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We asked our employees. Our patients. Our benefactors. Their answers tell our story.

What does the Mayo Effect mean to you? The most caring staff, the brightest physicians and researchers, the most diligent attempts to make a patient's life better." Employees talk about the Mayo Effect

"It is the same Mayo no matter which facility you are in."

"My contributions, great or small, make a difference."

"Trust from the outside, and trust from the inside."

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John H. Noseworthy, M.D.

"We strive to turn the impossible into the possible"

Hear Dr. Noseworthy talk about the Mayo Effect.



Message from the CEO Translating idealism into action

Almost a century ago, Dr. Charles Mayo articulated what he believed to be Mayo Clinic's greatest strength.

Dr. Charlie wrote, "If we excel in anything, it is in our capacity for translating idealism into action." Dr. Charlie didn't say the strength of Mayo Clinic was only in our ideas. He didn't say our strength was only in our ability to make these ideas come to life. He said the unique strength of Mayo lies in our ability to take what some say can't be done and make it the new standard.

Since 1928, the world has changed; health care has changed. But Dr. Mayo's words expressed a truth that I believe we reaffirm daily. Our greatest strength is translating idealism into action. This year, 2012, is about that strength.

It's what our staff does every day for our patients. It is how we transform hope into healing. We call this power "the Mayo Effect." Working together as one organization with one purpose, one direction, one plan, we strive to turn the impossible into the possible. This year, we asked our patients and our staff: What does the Mayo Effect mean to you? A mom named Sheila told us her story. After a fall down the stairs, Sheila went into cardiac arrest and was left paralyzed and unable to breathe on her own. Five months after her accident, she became the first Mayo Clinic patient to receive a breathing pacemaker. To Sheila, the Mayo Effect means continuous care, revolutionary treatments, and being able to enjoy basketball tournaments and marching band performances with her two teenage sons.

To our staff, the Mayo Effect means facing the future with the same relentless determination the Mayo brothers and their colleague Henry Plummer showed when they revolutionized surgery and the medical record. They put themselves in patients' shoes. Our job is to walk in our patients' shoes in today's world, imagine what they need and use all of our ideas and expertise to deliver it.

Benefactor support and a strong financial performance allow our not-for-profit organization to set new standards in health care knowledge and delivery. We are fortunate to have achieved a net operating income of more than \$600 million in 2011 to reinvest in clinical practice, education and research. Generous gifts of financial support from benefactors and hard work and dedication from our staff demonstrate a profound trust in the future state of Mayo Clinic, a future we are building daily.

As we continue translating idealism into action, the changing reimbursement and reform climate presents us with challenges. But in keeping with Dr. Charlie's words, at Mayo, we don't react to changes in health care, we lead the change to what health care should be.

We are embarking on new ventures for our patients, including expanding Mayo Medical School to Arizona and integrating trusted partners into members of the Mayo Clinic Care Network. I know that we will be successful. We've built a plan to manifest the future of medicine in the future of Mayo Clinic. Our staff and generous benefactors build the bridges between what is and what could be. I believe this year we'll see many exciting advances toward turning our idealistic plans for the future into the new gold standard for patients.

John H. Noseworthy, M.D. President and CEO Mayo Clinic

Rehabilitation after traumatic injury 8-year-old survives tractor injury

Cole Heiden was helping his father, Allen Heiden, with the evening chores on the family's dairy farm near Whitehall, Wis., when the unthinkable happened. The tractor fender that Cole was sitting on snapped off, throwing the 8-year-old to the ground. Before Heiden could stop, Cole had been run over by the tractor and the feed wagon behind it.

"Cole was awake and talking, but I could tell he was really hurt," says Cole's mom, Julie Heiden. "I've been on a farm my whole life and have seen accidents. I knew this one was bad." The flight nurse on Mayo One emergency medical helicopter, Kimberly Arndorfer, was equally concerned: "In my 10 years of experience, Cole was one of the most critically injured pediatric patients I have cared for."

Collapsed lung, serious injuries

Of most concern was Cole's labored breathing, which indicated he had a collapsed lung and would need a tube inserted into his chest to re-expand it.

At Mayo Clinic Health System in Eau Claire, Wis., the trauma team stabilized Cole and inserted a chest tube. Through imaging exams they saw that Cole's liver was nearly severed from his body, causing heavy internal bleeding. They determined Cole needed to be transported on Mayo One to Saint Marys Hospital in Rochester, Minn., a Level I pediatric trauma center. By the time the helicopter landed with the injured boy, a Mayo pediatric trauma team was waiting. Cole's only hope for survival lay in stopping his blood loss.

One chance

When the Mayo team viewed images of Cole's liver, even the most experienced members of the group were taken aback. "Blood was pouring out of his liver faster than I've ever seen," says Ian McPhail, M.D. To stop the bleeding, Dr. McPhail would need to plug Cole's hepatic artery with a wire coil. The procedure, called embolization, is only available at major medical centers such as Mayo Clinic.

With the eyes of his colleagues upon him, and with the full knowledge that he held a child's life in his hands, Dr. McPhail began his work to save the 8-year-old. "There was a very critical 15 minutes," he says. Fortunately, Dr. McPhail was able to stop the bleeding and save Cole's life — for the time being.

Lungs, intestines, kidneys at risk

Cole was temporarily stable, but his fate was still far from certain. "After that much trauma, the body often shuts down and that's what began happening to Cole," says Christopher Moir, M.D. "His lungs didn't work, his intestines didn't work, his kidneys were at risk of shutting down." Fortunately, Cole had dozens of Mayo Clinic medical professionals committed to fighting each insult to his small body. "The Mayo system is set up for us to work miracles together," says Dr. Moir. "We're a team of teams: First, the Eau Claire team and Mayo One transport team saved Cole. Then the ER pediatric trauma team stabilized him, and then the OR team put him back together. Finally, the pediatric ICU team shepherded him through a month of critical illnesses."

