in your approach to conducting research," she said. "You have a clearer view of what types of research will be accepted and what will positively impact your community." In fact, the U.S. Food and Drug Administration regulations require that, as part of being qualified as an IRB, the IRB must have "... diversity of members, including consideration of race, gender, cultural backgrounds and sensitivity to such issues as community attitudes ...."

How It Works

On the surface, the IRB committee's job is relatively simple. It approves, disapproves, and modifies research. Through a continual review, it monitors changes and keeps a close eye on the informed consent process, as well as the methods used to move the research forward. If members don't like what they see, they can, as a group, suspend or terminate any previous IRB approval.

Giving protocols the go-ahead, however, is more involved than that, and the step-by-step process depends on whether the proposed protocol comes from a company or Summa itself.

Pharmaceutical companies and device manufacturers often handle much of the process before Conrad's office sees the proposal. They reach out directly to the physician or other investigator to gauge his or her interest in assuming the principal investigator role. If, after reading the protocol, the principal investigator chooses to move forward, a study coordinator begins working on the informed consent paperwork. For the most part, companies already have existing consent forms, and experienced coordinators will edit the documents based on the small changes Summa requires to protect its patients.

"Once the application and consent form have been prepared, the companies and principal investigator submit them to the IRB," Conrad said. "Generally, we don't ask companies to make changes to the protocols because the study could be ongoing at 600 sites. We do focus, however, on making sure the consent forms are as clear as possible."

IRB1 receives the documents via an electronic system and reviews the protocol to catch anything problematic that might remain.

This is where Summa has a unique and beneficial agreement with other hospitals and universities in the areas surrounding Akron and even some in other states. Under the agreement, Summa and other institutions involved in the same project can rely on each other's protocol review instead of conducting an additional one. Such a relationship exists between Summa and all institutions associated with the Austen BioInnovation Institute in Akron, as well as Kent State University, The Ohio State University and Duke University in North Carolina.

"This type of connection makes it easier to talk with each institution first," Conrad said. "It's easier to get things through the IRB process – it's easier to get agreement."

The process for investigator-initiated ideas, however, is frequently more involved and can take up to six months to complete. Sometimes, investigators bring Conrad a yet-to-be fleshed-out idea, giving her the opportunity to offer significant guidance before too much of the study outline is in place. Others submit what they deem to be finished proposals for the committee to read and dissect.

The Approval Process

First and foremost, the committee's main concern is mitigating risk to study participants. And, that comes in two forms – ensuring the study's potential benefits outweigh the associated risks and requiring and verifying that study coordinators secure written consent from each subject.

"Keeping track of informed consent is an important detail," said Deborah Barnbaum, Ph.D., philosophy professor at Kent State University and Summa IRB community member, "because the majority of Summa's research investigations are multi-site clinical trials in either Phase II or Phase III. With that many people involved in a study, proper documentation, and getting it done correctly, is a necessity," she said.

"In light of the Belmont Report that looked at medical ethics after the Tuskegee Syphilis Study, those of us who are involved with the IRB process hold it as our first priority to make sure people who volunteer for research studies know what they're getting into," said Barnbaum, who also chairs Kent State's IRB committee. "Are the documents detailing the study's purpose clear enough so anyone can understand it and ask the right questions?"

"Effective informed consent procedures are equally important for the community at large," said Marguerite Erme, D.O., M.P.H., Summit County Health Department medical director and member of Summa's IRB1.

"Frequently, the public has a negative perception of medical research and an uninformed view about the people who choose to participate in studies."

"The people who participate in research are performing a wonderful service that may provide a benefit they'll never see," said Erme. "But they are certainly aware of the study's intent and what they have volunteered to do."

Beyond perfecting the informed consent process, IRB committees check to see if the projected study sample will be adequately varied. They also look for provisions, such as a data safety monitoring board, that will monitor data accuracy and protect patient safety and privacy throughout the investigation.

For researchers trying to determine whether to submit a protocol, Conrad offers specific advice. Make sure the proposal either furthers an existing area of research or is uncharted territory. Outline the study clearly, and include as much detail as possible.

"When, as an investigator, you think you've added enough detail, add more," Conrad said. "We want to know how your study will play out step-by-step. Tell us the dosages of drugs, the medications that exclude patients from participating, and tell us how long things are going to take. We want – and need – to know it all."

The IRB chair receives all submitted protocols and then assigns two reviewers – one scientific and one non-scientific – to each study. The research also falls into one of three categories: exempt, expedited, or full-board review.

The IRB chair can deem a study exempt from further review if there is no way to identify participants based on the data collected for research. For example, a protocol using a retrospective chart review would be exempt. Research can be expedited if it calls for minimal risk to any participants and if reviewers require only minor changes to the proposal.

Investigators must submit their study outlines for full-board review if they suggest research that puts participants at more than minimal risk and involves any protected groups, such as children, pregnant women, the elderly, psychiatric patients, or prisoners. These studies are intensely scrutinized, and occasionally they give committee members pause.

Red Flags

"We wouldn't be a good IRB board if we didn't sometimes have questions about whether some parts of a proposal are ethical," Erme said. "We've sent some protocols back for significant revisions, and we've denied approval to some."

Conrad agrees there have been occasions when parts of a study outline made the IRB committee uncomfortable. For example, any proposals that would deceive participants about the study's intent are circumspect. Investigators must not only prove it would be impossible to achieve their goals without deception, but they must also clearly outline their plans for revealing the truth to participants.

"Problems also arise when protocols aren't sufficiently balanced," Barnbaum said. Investigators testing a new drug or medical device must design the study to test the unverified product against a well-understood, standard-of-care therapy. Otherwise, it is impossible to determine if the proposed treatments produce better results with less risk.