Walking, talking, eating, playing again

After that month, Cole slowly began to improve. He left the ICU and began breathing on his own. Mayo physical and occupational therapists joined his team of caregivers, working with Cole to help him walk, talk, eat and play again. On Nov. 2, 2011, two months after the accident, Cole returned home to a joyous welcome from his eight brothers and sisters, dozens of friends and his dog, Missy.

"Considering where he was, I am amazed. To have a child almost taken away, and then given back — it's like a second birth," says Heiden. "Mayo saved his life. Without the doctors and their knowledge, he wouldn't be here. Mayo gave Cole back to us. It's the best gift a parent can have."





Cole Heiden "Mayo gave Cole back," to us" Julie Heiden

"It's the best gift a parent can have."

give hope

Your generosity creates the future of medicine and ensures that children like Cole get a second chance. mayoclinic.org/development

Four generations rely on Mayo

To the Krapp and Strobel families, Mayo Clinic care is a family tradition passed through four generations.

Daughter: Ear surgery

Amber Strobel moved from North Dakota to Rochester, Minn., five years ago. She became a Mayo employee, then a patient, and she spread the word to friends back home. "The superior treatment was quickly recognized by my family and friends back home," she says of her ear surgery.

Father: Wrist surgery

Strobel encouraged her father, Oren Krapp, to visit Mayo for a second opinion on his wrist injury. Providers at other facilities told Krapp he'd need his wrists fused, but after two surgeries at Mayo, his wrists remain mobile today.

Mother: Knee replacement surgery

Last year, Strobel's mother, Connie Krapp, had double partial knee replacement at another facility. It became obvious that the left knee was misaligned, and Krapp consulted Mayo Clinic where she received another knee replacement. "I am so glad I came to Mayo," Connie Krapp says. "My knee is going to be just fine. The 'M' in Mayo stands for 'miracles.'"





Merle Allen and Connie Krapp

"The 'M' in Mayo stands for 'miracles""

Connie Krapp

Amber Strobel and twin boys

Grandfather: Cardiac care

Then Amber Strobel's grandfather, Merle Allen, began to experience failing health, and received a diagnosis of Crohn's disease at another facility. "We had little hope he was going to recuperate," says Strobel. Desperate for help, the family sent Allen to Mayo for a second opinion. Mayo physicians determined Allen did not suffer from Crohn's disease, but from a cardiac condition. His physicians weaned him off prior medicines and began treating his cardiac issues. "Mayo worked another miracle," says Connie Krapp.

Twin boys: Delivered at Mayo

When he believed he would not survive, Merle Allen had one wish: to see his twin great-grandchildren born. True to his wish, Amber Strobel delivered two healthy boys at Rochester Methodist Hospital in Rochester last June. "Mayo offered the extra effort: the extra time, the extra reassurance, the extra smile — both during the pregnancy and during the twins' short hospital stay," Strobel says.

The family credits Mayo for their health. "It's a snowball effect," says Strobel, explaining how her successful surgery prompted her family to follow her to Mayo. "We would not trust our care to anyone else now."





Jan van Deursen, Ph.D.

Mayo discovery on aging gains worldwide attention

A groundbreaking study by Mayo Clinic shows that the onset of age-related disorders and disabilities could be delayed or prevented by eliminating senescent or "deadbeat" cells, which cause age-related disorders. *Science* magazine recognized the work as one of the year's top 10 scientific achievements.

Worldwide attention

The Mayo study, the first to eliminate senescent cells from mice, received worldwide attention. Mayo researchers used genetic engineering to put a gene into mice with early onset of age-related complications such as cataracts, feeble muscles and stiff arteries. Mayo research showed that eliminating senescent cells delayed onset of age-related cataracts, muscle weakness and impaired exercise capacity. According to *Science* magazine, "Compared with their brethren, treated mice could scurry for a longer time on a treadmill and perform more strenuous workouts."

"Therapeutic interventions to get rid of senescent cells or block their effects may represent an avenue to make us feel more vital, healthier, and allow us to stay independent for a much longer time," says Jan van Deursen, Ph.D., Vita Valley Professor of Cellular Senescence at Mayo Clinic and senior author.

Preventing age-related diseases

James Kirkland, M.D., Ph.D., director of the Mayo Clinic Robert and Arlene Kogod Center on Aging and also an author of the study, says, "This work could pave the way to delaying or preventing age-related chronic diseases, such as cancers, dementias, heart disease and diabetes as a group, instead of one at a time."

Mayo Clinic Care Network benefits patients, providers

The Mayo Effect is spreading nationwide to medical centers, care networks and, most importantly, patients through the Mayo Clinic Care Network.

Provider organizations that join the network gain access to Mayo's evidence-based disease management protocols, clinical care guidelines and treatment recommendations. As a result, their patients get higher quality health care closer to home.

"For years, Mayo Clinic has enjoyed collaborative relationships with hospitals, group practices and providers around the world. By developing formal connections with high-quality, culturally aligned practices, the Mayo Clinic Care Network takes these natural collaborations even further," says David Hayes, M.D.

Provider organizations are selected for Mayo Clinic Care Network membership based on a rigorous set of organizational, patient care and quality criteria, ensuring that members share Mayo Clinic's philosophy, commitment and mission to improve the delivery of health care. Altru Health System, which operates a hospital and several clinics in North Dakota and Minnesota, was the first to join the Mayo Clinic Care Network. "The goal is to offer more people and communities access to Mayo Clinic expertise," says Dr. Hayes.

Jorge Bacardi 'A precious gift''

what Christopher was able to do for lorge ... gives us hope and strength."

Learn how the Gabriel House of Care is making a difference.



"When I took that first breath after my surgery, it was euphonic."

Jorge Bacardi

Christopher Gregory

Double lung transplant Patient honors his transplant donor

Christopher Mark Gregory registered as an organ donor at age 16. At age 19 he lost his life, suddenly, because of a brain aneurysm.

Because of Christopher's decision to donate his organs, 64-year-old Jorge Bacardi, a member of the Bacardi family that has manufactured rum and other spirits for 150 years, received a lifesaving double lung transplant for his primary ciliary dyskinesia — and with it, his first-ever full breath of air.

Misdiagnosis, infections, multiple surgeries

Bacardi had struggled with ciliary dyskinesia since childhood, although it had been misdiagnosed as cystic fibrosis. Over the years, he had countless respiratory infections and multiple surgeries to remove infected and irreparable lung tissue. Still, he was concerned about receiving organs needed by others.

"I knew that a lot of younger people were waiting for organs, and that made me think twice about opting for a transplant," says Bacardi. "I needed a focal point, a reason to accept such a precious gift. It was my wife and my nieces and nephews."

First breath after surgery

Bacardi's transplant surgery at Mayo Clinic in Jacksonville, Fla., was a remarkable success. He took his first steps 19 hours afterward and left the hospital five days after his feet first touched the floor. "My disease had forced my body to become accustomed to less oxygen," he says. "So when I took that first breath after my surgery, it was euphoric. Mayo Clinic means the ultimate in patient care and dedication. Soon after his recovery, he and his wife, Leslie, contacted Mayo Clinic about making a significant gift — to repay the precious gift that he received.

Recipient and donor families meet in gratitude

The Bacardis also began thinking about the donor family. Mayo Clinic encourages patients to contact their donor families via a letter that is coordinated through the United Network for Organ Sharing (UNOS), which screens letters to ensure anonymity.

Bacardi wrote a letter of gratitude to Eric and Grace Gregory, the donor's parents, addressing their son Christopher as "Gabriel" — his saving angel. "When he chose the name 'Gabriel' for Christopher, the impact on our family was powerful beyond words to describe," says Eric Gregory.

The two families began corresponding and eventually met. They spent a weekend together, and visited Christopher's gravesite, where Bacardi read a letter that described the life he and Leslie were living "with Christopher." "After that, Eric and Jorge collapsed in each other's arms and cried," Leslie says.

Gabriel House of Care honors all organ donors

To repay the precious gift he received from Christopher, to honor all organ donors and to thank his Mayo medical team, the Bacardis made the lead gift for construction of the Gabriel House of Care at Mayo Clinic in Jacksonville, Fla. The facility offers affordable, long-term housing and a supportive environment for visiting transplant and radiation oncology patients.



Leslie and Jorge Bacardi, Grace and Eric Gregory

"Tribute to my son"

At the dedication ceremony for the new facility, Grace Gregory said, "I know that everyone who walks into this beautiful, healing place will find a warm, caring home. As a tribute to my son, this makes my wounded heart soar."

"What Christopher was able to do for Jorge, and what Jorge is able to do for others, and what Mayo will do for still others gives us hope and strength," says Eric Gregory.

Heartbreak into hope

The Bacardis regularly send letters and photographs to the Gregorys, sharing the life they are leading "with Christopher"— a generous young man whose precious gift has brought two families together, created a place of healing, touched the lives of countless transplant recipients and turned heartbreak into hope.

Three centers: One powerful vision

Three collaborative centers put the needs of the patient first and reflect Mayo's strategic commitment to creating tighter links between research and patient care.

Center for Regenerative Medicine

Andre Terzic, M.D., Ph.D., is leading efforts to establish this new center across Mayo Clinic. Multidisciplinary teams are studying the emerging science of regenerative medicine to:

- Discover, translate and apply regenerative medicine science into innovative practice.
- Advance next-generation regenerative medicine products and service lines.
- Educate vanguard health care scientists and providers.
- Build regenerative medicine global alliances and community partnerships.
- Establish regenerative medicine and surgery models of care.

Center for the Science of Health Care Delivery

Researchers at this center are using in-depth medical records studies, informatics, epidemiology and systems engineering to transform the way patients everywhere receive and experience health care.

Mayo Clinic benefactors Robert and Patricia Kern have given \$20 million to help launch the new center. "The Kern family's gift will help Mayo lead the way in shaping the face of health care in the 21st century," says John Noseworthy, M.D., Mayo Clinic president and CEO. Veronique Roger, M.D., M.P.H., director of the center, says researchers are:

- Examining quality, safety, cost and outcomes data to identify best practices.
- Applying principles from engineering, management and science to improve patient care.
- Testing new models of health care delivery.
- Researching health care models that can be applied to large populations.

Center for Individualized Medicine

Under the leadership of Gianrico Farrugia, M.D., researchers at the Center for Individualized Medicine are translating discoveries in genomic and clinical science into new ways to predict, diagnose and treat disease — for each individual patient.

Research is focused on biomarkers, clinomics, epigenomics, microbiomes and pharmocogenomics. The goal is increased capabilities for doctors to predict, and perhaps prevent, some diseases; take earlier action when diseases do arise; and choose the most effective medications and treatments, while minimizing their side effects.



Andre Terzic, M.D., Ph.D., and Michael Pfenning



Veronique Roger, M.D., and Mark Hayward



Scott Beck and Gianrico Farrugia, M.D.