"Identifying pitfalls is a large part of why IRBs exist," she said. "Ninety-five percent of the research we see has no problems. We're here for the five percent that make it through the drafting process and still raise questions."

- Whitney L.J. Howell

IRB Member Profile

Richard Haas, one of Summa's longest serving IRB members, contributed his expertise to the committee for nearly a decade in the 1990s. A graduate of the Massachusetts Institute of Technology and Harvard Law School, Haas worked for Union Carbide, The Goodyear Tire & Rubber Company and The University of Akron School of Law before retiring in 1998. "When I served on the IRB there was only one committee and I was the only attorney on the board for many years," he said.

"[Dr.] Bill Sharp was chair of the committee then. I didn't know him, even though we both lived in Silver Lake. He was a tennis player and I was a golfer, so we didn't talk," Haas joked.

"Goodyear was collaborating on some research with the hospital and executive management asked if I would take a look at it to avoid any potential problems," he said. "That was how Bill and I met. He invited me to be on Summa's IRB so I could review their research for possible complications as well."

Haas remembers having to do a lot of reading for the committee –all the documents and agreements that were proposed had to be read in advance of the meetings. "The committee was always supportive and helpful with suggestions to the researchers presenting their proposals," said Haas. "We'd always say things like, have you considered doing it this way? Or, what if you tried this? It was always in a constructive way to make the research better."

Dr. Steven P. Schmidt recalls that Haas was a dedicated member of the IRB. "He was an unwavering advocate for the research patient. I can remember him saying, 'I'm a smart man and if I can't understand what you're talking about, how will a patient?'"

"My interest in the hospital, medical profession and research all came together when serving on the IRB," said Haas. "I'm a chemist as well as a lawyer and I've always been interested in research. It's a wonderful thing."

MORE THAN HEALING:

TODAY'S RESEARCH AND INNOVATION AT SUMMA IMPROVES TOMORROW'S PATIENT CARE

Research and innovation are the engines driving modern medicine to new heights, at Summa Health System and throughout the world.

"Innovation is a key component in improving patient care and achieving successful clinical outcomes," said Michael Paxton, financial director for the Summa Foundation, which works to fund clinical research and medical innovation projects within Summa Health System. "You have to innovate to stay viable, move forward and be a leader in healthcare."

Paxton, a seasoned innovation and commercialization expert, is among those working to infuse a culture of innovation throughout Summa, highlighting the importance of technology transfer and establishing the necessary framework to accelerate the rate at which new ideas are brought to life.

"We want to maximize the opportunities to collaborate and bring innovative ideas to market," Paxton said. "The faster you can commercialize new technology, the faster it has a direct impact on patient care."

The journeys pursued across basic research, medical device development and clinical study ultimately provide patients with state-of-the-art medicine, continually advancing what is possible in the diagnosis and treatment of disease.

New drugs, pioneering devices, groundbreaking procedures and improved approaches to patient care are all the product of medical innovation and research.

Innovation Begins at Home

Amazingly, many of the ideas and innovations that revolutionize patient care are generated right within the walls of medical centers like Summa. While hospitals and outpatient care centers are most often equated with their capacity to diagnose, treat and even prevent disease, they play an equally vital role in advancing and innovating healthcare.

"Medical device innovation is often driven by medical professionals because they understand patient and clinical needs. As a result, they can play a significant role in conceptualizing and developing technologies that address those needs," said Thom Olmstead, director of technology assessment and business development for the Medical Device Development Center housed within the Austen BioInnovation Institute in Akron (ABIA). "Institutions with strong clinical and research capabilities, coupled with the requisite technology development resources, also play a significant role in advancing and improving patient care."

The expertise cultivated by providing high-quality healthcare to thousands of patients, and the employment of highly skilled physicians, researchers, nurses and other personnel, fuels new ideas and provide ample ground for combining ingenuity, science and technology to advance healthcare.

"Hospitals such as those within the Summa Health System are committed to delivering compassionate and quality care, and to improving the health of our community," said Steven P. Schmidt, Ph.D., interim president and chief operating officer of the Summa Foundation, and vice president of clinical research and innovation for the health system, which comprises seven hospitals. "Conducting cutting-edge research and developing new drugs, devices or processes to improve care help us achieve our mission."

Fueling the Potential

By seizing opportunities to innovate, Summa serves as a vehicle for transferring new research and innovation to clinical settings, augmenting the potential to improve the health of countless patients locally, nationally and worldwide.

In this light, the health system's cadre of physicians, researchers, residents and medical students continually

Chris Kriebel, research technologist, and Scott Atkinson, manager, Summa Health System and ABIA simulation centers.

strive to improve patient care, with an increasingly sharp focus on advancing the pendulum of what is clinically feasible and marketable.

"Building a research enterprise is dependent on motivated individuals and our organization is fortunate to have a large population of physicians, researchers, residents and students who are passionate about their research and generating knowledge that will improve health," Schmidt said. "The driving force to capture innovation and seek commercialization success is really the opportunity to improve patient care."

Schmidt describes the inception of the innovation process as capturing those "aha" moments, when in the scheme of patient care or hospital operations, a solution to a problem or issue becomes apparent, which could eventually improve or contribute to a more efficient and effective delivery of patient care.

Partnering for Success

Through a growing array of research collaborations, both locally and nationally, Summa researchers are working to identify new ways of treating complex medical problems such as traumatic stress, cancer and community acquired pneumonia, expanding the health system's research agenda to incite a greater proclivity for innovation. Partnerships outside the local area include the University of Pittsburgh Medical Center and the University of Illinois Chicago.

Locally, Summa is an active partner in the ABIA, a collaboration of complementary research, education and health institutions launched in 2008 to fuel the next generation of life-enhancing and life-saving innovation for the 21st century, and to spur economic growth in the Akron region.

In addition to Summa, ABIA partners include Akron Children's Hospital, Akron General Health System, Northeast Ohio Medical University (NEOMED) and The University of Akron.

In collaborating, the participating organizations are tapping into promising biomedical developments across the region with the intent of developing them into tangible, marketable products.

"We're cultivating a culture of innovation by forging collaborations among our five partners," Olmstead said. "ABIA provides the resources to facilitate innovation."

ABIA employs a range of business development, clinical, technology and biomedical engineering experts to assist in the development and commercialization of nascent biomedical technologies among its partners, including Summa.

It has hired case managers and market analysts to expand and manage the growing number of innovations brought forth for review and development support, which reached 130 inventions between September 2010 and mid-April, Olmstead said. Many of the inventions were generated at

Summa and span 24 clinical areas, including orthopaedics, wound healing, neurology and cardiology.

ABIA helps inventors with technology and intellectual property assessments, market analysis, and prototype design and development, among other services. ABIA can also help innovators prepare for or identify commercial opportunities and partners.

A program initially established with $250,000 garnered among its partners, the Technology Development Fund supports the development of high-potential innovations reviewed by ABIA's Medical Device & Development Committee, which is comprised of attorneys, physicians, nurses, business development experts and others experienced in biomedical development, including representatives from each of the founding members.

Aside from partnering with ABIA, Summa is also involved in an increasing array of collaborations with Kent State University (KSU) facilitated via the Kent-Summa Initiative for Clinical and Translational Research. The initiative, launched in 2010, aims to expand the level of collaborative research undertaken between KSU and Summa, and provides a structure for developing joint grant applications that have the potential to be successful in subsequently acquiring federal funds and for hiring the faculty needed to foster opportunities for clinical research.

Leading the Charge

Internally, in collaboration with ABIA, Summa rigorously promotes the importance of innovation throughout the organization, to ensure it remains top-of-mind among all medical staff and employees.

"We are trying to be as in front of people as we can be to give a broad understanding of innovation," Schmidt said. "We've been spreading the word on the importance of innovation."

In this effort, Summa's President and CEO Thomas J. Strauss, Schmidt, Paxton and Olmstead are among those making key presentations at all levels of the health system to stimulate innovative thought and activity, encouraging the advancement of everything from complex procedures to the simplest administrative tasks. Department heads, clinical managers, nurses and administrators are among those receiving the message.

"We want to grow employee opportunities in the area of innovation and commercialization," said Paxton. "Everyone is capable of coming up with an innovative idea. Innovation is not limited to physicians and researchers."

To further underscore that message, Summa is evolving its service line model to an institute model in support of the health system's continued focus on integrated and regional delivery of accountable care across the healthcare continuum. The institute model will encompass a multi-disciplinary, system wide focus on four primary areas: clinical care delivery and the research, education and community partnerships supported by the Summa Foundation.

While forging collaborations and heightening awareness around innovation, Summa is also developing the administrative infrastructure it needs to support innovation and establish a more innovation-friendly environment so ideas can move from concept to reality more easily.

It has created an electronic patent filing system to more closely track prospective inventions and has revised its intellectual property policy to provide greater protection for innovations developed by its

employees. Likewise, Summa reinvigorated its Office of Technology Management (OTM) to work more collaboratively with physicians, researchers, medical students and staff. In addition to recruiting and assigning staff to support the work of Technology Management, Schmidt has assembled a volunteer Technology Advisory Board comprised of experienced and successful technology advocates and entrepreneurs to support and guide the work in innovation and Technology Management at Summa.

The aim is to accelerate the development of intellectual property by achieving a widespread understanding of the processes Summa has in place to assist inventors with the flow of innovative ideas, encompassing patents, inventions, trademarks and copyrightable works.

Defining Excellence in Research

The OTM manages all intellectual property developed by Summa employees. It provides the resources and guidance needed to develop device prototypes, secure funding, access basic research facilities and models, develop strategic industry collaborations and cultivate opportunities for technology commercialization. The services are provided in collaboration with ABIA staff.

"Our partnership with ABIA is (enabling) an increased focus on innovation and commercialization at Summa," Paxton said.

Since September 2010, the OTM has received more than 40 invention disclosure forms for review, a sharp contrast to the mere two forms it received the year following the implementation of the system's new intellectual property policy in September 2009.

Invention disclosure forms are confidential, proprietary, non-public documents submitted by inventors which provide a detailed description of a potential innovation, preferably before it has been disclosed publicly. The form was recently lengthened from one to eight pages to more fully capture information about the invention and allow for a more comprehensive review, analysis and protection of the technology.

A system the size of Summa can typically expect to receive five to seven invention disclosure forms per year, according to Schmidt. The sharp rise in the number of invention disclosure forms filed at Summa is a testament to the system's commitment to innovation, he said.

"We want to become a premier research institute," Paxton concurred.

Inventions and ideas submitted to the OTM are assessed for their viability and marketability. To begin, the U.S. Patent and Trademark Office database is searched to determine if a similar product or idea already exists or is in use, using the assistance of an external patent attorney and analysts from the ABIA.

If a concept is deemed solid, patentable and marketable following a detailed analysis by ABIA staff, a provisional patent is filed to establish a date of invention and protect intellectual property in the public domain. Thereafter, inventors have a year to develop their idea and file for a utility or actual patent, to publicly disclose and protect how the innovation is used and how it works.

As more ideas are brought forward, thorough evaluation of potential technologies is increasingly critical to ensure Summa invests in the technologies most likely to succeed. The process of preparing a utility patent is exhausting and expensive. Because Summa bears the costs associated with securing a patent, the system only files patents for devices "that have a reasonable chance of being commercialized," Paxton said.