"The science of today is the practice of tomorrow"

Robert Rizza, M.D., Mayo Clinic executive dean for research

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Cancer prevention and education for Alaska Natives

Mayo Clinic began collaborating with local health care providers in Alaska more than 50 years ago. Today, innovative partnerships between Mayo Clinic, the Alaska Native Medical Center and the Alaska Native Tribal Health Consortium target cancer on multiple fronts.

Screening for colon cancer

David Ahlquist, M.D., and his colleagues developed an accurate, noninvasive, easy-to-use screening test for Alaska Natives that detects DNA from 90 percent of colorectal cancers and 70 percent of precancerous polyps. The test can be returned by mail.

Curbing tobacco use

To combat tobacco use among Alaska Native children, teens and pregnant women, Christi A. Patten, Ph.D., and her team developed innovative educational programs, children's camps and a culturally relevant video.

Educating health care providers

Because Alaska has a limited number of oncologists and limited access to cancer care and prevention updates, Steven Alberts, M.D., and Judith S. Kaur, M.D., began an annual cancer seminar for health care providers in 1998. It continues today.

Preventing breast cancer through telemedicine

Through the Mayo Center for Innovation, Sandhya Pruthi, M.D., gives Alaska Native women at risk of breast cancer an individualized prevention plan via videoconferencing.

Expanding cancer prevention and control

Mayo Clinic Cancer Center received a \$6 million grant from the National Cancer Institute to expand efforts over the next five years in cancer prevention and control within American Indian and Alaska Native communities.

Patients find comfort in Jack and Jill rooms

Imagine a patient visit that starts in a small room with a rounded table, computer monitor, comfortable chairs and only one piece of medical equipment: a blood pressure monitor. The patient remains fully clothed and sits side by side with medical providers.

This kind of room is a reality at the Gonda Building in Rochester, Minn. It's called a Jack and Jill room, and it opens the door to better patient-provider communications.

Research reveals that 80 percent of the patient visit is a conversation, and only 20 percent consists of the exam. By helping patients and providers have more meaningful exchanges, the innovative design of the Jack and Jill room — a two-room suite with both an exam room and a conversation room — is transforming how care is delivered. The design for this new room came out of a collaboration between teams from General Internal Medicine and the Mayo Clinic Center for Innovation.



Overcoming the odds

Chris Norton faces spinal cord injury with hard work, determination and help from Mayo.

On Oct. 16, 2010, Chris Norton's life changed forever. He sprinted onto the Luther College football field in Decorah, Iowa, ready for a special teams play. But a fateful tackle ended the play and Norton's football career.

Now it was time for another team to take the field. Skilled athletic trainers and EMTs carefully executed a wellrehearsed game plan — getting Norton to Winneshiek Medical Center, where Mayo Clinic Health System physicians prepared for having him transported by air to Mayo Clinic in Rochester, Minn.

X-rays revealed what everyone feared: Norton had a fractured neck and compressed spinal cord. "The odds were stacked against him," says Ronald K. Reeves, M.D. "But Chris isn't stopping."

Partial mobility in all four limbs

After weeks of intensive physical therapy and sheer determination, Norton overcame the odds and regained partial mobility in all four limbs. "My first movement was a little shoulder raise. The hard work in sports has definitely carried over," he says.

Physical and occupational therapists became Norton's new coaches, working with him up to five hours a day. Norton's father, Terry, says, "We want to say a special thanks to our therapists. They are not only skilled, they bring a positive, upbeat attitude to work every day."



Chris Norton and his football team

"He's just amazed all of us," says Lori Eaton, a Mayo physical therapist. "He's an athlete. He was trained to compete. This is the biggest competition of his life and he's winning."

Norton isn't afraid of being pushed. In addition to intense therapy, he has his own regiment of exercises. "The doctors told Chris he was one of the hardest workers they have ever seen come through rehab at Mayo," says his father. "They are all impressed with his hard work and determination."

CBS "Courage in Sports" award

Norton was named the winner of America's Choice Honor for the CBS "Courage in Sports" award. He was selected after an eight-week Facebook voting competition that tallied nearly 1 million votes.

Today, Norton is back at Luther College, where he was made an honorary captain for the opening home game. He continues daily physical therapy so he can regain as much movement and feeling as his injury will allow. "I've come a long way with Mayo's help," he says.



"The biggest competition of his life and he's winning"

Lori Eaton, a Mayo Clinic physical therapist

Mayo discovers new tick-borne bacterium

An anomaly in a blood sample, first noticed by Carol Werner, a Mayo Clinic Health System technologist in Eau Claire, Wis., prompted Mayo Clinic to begin an investigation that eventually included the Centers for Disease Control and Prevention, area universities and several public health departments.

The investigation revealed a new tick-borne bacterium, present only in Minnesota and Wisconsin, that infects humans with ehrlichiosis and can cause fever and other symptoms. Mayo conducted DNA testing and culture to confirm the new strain, and the research earned a spot in the *New England Journal of Medicine*.

Increasing reports of ehrlichiosis in humans led the Minnesota Department of Health to issue a health advisory in 2010. "Before this report, human ehrlichiosis was thought to be very rare or absent in Minnesota and Wisconsin," says Bobbi Pritt, M.D., a Mayo Clinic microbiologist and director of the Clinical Parasitology and Virology Laboratories who helped coordinate the research.

"As the deer tick population continues to spread, we are likely to see increasing incidence of this new infection," says Susan Paskewitz, Ph.D., an entomologist at the University of Wisconsin-Madison and co-author of the *New England Journal of Medicine* article.

Mayo transitional care heals body, mind and spirit

Carl Sutton jokes about his "bucket list" — the things he wants to do before he dies. "Being dead is not on that list!" says Sutton, a good-humored 75-year-old from Cody, Wyo. "Neither is living in a nursing home." But last spring, those looked like his only options.

Mysterious illness

Sutton's feet had swollen two sizes, he lost interest in eating and he couldn't get out of his chair. After hospitals in Wyoming and Montana couldn't determine what was causing his symptoms, a Mayo MedAir ambulance brought Sutton to Saint Marys Hospital in Rochester, Minn.

Finding answers at Mayo

At Mayo, Sutton was diagnosed with polyarteritis nodosa, a condition that causes the vessels and arteries to become inflamed, limiting their ability to transport blood. If not detected and treated, the condition can lead to organ damage. By the time Sutton was diagnosed, his kidney and colon were already damaged and his weight had plummeted to less than 90 pounds. Under Mayo's care, Sutton's health began to improve, and he was transferred to the Mayo Transitional Care program at Mayo Clinic Health System in Cannon Falls, Minn. When Sutton arrived, he couldn't walk, talk or feed himself. Curt Beissel and Keith Kaiser, physical and occupational therapists, immediately began working to change that. "Within two weeks he was able to stand," says Beissel.

Humor heals

In addition to helping Sutton recover physically, Beissel and Kaiser helped heal his spirit. "Humor is a gamechanger in rehab," says Kaiser. "We want to take the hospitalization out of the hospital stay."

After seven months, Sutton was well enough to head back to his life in Wyoming. Sutton is deeply grateful to his Mayo team. "The people at Saint Marys saved my life, but the people in Cannon Falls gave me my life back," says Sutton. "Curt and Keith kept me so happy. You can't feel lousy when you're laughing."

Curt Beissel, Carl Sutton, Keith Kaiser



"This surgery was a dream come true. I have absolutely no pain."



Brooke Hayes "A dream come true"

Mayo is part of me now."

Learn more about Brooke Hayes double hip replacement.



Double hip replacement Active young adult finds pain relief, answers at Mayo

Brooke Hayes was still years away from her 30th birthday. But she felt like she was approaching her 80th.

Debilitating hip pain had caused Hayes to miss out on activities with friends and family. It forced her to cut back her hours at work. Eventually, the pain became so severe she had to brace herself against walls to walk. At home, she'd sink to her knees and crawl up the stairs.

"It was awful," says Hayes. "I love to travel, swim, go to concerts. But I couldn't do any of that. I tried everything to get rid of the pain — physical therapy, epidural injections, yoga." Hayes wanted her life back and began searching for a surgeon to replace her hips.

Rare bone growth disorder

Though hip replacements are common, Hayes' case was anything but typical. Her pain was a result of a rare bone growth disorder called spondyloepiphyseal dysplasia congenita. She was born with the condition, which results in short stature (dwarfism) and skeletal abnormalities.

Because of her small size — she is 3 feet, 10.5 inches tall — normal implants would be too large. In addition, a previous surgery had changed the alignment of her thighbones.

Complex anatomy

For two years, Hayes and her family traveled the country, interviewing specialists. "No one wanted to do surgery because of the complexity of my anatomy," she says.

Eventually, Hayes was referred to Mark Spangehl, M.D., an orthopedic surgeon at Mayo Clinic in Arizona. She arrived at the meeting armed with the same list of 30 questions she'd asked every other surgeon. For the first time, she left with realistic answers.

"Dr. Spangehl was honest and straightforward," says Hayes. "He was also thinking outside the box about how to deal with the problems created by my anatomy. We walked out of Mayo knowing Dr. Spangehl was the one."

"Brooke Hayes was a once-in-a-lifetime case," says Dr. Spangehl. "Her congenital condition made her case challenging, and the previous surgery, causing more deformity of the thighbones, added an additional layer of complexity."

Creating a model before surgery

Dr. Spangehl sent Hayes' computerized tomography (CT) scans to an implant manufacturer to have models made of her femurs, hips and pelvis, so he and his colleague, Christopher Beauchamp, M.D., could first perform surgery on the models.

"We rehearsed Hayes' surgery to determine how best to correct her anatomy and reconstruct her hips," says Dr. Spangehl, who also had custom implants created that



Ivy Brooke Hayes

were scaled to fit her body. In March 2010, Dr. Spangehl and Dr. Beauchamp replaced Hayes' left hip. Five months later, the surgeons replaced her right hip.

"Mayo gave so much to me"

The results were more than Hayes had dared to hope for. "Mayo Clinic gave me back my life," says Hayes. "They gave me a chance to travel, a chance to be involved with my friends and family again. This surgery was a dream come true. I have absolutely no pain."

Hayes recently moved from her hometown of Ormond Beach, Fla., to begin a new job at Mayo Clinic in Jacksonville, Fla. "Mayo gave so much to me, I wanted to give something back," she says. In her new position, Hayes helps people receiving kidney and pancreas transplants navigate the insurance process.

"I feel so proud and honored to work at Mayo," she says. "Mayo is part of me now."

Future physician finds new hope

Lindsay Morgenstern, a second-year Mayo Medical School student, takes her future role as a physician and caregiver personally. "I look forward to the day when I can treat cancer patients and support them and their families. Because I know," she says.

Cancer survivor

At age 17, Morgenstern was diagnosed with three types of ovarian cancer. She underwent surgery and chemotherapy. "I can tell future patients 'I know what it is like to lose your hair. It will grow back, and you will appreciate it more," she says.

First person in family to attend college

Throughout Morgenstern's battle with cancer, her physicians consulted with specialists at Mayo Clinic in Rochester, Minn. "I noticed that whenever other doctors needed help, they called Mayo Clinic," she observes. With her cancer in remission, Morgenstern trained as an emergency medical technician and phlebotomist, and she became the first person in her family to attend college. When she got the call that she was accepted at Mayo Medical School, she screamed for joy.