As a matter of policy, Summa owns an intellectual property that is developed as a result of an employment relationship with Summa. When a patent is secured, the inventors assign the patent to Summa. Once an innovation is licensed to a company, milestones for the technology's development and commercial royalty rates are established, and eventually shared between Summa and the inventor(s).

Building on a History of Innovation

Throughout its history, Summa has had the good fortune of attracting physicians with a passion for scholarship, research and education, Schmidt said. Its pioneering physicians have been instrumental in the development of new devices in the fields of orthopaedics, surgery and urology, and it was the first health system in Akron to offer open heart surgery.

Building on this history of innovation is essential to Summa's continued delivery of high-quality, leading-edge healthcare across all specialties, Schmidt said.

Besides device development, Summa continues to keep pace with the most current medical advances by participating in industry-sponsored drug trials.

These are designed to measure the efficacy of new pharmaceutical compounds, which are not available to the general public until they receive full approval from the U.S. Food and Drug Administration. By offering these types of drug trials to eligible patients, Summa is availing them of a potentially life-altering opportunity to which they would not otherwise have access, Schmidt said.

Summa currently has 400 Institutional Review Board-approved clinical research trials under way, approximately 150 of which are sponsored by industry, including device and drug manufacturers. The drug studies range from investigations of a combination of vitamins to reduce inflammation to the latest drugs developed for complex cancer patients. Also, Summa is testing the latest cardiology devices as well as devices to monitor and improve lower back pain. The Institutional Review Board is charged by federal law with ensuring the safety of subjects taking part in research trials.

Annually, the health system brings in more than $8 million for research. The funding sources include grants, philanthropic donations and corporate sponsorship. The Summa Foundation is critical in supporting the advancement of technologies.

Even so, "We always seek additional support from other foundations and philanthropic resources," Schmidt said.

Concept to Reality through Collaboration

In the years ahead, in addition to more funding, greater collaboration will be instrumental in moving innovative ideas forward, extending particularly across clinical areas and external organizations like the ABIA.

For instance, the collaboration with ABIA has been the driver behind the rapid development of PacerMan™, a simulation device for training physicians in the placement of transvenous pacemakers, a technology used to regulate irregular heart rhythms.

While the invention is the brainchild of Rami A. Ahmed, D.O., simulation medical director for Summa Health System and the Center for Simulation and Integrated Healthcare Education at ABIA, and Scott Atkinson, manager of Summa Health System and ABIA's simulation centers, the inventors relied heavily on ABIA to advance their concept. ABIA assisted them with their provisional patent application, prototype development, market analysis (including potential growth and competition) and business planning. With that, in a very short time frame, PacerMan™ has drawn the interest of two Seattle companies presently studying its commercialization potential. (See pg. 21)

"The collaboration with ABIA has been a godsend," Atkinson said. "If we didn't have the ability to collaborate with ABIA, which was willing to produce a PacerMan™ prototype, our efforts would have been halted at the point of patenting a concept." Instead, working with ABIA accelerated the time it took to develop PacerMan™ and interface with companies that are interested in further developing the technology and bringing it to market.

Prominently promoting and commercializing promising research and new advances like the PacerMan™ project will help breed other innovations. As individuals talk about their work and their ideas and exchange information and knowledge to develop their projects, other ideas and emerging concepts will take root.

"Highlighting successful innovations is a way to encourage others to be innovative," Paxton said.

At ABIA, Olmstead said Summa's inculcation of a more innovation-friendly culture and infrastructure is being replicated within other ABIA members who are interested in following suit.

"Summa has quickly embraced the culture of innovation," Olmstead said. "Now that culture is beginning to spread."

Rami A. Ahmed, D.O., simulation medical director, Summa Health System, with a birthing simulator.

Over time, as the number of successful innovations grows and more concepts are commercialized, they increase an organization's external visibility, making it easier to recruit world-class research talent and generate additional research funding.

Transforming the Region

The innovative activities within Summa Health System mirror numerous efforts throughout Northeast Ohio to capture, develop and commercialize a wide range of healthcare technologies. In Akron, for example, the Akron Biomedical Corridor, a 506-acre area downtown that connects the campuses of Summa, Akron General Medical Center and Akron Children's Hospital, is offering economic incentives to draw biomedical companies to the region to develop a thriving biomedical sector.

Established in 2006, the corridor is leveraging Akron's well-honed expertise in materials science and technology with the region's healthcare research and development activities to attract and create biomedical companies capable of producing economic growth.

The efforts to invigorate and accelerate the level of medical discovery, innovation and commercialization at Summa and across its partnering organizations stand to contribute significantly to the development of this emerging biomedical corridor, creating jobs and drawing new revenue to the region.

"There is a great spirit of collaboration as far as getting things done with other organizations," Paxton said. "This bodes well for taking good ideas and moving them forward."

-Raquel Santiago

Scott Atkinson and Rami A. Ahmed, D.O.

PacerMan Project Illustrates How an Idea Becomes Reality

At Summa Health System, the development of PacerMan,™ a simulation device for potential use in medical training, sheds a bright light on how good ideas are conceived and carried from concept to commercialization.

All it takes is a thought and the gusto to spring it forward, thanks to the processes in place within Summa, and partnerships like that which exists between the health system and the Austen BioInnovation Institute in Akron (ABIA). The biotech organization provides a range of services, from business development to biomedical engineering, then works with its partners to catalyze medical innovation in the Akron area.

Summa, in collaboration with ABIA, is developing PacerMan™ to improve physician training in the implantation of transvenous pacemakers, a potentially life-saving technology for patients with severe heart disease.

Rami A. Ahmed, D.O., simulation medical director for Summa and the Center for Simulation and Integrated Healthcare Education at ABIA, and an attending physician in Emergency Medicine for Summa, came up with the PacerMan™ concept. He was convinced that current training for physicians implanting transvenous pacemakers, which use electrical pulses to disrupt abnormal heart rhythms, needed significant improvement. Standard methods of practicing the procedure do not lend themselves to extensive training for a somewhat risky procedure, according to Ahmed.

In July 2009, having completed a yearlong fellowship in medical simulation at Harvard Medical School, Ahmed returned to Summa, where he previously completed his residency in emergency medicine, and began to tinker with the thought of using existing simulation technologies to develop a new device. He envisioned the device would be extremely valuable in training residents, cardiology fellows and physicians who may be required to implant transvenous pacemakers, which are often used to stabilize patients prior to heart surgery.

With the new device, these individuals "could train as much as they want until they felt comfortable with the procedure," Ahmed said. In fact, trainees could practice the procedure all day long, until they became proficient, something that is not presently possible, he said. Better physician training sets the stage for superior clinical outcomes and improved patient safety.

Against this backdrop, he and Scott Atkinson, manager of Summa and ABIA's simulation centers, set out two years ago to develop a less expensive device that would enable physicians to access unlimited, year-round training.

Using wiring and electrical components available to them at Summa, they developed the internal mechanics that make PacerMan™ unique and shared their invention with the health system's Office of Technology Management in December 2009. The office quickly enlisted the help of an intellectual property attorney who vetted the concept for its potential and made sure a similar technology did not already exist.

The PacerMan™ concept was then taken to the ABIA in June 2010 where a business development plan was crafted. Last August, Summa filed for a provisional patent to establish a date of invention and protect the PacerMan™ concept. In December 2010, biomedical engineers at the ABIA rushed to build a more advanced PacerMan,™ prototype for the Society for Simulation in Healthcare conference in New Orleans in January 2011. The Medical Device and Development Center at ABIA provided grant funding to support the development of the prototype.

Staff from the ABIA also trained Ahmed and Atkinson on how to approach and negotiate with private sector companies to cultivate business opportunities. At the New Orleans conference, PacerMan™ was demonstrated to four companies in the simulation industry, two of which are currently considering acquiring the license to further develop and eventually commercialize the PacerMan™ concept.

The PacerMan™ prototype resembles a torso without arms or a head. It is designed to allow a trainee to place a real bedside transvenous pacemaker inside the simulation model while using an external pacing generator to override the irregular heartbeat. The model includes 18 different heart rhythms. Students practice inserting a needle into a vein in the silicone-based neck area, then use ultrasound technology to guide the pacemaker wire to the appropriate area of the heart.

In developing PacerMan™, "our number one objective is to increase patient safety and develop a top-notch training program for medical staff," Ahmed said.

Atkinson concurred. "You want the person placing a pacemaker wire in your heart to be extremely proficient," he said. "Without proper training, the margin for error is high."

The inventors are excited about the prospect of bringing an invention to market. They attribute the ease with which PacerMan™ has evolved, from a conceptual level to a potentially marketable product, to the collaboration of Summa with ABIA.

"We are extremely lucky to have access to the (wide range of) capabilities they offer under one roof," Ahmed said.

-Raquel Santiago

Improving Behavioral Healthcare

Summa Health System partners with
The Margaret Clark Morgan Foundation to
improve care for those with chronic mental illness

The recently issued Akron area 2010 Community Health Needs Assessment confirmed what Joseph D. Varley, M.D., chair of the department of psychiatry at Summa Health System, had known for many years through his own research: outside of major urban areas, delivery of mental healthcare services can be difficult.

The study, a regional collaboration between Summa Health System, Akron General Health System and Akron Children's Hospital, examined survey data from residents of Medina, Stark, Summit, Portage and Wayne counties. The importance of having behavioral health services available for adults of every age was identified as one of the top ten findings of the assessment and study participants expressed concern about the lack of mental health providers in the region's rural areas.

"In the less populated areas around Summit County, the local Community Mental Health Centers are struggling in a couple of different ways," said Varley. "One is that they are having problems finding quality psychiatrists to cover outpatient care. In addition, there are few resources available outside of the state hospital system to treat those in need of acute psychiatric hospitalization."

But long before the Community Health Needs Assessment was administered, Summa Health System and The Margaret Clark Morgan Foundation (MCMF) had teamed up to address some of these issues.

Through a multi-year grant given in 2008, under the joint sponsorship of Summa Health System, MCMF and the Summa Foundation, the Summa Regional Psychiatry Resource Initiative (RPRI) was born.

Early Changes

The infrastructure for the Initiative was originally put in place when Summa Health System administrators revamped their model for their medical professionals group and formed Summa Physicians Inc. (SPI). Before, most psychiatrists had offices in the community and came to the hospital only when they had patients admitted to the inpatient psychiatric unit. After the changes, most of them became employees of the health system.

"As employees, physicians can be recruited and hired to fulfill specific needs in the community, hospital and department," said Varley. "This means we can better match the interests of the physician with the mission-driven needs of the health system."

Since they were getting their support directly from the health system, the physicians did not have to worry as much about the sometimes cumbersome payment concerns that can be seen with many reimbursement models.

"This also allowed me more freedom to place psychiatrists strategically to address identified needs," said Varley. "If we needed some time for a psychiatrist to have outpatient office hours in an outlying community, we could do it."

At the same time, Summa was expanding the footprint of its behavioral healthcare services, adding geriatric psychiatry and trauma-focused services. During a time when many hospitals were eliminating or downsizing their inpatient wards, Summa St. Thomas Hospital increased the number of beds from 34 to 69.