Lindsay Morgenstern

Shortly after making Mayo her new home, Morgenstern noticed the return of familiar symptoms. In 2011, Mayo surgeons needed to remove five new masses. "I had groundbreaking laparoscopic surgery," she says.

Integrated care

Morgenstern's Mayo Clinic care team included Reproductive Endocrinology and Infertility specialists who discussed fertility preservation. "When I had my first surgery and chemotherapy at 17, none of my physicians mentioned the need to protect my reproductive health," says Morgenstern. "At Mayo, it was automatic that it was considered and discussed as part of my integrated care.

"I've seen what Mayo has to offer, and there is nowhere I'd rather be treated or practice medicine. I'm at the place I always heard about, learning to be the best doctor I can be."

Revolutionizing treatment of tennis elbow

Physicians Darryl Barnes, M.D., and Jay Smith, M.D., have developed a new, minimally invasive treatment for tennis elbow called the FAST procedure (Focused Aspiration of Scar Tissue). "We only have to make a small nick in the skin — less than 5 millimeters," says Dr. Barnes.

Drs. Barnes and Smith use precise ultrasonic energy to break up the scar tissue using a micro tip numbed with local anesthetic. The micro tip houses a saline delivery system and a hollow needle to extract fluid and broken-up tissue. After the 20-minute procedure, all the patient needs is a bandage and over-the-counter pain medication.

"Early data are showing that ... results with FAST are equivalent to and may be better than the open surgical option," says Dr. Smith. The FAST procedure has potential applications for rotator cuff problems, runner's knee, plantar fasciitis and Achilles tendinosis. "It's very satisfying to offer something to a patient that is effective, low risk and offers a short recovery time," says Dr. Barnes.

Mayo Clinic and Drs. D. Barnes and J. Smith have a financial interest in the technology referenced in this article. In accordance with the Bayh-Dole Act, this technology has been licensed by Mayo Clinic to Tenex in exchange for equity and royalties.

Darryl Barnes, M.D., and Jay Smith, M.D.



Lindsay Morgenstern







How Mayo Clinic makes a difference in the global community.

Making a difference in the global community

Mayo Clinic's reach extends far beyond the walls of its hospitals and clinics. The Mayo International Health Program brings medical knowledge, care and treatment to underserved international populations, and it brings wisdom back to local practices.

Mayo residents/fellows completed 262 trips to 54 countries and 124 different sites in 2011, providing free care to over 64,700 patients.

Performing cleft palate surgery in Ecuador

Amy Saleh, M.D., chief resident of the ENT program, went to Quito, Ecuador, to help children with a cleft lip or palate. "The main focus was to do as many surgeries as possible," she says. "The parents and the children were extremely grateful. Sometimes parents were even in tears because they finally could get the cleft palate or lip addressed."

Caring for patients with malaria, TB, end-stage HIV

Mira Keddis, M.D., and her husband, Mark Imig, M.D., who works in the Child and Adolescent Psychiatry program at Mayo Clinic, served in Lake Elementita, Kenya. After morning rounds, Dr. Keddis and her husband staffed the hospital's outpatient clinic or provided care at a neighboring orphanage that takes care of HIV-positive girls. Dr. Keddis says that the types of cases they treated were eye-opening: "Malaria, TB [tuberculosis], and end-stage HIV with all its complications. It gave us a drive to want to go back."

Partnering with local nurses, physicians

Jason O'Grady, M.D., a third-year Family Medicine resident at Mayo, served in West Africa helping patients in the local clinic. He says people often walked from neighboring countries to get care. Dr. O'Grady also traveled with the mobile medical clinic, providing care in local villages and training local nurses on speed of care, especially for young children in respiratory distress. "It was rewarding to be able to provide care for people who otherwise would have died or would have had life-changing illnesses that would not have been treated," he says.

We value your feedback. Please provide your opinion on this annual report: mayoclinic.org/annualreport/2011/survey Survey open until Nov. 1, 2012.



Learn more about Jorge Rivera's minimally invasive esophagectomy.



He thought it was heartburn. But a routine endoscopy showed precancerous cells in the esophagus. Jorge Rivera, a 47-year-old singer and father of three in Puerto Rico, was stunned.

Rivera led an active life, singing sacred music and playing guitar, raising his tenor voice for the parishioners at Maria, Madre de mi Señor Parrish in Guaynabo, Puerto Rico. Cancer of the esophagus was clearly not in his plans.

"I was scared because my voice would be damaged," says Rivera.

Cancer had spread

The initial endoscopy revealed that Rivera's cancer had spread beyond his esophagus to his sphincter and the upper part of his stomach. Benigno Varela, M.D., Rivera's oncologist in Puerto Rico, suggested a visit to Mayo Clinic in Jacksonville, Fla., where surgeons were performing minimally invasive surgery for cancer of the esophagus.

"Jacksonville was an unknown place to me and so far from my country," says Rivera. "But my doctor in Puerto Rico contacted Mayo Clinic and everything started to move smoothly."

Within a month, Rivera was under the care of several Mayo Clinic specialists. "We assessed Rivera's esophagus both through an endoscope, as well as a special ultrasound endoscope, which uses sonar to measure the depth of the cancer," says Michael Wallace, M.D. Unfortunately, Rivera's pathology report revealed troubling news. He had an aggressive type of esophagus cancer, and his cancer cells were at high risk of spreading to other organs and lymph nodes.