Partnering to Fill the Gaps

Varley and his staff began to look around at other counties in northeast Ohio and saw that there were gaps in care that they could help address. Essentially, they looked at what had been learned in Akron and took it on the road.

To help with outreach to the neighboring counties, the Summa Foundation submitted a grant request to MCMF to fund a full-time person to liaison with behavioral health systems in other counties. The main mission of MCMF, a private foundation established in 2001, is to work in an 18-county area of Northeast Ohio toward more effective and efficient systems for delivering care to the chronically mentally ill.

"We noticed that outside of the big urban areas, psychiatric services were scarce," said Thom Craig, senior program evaluator for MCMF. "In Cleveland, for example, there is one mental health practitioner for every 1,369 people. In Tuscarawas County, only one practitioner is available for every 10,140 people. With only nine workers available in the county, those in Tuscarawas go to Pittsburgh or Akron for help."

As an added benefit to MCMF, they were able to expand the regional reach of their giving. As with mental health services in general, MCMF was having problems giving grants outside larger cities. There was lack of infrastructure where the money could be sent and have the local communities use it effectively. RPRI helped solve this concern, too.

"Dr. Varley brought us his idea to take some of the urban center capacity and deliver it to the less urban areas," said Rick Kellar, president of MCMF. "It was one of those times when our missions and goals meshed well with Summa's and Dr. Varley's. This initiative made it possible for us to help many in areas where it wouldn't have been possible before."

Building Relationships to Expand Services

The grant allowed Summa Health System to hire Randy Zumbar full-time to go out and build relationships with the outlying areas.

"Randy was a past director of the Summit County Alcohol, Drug Addiction & Mental Health Services Board and understands the problems other directors find themselves in when they try to plan a system of care," said Craig. "Because he knew most of the county administrators personally, he was able to give them confidence that Summa St. Thomas Hospital would be responsive to their needs."

Through this outreach, Summa Health System reached contract agreements with the local mental health systems.

"We went to the County Behavioral Health Boards and their provider and asked them what services were needed," said Zumbar, whose title is regional resource manager in the department of psychiatry at Summa St. Thomas Hospital. "The work we do in any community is specifically tailored to them."

To reinforce this collaborative approach, behavioral health caregivers in the other counties are actively invited to stay involved with their patients at all times. Even if a client is hospitalized in Akron, their caregivers at home are encouraged to attend treatment meetings. Summa Health System physicians, psychologists, nurses and other workers keep the lines of communication open to ease a person's transfer back to care in the community.

"The success of the RPRI revolves around the relationships we establish with others," said Zumbar. "The longer we work with them, the better we are able to meet their needs. This, in turn, translates to better and smoother behavioral healthcare services for patient, family and community."

These relationships often had to be built from scratch.

"Traditionally, there has been a divide between the public, meaning taxpayer-supported, and the private, meaning hospital-based units or independent practitioners," noted Varley. "Because of his background, Randy was exactly the right person to help us rebuild contacts with the public system and link together entities that had become estranged."

Impressive Results

The RPRI offers assistance with both outpatient and inpatient services. In addition to helping improve treatment, they are often able to save funds that local behavioral health boards can use elsewhere in the system.

When a person is admitted to the Summa St. Thomas Hospital inpatient psychiatric unit, insurance providers and federal programs such as Medicaid or Medicare are billed. There are no additional fees charged back to the local communities.

"If a county had no acute hospitalization services available, they often were forced to place the patient in a state-run hospital," said Varley. "The state was paid on a per diem basis, which was a significant financial burden. We are set up to run efficiently under the federal payment model and require no extra money from the localities."

The results have been more than either Summa or MCMF hoped for. Since the grant was awarded, the number of community partners has grown from four areas to 11. In Portage County, for example, 560 additional patients were seen in 2009 and that figure nearly tripled to more than 1,500 in 2010. The average waiting time to see a psychiatrist was reduced by one full week between 2008 and 2010.

"It's a win-win situation. We win by using our doctors more productively to meet regional needs," said Varley. "Outlying areas win by having highly qualified psychiatrists see their clients and saving money."

Future Endeavors

The department of psychiatry at Summa and MCMF are collaborating on a new project, recently approved by the MCMF board for funding. The psychiatry department will use technology to overcome the barriers of time and distance and provide follow-up behavioral health services through tele-psychiatry services.

Using the Internet, telephone and high-definition television, a psychiatrist will be able to see a patient in another county without leaving Akron. The interactive system allows a doctor to see skin tone, eyes, posture and body language as clearly as if the person were in the clinic.

This increases the efficiency of the system by allowing the physician to see patients instead of driving to the outlying area. With one-way drives to some counties taking up to 90 minutes, almost half of an eight-hour shift can be put to better use than driving.

Behavioral healthcare providers in Tuscarawas and Carroll counties have demonstrated an interest and a need for these progressive services. Initially Summa will provide follow-up sessions to patients within two weeks of discharge from inpatient treatment at Summa St. Thomas Hospital as well as 700 outpatient psychiatry and medication management sessions.

"This is a first for our region," said Zumbar. "While this will not work with everyone, it is going to be a valuable resource for those who otherwise might have no access or have to wait weeks or months to see a psychiatrist, which is essentially the same thing as having no access."

A Collaboration That Works

The collaboration between all three entities was key to the successful completion of the Initiative.

"In the case of the Regional Psychiatry Resource Initiative, the Summa Foundation worked with faculty and staff from the department of psychiatry to prepare a proposal to submit to MCMF to support the objectives of the Initiative," said Steven P. Schmidt, Ph.D., interim president and chief operating officer of the Summa Foundation. "Once the grant was awarded, we assisted the Initiative staff to ensure proper administration of the granted funds. All of this work ultimately intends to fulfill Summa Health System's commitment to improve the health of the community." The Summa Foundation has supported research in behavioral health since the inception of the Center for the Treatment and Study of Traumatic Stress more than a decade ago.

The partnership between Summa and the MCMF is one that both sides agree works very well.

"We view philanthropy the same way others look at investing," said Kellar. "The difference is that we are investing money to get a social outcome and our return on investment is measured in impact on people instead of a bottom line. Our experience with Summa is that when we invest for a certain amount of outcome, we get a lot more. That is certainly the case with RPRI."

-Kurt Ullman

URGENT CARE
A Cost-Saving Alternative For Life's Minor Emergencies

Nearly everyone has experienced waiting in a hospital emergency department with a non-life-threatening injury or illness while someone in more critical condition takes top priority.

But how many people realize there is an alternative for minor ailments and sicknesses — and that it could save time and money?

That alternative is the more than 8,500 urgent care centers across the nation, a type of healthcare facility providing walk-in, unscheduled care.

Urgent care facilities can decrease the over-utilization of emergency departments with staggering impact, according to Susan Zwiebel, M.D., medical director of Summa Health System Urgent Care & Corporate Health in Fairlawn. A September 2010 study analyzed patient records from 2006 and found that as many as 27 percent of all emergency department visits could have taken place at an urgent care center.

Despite this statistic, Zwiebel recommends visiting a hospital emergency department for life-threatening or traumatic injuries, or if symptoms include chest pain, stroke indicators or serious fractures that may require surgery.

Zwiebel also points out that urgent care isn't meant to be a substitute for family medicine. Regrettably, some patients use it as a first line of defense and then do not seek any further medical attention.

"Our purpose is not to practice primary care in the urgent care setting," Zwiebel said. "If a patient does not have a primary care physician, we provide a referral to one, regardless of the initial complaint. We utilize electronic medical records that help to expedite the process when we refer patients to the emergency department or primary care physicians and specialists."

"Like a visit to the emergency department, our patients don't make appointments," she continued. "While the time spent waiting will vary depending on the volume of patients, the average service time from door to door is usually a little over an hour, although this can change depending on the complaint, the work-up and what treatment is needed. Of course, if an emergency comes in this may boost the wait time as well."

There is a cost difference as well.

The 2010 study cited above estimated that if just half of the 104 million emergency department visits that did not result in a hospital admission took place at an urgent care facility, the potential savings to the nation's healthcare system would be approximately $4.4 billion annually.

Urgent care centers treat patients of all ages, including children younger than 18 months, and accept most insurance and self-pay. The centers handle everything from allergies to minor asthma attacks, colds to minor cuts and burns, sprains to stitches, and even dental complaints. This past year, the urgent care system vaccinated hundreds of thousands of people with the H1N1 vaccine, Zwiebel added.

Summa Urgent Care & Corporate Health in Fairlawn features digital x-rays, a procedure room, four exam rooms and a physician on duty at all times. In addition, the facility offers walk-in physicals for sports, schools, work permits and immigration needs.

For more information about Summa Health System Urgent Care & Corporate Health and all Summa's urgent care facilities, please visit summahealth.org.

Michelle Blanda, M.D., FACEP

A Day In The Life

If you want something done, ask a busy person to do it.

That old adage easily applies to Michelle Blanda, M.D., FACEP, chair of the department of emergency medicine at Summa Akron City Hospital, Summa St. Thomas Hospital and Summa Western Reserve Hospital.

In addition to being a top administrator at Summa Health System, Blanda is also an emergency department physician, professor of emergency medicine, business partner, tennis aficionado, wife, mother of three and — these days —a construction supervisor.

"People look at my schedule and think it's crazy," she said. "To me, it is what it is. I don't mind working it. I don't mind working off hours.

"The schedule allows enough flexibility for me to be with my family and also be here at work. When the kids were younger, it was more stressful, but I was fortunate to have people help me. I've learned that even though you can do everything yourself, there are times when you shouldn't. I can do laundry and keep a house, but if someone can help me with this, I'm able to spend that time with my children and husband. The balance is something that comes over time."

6:00-8:00am

Blanda insists she doesn't ever have a "typical" day, but if you try to pin her down as to when it usually starts, she'll finally say, "It depends."

"Anywhere between 6 and 8 in the morning, whether I'm coming off shift or going in," she said, referring to her role as attending physician in the Summa Akron City Hospital Emergency Department (ED). She works there three to four nights a month and about eight days total per month. "For example, I'll go in at 10:30 tonight and get off at 8 tomorrow morning. I have an administrative meeting on my calendar after that and then I will take a nap. If I work multiple nights, though, I usually try to go right home and get to bed."

At other times, she'll be scheduled to work a couple of 3 p.m.-to-midnight shifts in a row over the weekend.

She also maintains her academic appointment as professor of emergency medicine at Northeast Ohio Medical University (formerly Northeastern Ohio Universities College of Medicine and Pharmacy) in Rootstown, although she currently is not doing research. But she continues to find time to write and review articles for academic publications in emergency medicine.

Such comings and goings over the years have caused her husband to plead with her to write down her schedule.

"'It's always changing,' I tell him," she said. "There's no sense in writing it down because there's no regularity to it."

8:00am-noon

If Blanda is working nights, her power naps begin at about 8 or 10 a.m. and last about four hours. If multiple night shifts are planned, she is back to bed by 7 p.m.

Most of her administrative meetings and duties take place in the morning. They can involve discussing anything from chest pain, stroke and trauma, to residency training and quality improvement areas, including working with the staff and faculty.

Lunch can be a luxury. If anything is typical, it's her regular diet of healthy snacks that she carts with her daily. (She jokes about becoming a "bag carrier.") As of late April, she had lost 15 pounds on the Tony Horton P90X fitness plan.