Minimally invasive esophagectomy

Rivera's doctors recommended complete removal of the esophagus. Historically, esophagectomy involves major surgery, but at Mayo the procedure does not always involve opening the chest.

"The surgical procedure that we can offer at Mayo is a minimally invasive procedure that's done through small laparoscopic ports," says C. Daniel Smith, M.D. "This technique enables us to remove the esophagus without any chest incisions. This allows patients to avoid many of the complications associated with entry into the chest."

Surgeons removed Rivera's esophagus and part of his stomach through small incisions in the neck and abdomen. His stomach tissue was shaped into a tube to form a new esophagus and restore his digestive system.

"Patients tend to have less pain and better healing with a minimally invasive esophagectomy," says Dr. Smith. "They tend to get out of hospital sooner and get back to their activities quickly." Rivera was released from the hospital in one week and began eating solid foods a month after surgery. His chemotherapy and radiation were administered in Puerto Rico, with close coordination with his Mayo Clinic physician, Gerardo Colon-Otero, M.D. "Mayo doctors are very available, even from Puerto Rico," says Rivera.

Cancer-free, kickboxing, singing

A year after surgery, Rivera has his life back. He is cancer-free, eating well, playing music, kickboxing and singing.

"At the beginning my voice was very affected," says Rivera. "I persevered in wanting to sing, and today I am fully recovered. I can actually handle higher notes now. I received first-rate treatment, which contributed to the new chance at life that I have today."

Other Mayo physicians responsible for Rivera's diagnosis, surgery and care were Candido Rivera, M.D., and Herbert Wolfsen, M.D.

"I just want to thank the Mayo team for their excellent job, dedication and for bringing me another opportunity at life," says Rivera.



Jorge Rivera "A new chance at life"

"I can actually handle higher notes now,"

"First-rate treatment."

"J^{just} want to thank the Mayo team for ... bringing me another opportunity at life."

Transforming cancer treatment

In 2011, Mayo Clinic broke ground on a new era in radiation therapy by building facilities to house a proton beam therapy program on its campuses in Arizona and Minnesota.

The Mayo Clinic Proton Beam Therapy Program builds upon Mayo's leadership position as the only national cancer center with a multisite presence. Proton beam therapy will be used to treat cancers located deep within the body and close to critical organs and body structures. Mayo believes that proton beam therapy treatments will increase cure rates and reduce long-term side effects, especially in children. "This will be a safer, more effective form of treatment for any type of benign or malignant tumor that's close to a very sensitive structure," says Robert Foote, M.D., chair of Mayo Clinic's Department of Radiation Oncology in Rochester.

\$100 million gift supports program

The Rochester, Minn., facility is expected to open in the summer of 2015, and the Phoenix, Ariz., facility is expected to open in the spring of 2016. Both groundbreaking ceremonies celebrated the generous 2010 gift from long-time Mayo Clinic patient and philanthropist Richard O. Jacobson, who donated \$100 million for the development of Mayo Clinic's Proton Beam Therapy Program. The facility in Rochester will be named the Richard O. Jacobson Building.

Minimal side effects, maximum success

Proton beams can be delivered to a cancerous tumor with submillimeter accuracy, preventing serious radiation side effects, such as organ and tissue damage, as well as future development of secondary cancers caused by exposure to X-ray radiation. For some cancer patients, the promise of higher radiation dosages could result in longer survival rates. Among the patients expected to be treated at Mayo Clinic's proton beam therapy facilities are:

- Children with all types of cancer
- Young women with breast cancer
- Young men with advanced prostate cancer
- Patients with a rare form of melanoma that grows inside the eye
- Patients with lung cancer

"A safer, moré effective treatment"

Robert Foote, M.D.

Arizona Proton Beam Therapy Program





Rochester Proton Beam Therapy Program, Richard O. Jacobson Building

Inspired by proton beam facilities

John Mullins, a fourth-year graduate student in medical physics at Mayo Clinic, says the unique opportunities of a new proton beam therapy facility at Mayo are unparalleled.

"Proton beam therapy is cutting-edge technology for which much exciting research remains," says Mullins. "My thesis project involves the use of proton beam CT [computed tomography] for accurate proton therapy treatment planning."

Mullins is using statistical research simulation to develop a protocol for measuring proton energy loss. "I plan to compare differences in treatment dose calculations ... to quantify the level of improvement proton CT can provide." Mullins says he appreciates how Mayo Clinic translates research to patient care. "I am motivated by knowing that everything I am working on — computer simulations and mathematical approximations of the radiation effects of proton beam therapy — will help people in need."

Mullins also volunteers to mentor high school students interested in science in the Integrated Science Education Outreach (InSciEd Out) program, a collaboration among Mayo Clinic, Winona State University and Rochester Public Schools. "I want to inspire students in the ways I've been inspired," he says.

John Mullins





John Noseworthy, M.D.

Mayo Medical School expands to Arizona

In September 2011, Mayo Clinic announced the expansion of Mayo Medical School to Arizona. "This is one of the most important and exciting initiatives we can undertake," says John Noseworthy, M.D., Mayo Clinic president and CEO. "This new branch of Mayo Medical School is firmly aligned with Mayo's commitment to patient-centered academic excellence. Together with ASU [Arizona State University], we will create the health care workforce of the future."

Specialized master's degree a first

Students will complete a specialized master's degree in the science of health care delivery granted by Arizona State University, concurrently with their medical degree from Mayo Medical School, making it the first medical school to offer such a program.