"I'm probably in the best shape I've been in in a long time," she said. "I haven't weighed 125 pounds since college. When I play tennis this season, I want people to think I'm a tough competitor before I even hit the ball."

She enjoys working out and plays as hard as she works, despite two

mended knees. She underwent surgery to repair her anterior cruciate ligaments — both blown out playing tennis.

You get the feeling she doesn't let much stand in her way when it comes to pursuing one of her passions.

Afternoon

Her waking daytime hours often currently involve overseeing construction of a new ED on the Summa Akron City Hospital campus, with a section of it scheduled to open in late 2011. It is part of Summa Health System's $65 million plan to grow its comprehensive emergency services network, expanding three existing emergency departments and building two new, free-standing EDs.

The existing Summa Akron City Hospital ED is approximately 19,000 square feet in size, has 43 beds and was designed to treat roughly 52,000 patients a year. In 2009, more than 78,000 patients were treated there.

The renovated facility will meet current and future patient care needs, expanding the area to 84,000 square feet and increasing the number of beds to 75. It will include advanced technologies and enhanced radiological testing capabilities, and provide an improved patient experience with private rooms large enough to accommodate loved ones at the bedside.

"I'm intimately involved in the construction," Blanda said. "It's almost like having a part-time job on the side, but it is my passion. I'm committed to making sure it's everything I've dreamed it to be, right down to the details.

"Right now, we're finalizing colors for the ED clinical areas, including a geriatric section, as well as colors for the offices. To me, this building is going to be here a long time and I feel obligated to make sure it will last."

7:00pm

In the evening, if she isn't headed off to bed early, she enjoys playing tennis, having dinner with friends or attending one of her children's many sporting events.

She and her husband of 23 years, orthopedic surgeon Joseph Blanda, M.D. — in private practice in Akron — have twin daughters, Jennifer and Rachel, 17, and a son, Joseph, 15.

The couple met during their medical residencies.

"I always said I would never marry someone in the medical profession," Blanda said with a smile. "I thought that personal and private life should be separate… but your professional life does affect your private life. It has been a good match."

Their Peninsula home is around the corner from the children's school, which helps when it's time to trek back and forth for activities. "Our children are day students at the local boarding school, so many times their friends visit our home," Blanda noted. "We enjoy seeing these young people and hearing their ideas and thoughts."

"As a family, we enjoy outdoor activities: hiking, biking, skiing and going to Sanibel Island. There we like to fish, boat and hang out at the pool and beach. My daughters will be leaving for college next year, so helping them select and prepare for college has been a big part of our lives lately."

When asked if either might choose to follow in their parent's footsteps, Blanda can't say for sure. Rachel wants to study the classics, Latin and Greek, and minor in biology.

"My other daughter, Jennifer, isn't particularly fond of blood but is very good with science and math," she said. "I told her that she doesn't have to be an ED doctor or a surgeon. She could do research. If any of my children were to pursue medicine as a career, I'd be thrilled and honored."

When she's not spending time with her family in the evenings, she might squeeze in a lunch or dinner with girlfriends she calls a major support group and great sounding board. She also has her tennis buddies and tries to play two to three times a week year round, as part of a United States Tennis Association league. She registers for multiple teams so she can play when available.

"It's a great way to be around people in a social way and have something outside of medicine," she said.

10:30pm

Blanda knows at this stage in her career she has the option to not work nights. She doesn't take it.

"To me, it's beneficial to see all the hours of operations," she said.

And being available all hours to help the hurting is one of the things that she finds most gratifying about her profession.

"My husband always teases me and says I love my job," she said, smiling. "I do love my job and caring for patients in dire need. Everyone comes for a different reason. Emergency medicine is open 24 hours a day for patients — on holidays, nights, weekends, regardless of whether they can pay — and serves society and the community. That's why I became a doctor. And now in my administrative capacity, I have the ability to change things that really do affect patients."

Many clinical cases stand out in her memory. Some involve patients with vague symptoms, where "that little voice in your head that says this is a regular, normal person who would not

Jennifer, husband Joseph, Dr. Blanda, son Joseph and Rachel.

be in an ED unless there is something wrong. I had a woman who was an editor for the local paper who had vague chest pain once," she recalls. "All her tests were negative. I decided there had to be something wrong because this was a busy person who wouldn't be there for minor concerns. She ended up with a large pulmonary embolism, and you think, 'Thank God we checked.' It was large and she would more than likely have died if it had not been detected."

But she can't save everyone. She has tragic stories about some of her patients and it's clear that she is affected by their outcomes.

"Yet I am always so grateful for my skills. For example, a man had a stenosis of his airway and I was called to do an emergency cricothyrotomy that saved his life. When his wife asked me to come back to thank me I could only say, 'I was doing my job.' I always encourage patients who make it — despite the odds saying they shouldn't — to look at their lives and make sure they are on track. I think they must have important unfinished work yet to do that they have been chosen to remain here."

Blanda faces numerous challenges each day — the uncertainty of what emergencies the day will hold, the odd hours, keeping pace with rapidly occurring changes in medicine and balancing work and family. But she counts it all as good.

"It is all very rewarding ... After so many years in practice, I really enjoy seeing former patients and their families and hearing them say, 'You cared for my father when he had his heart attack,' and realizing they know they can count on you," she said. "Training residents, nurses and medics, and seeing them be successful in their careers is immensely satisfying. I'm glad I have the ability to be a leader in a large organization and provide vision and direction to those I serve. I believe in what we do, in the care of the emergency patients. It is important that we do it well and that the community looks to us in time of need. I am privileged and proud to be a part of it."

-Betsy Scott

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