Redesigning medical education

The expansion will allow Mayo to continue to redefine the field of medical education, training medical professionals in team-based, high-quality, affordable care. "The continuing success of our partnership with ASU allows us the collective ability to redesign medical education in ways that align with the future of health care delivery," says Wyatt Decker, M.D., vice president, Mayo Clinic, and CEO for Mayo Clinic in Arizona.

support Mayo

Your gift supports Mayo's commitment to patient-centered academic excellence. mayoclinic.org/development

Wyatt Decker, M.D







"Bringing hope and healing to the south of t

26

"Our community is global."



How are we serving our community?

In 2011, Mayo Clinic continued its community mission: Reaching out to underserved communities and diverse populations, connecting patients to more resources, translating research findings into action and sharing medical expertise — worldwide.

Health Care & Wellness

\$62 million in charity care — worldwide

Mayo Clinic's charity care program supports patients with significant financial need and those who have medical conditions for which Mayo is uniquely qualified to provide care.

In 2011, Mayo Clinic provided \$62 million in charity care — worldwide:

- Providing emergency care to stabilize patients, regardless of ability to pay.
- Helping patients find sources to fund their care, including opportunities to work with outside agencies.
- Providing individualized payment plans and medical services at reduced rates or at no cost based upon the patient's ability to pay.
- Providing in-kind and monetary support, health-related education, outreach programs, and leadership on community task forces and community boards.









2-1-1 benefits community, health care providers

What are the barriers to health care? Several years ago, the Olmsted County Community Healthcare Access Collaborative (CHAC) asked community members and providers this question. Both groups cited the inability of health care providers to exchange information — and a lack of awareness about community-based health services.

"We needed to do something," says Paul Targonski, M.D., Ph.D., one of the co-founders of CHAC. "The United Way 2-1-1 line was already there." A free, confidential service that is available 24/7, 2-1-1 provides multilingual access for over 100 languages. "The beauty is that the health and wellness information provided by 2-1-1 is evidencebased," says Dr. Targonski.

"United Way was willing to let CHAC grow the 2-1-1 system," says Dr. Targonski, "to help people become aware of wellness resources in the community such as smoking cessation programs, biking trails, parks, farmer's markets and weight-loss programs."

Members of CHAC committed to maintaining accurate information with 2-1-1 Information & Referral Search. They also committed to directing community members to 2-1-1 for community-based health information. "It's very helpful to have 2-1-1 information available at the point of contact with patients," says Dr. Targonski.



John Karalis, daughter, Amy Collopy and Mary Karalis

MAYO CLINK

Arizona

Thank you

A sudden stop, a blow to the body or a sharp twist of the head may make an athlete feel momentarily dazed, dizzy or nauseated. Unfortunately, an athlete sometimes plays through these symptoms or returns to play shortly after a break. Days and months later, the same athlete could be plagued by headaches, difficulty concentrating and mood swings: indications of a brain injury or concussion.

"There is a temptation to dismiss early and mild symptoms," says David Dodick, M.D. "The optimal approach is a rapid assessment by a trained health care provider followed by a comprehensive evaluation." Children, adolescents and female athletes appear to be at a higher risk for concussions.

Free baseline testing

Due to the generosity of Mayo Clinic benefactors John and Mary Karalis, whose son, Ted, had suffered a brain injury, Mayo Clinic in Arizona offered free, baseline

Bert Vargas, M.D., Neurology

cognitive concussion testing to student athletes age 12 and older and hosted the first Arizona Concussion Summit in 2011. Attendees learned to recognize concussion signs and symptoms. They also learned about changes in brain function that occur after concussions, the vulnerabilities of developing brains, proper evaluation of the concussed athlete, and the role of baseline and after-injury testing in making return-to-activity decisions.

Stricter guidelines for play

Mayo Clinic supports stricter guidelines for play, including eliminating head checks and fighting from all levels of hockey; a certified athletic trainer at all events and practices where athletes are at risk for concussion; and a return to participation only after evaluation by a neurologist or physician with proper training.

Social Responsibility

\$3 million investment in community programs

Mayo Clinic invests resources responsibly to produce the best outcomes for patient care, education, research, community enrichment and sustainability. In 2011, Mayo Clinic invested more than \$3 million to support more than 100 community programs and projects, helping:

- Improve the health of individuals in communities.
- Strengthen community partnerships and collaboration.
- Address significant and emerging community needs.
- Support sustainability.

Supporting our local community

Mayo Clinic is deeply committed to the health and wellness of the communities where its employees live and work: Phoenix and Scottsdale, Ariz., Jacksonville, Fla., Rochester, Minn., and Mayo Clinic Health System, a network of clinics and hospitals serving more than 70 communities in Iowa, Minnesota and Wisconsin.





Mayo volunteers bring expertise to Haiti

The devastating earthquake that hit Haiti in January 2010, killed over 220,000 people and injured nearly 300,000. While progress is being made in the country's reconstruction, cholera and malnutrition plague the population. Additionally, half a million men, women and children, displaced from their homes, continue to live in crowded shelters, which elevates public health risks.

Eight teams of Mayo Clinic employees traveled to Port-au-Prince, Haiti, from February to June 2011. Their focus was providing knowledge and tools for the people of Haiti. Finding the best solutions required combining the knowledge of Mayo volunteers and Haitian staff.

One team used a mannequin to explain the effects of diabetes. Another team created replicas of Mayo's anesthesia carts for a new operating room suite. Still another helped install a software program to maintain pharmaceutical supplies. "Without sustainability, you're not fixing the problem," says Stephanie Koonce, M.D.

The first videoconference between Haitian staff and Mayo physicians occurred during the seventh team's visit. Videoconferences still occur regularly. "It's humbling and reminds you of why you went into medicine," says Dr. Koonce.

Dedicated to sustainability

"The more we explore opportunities for greater environmental stewardship at Mayo Clinic, the more excited we become about all that is possible," says John Black, M.D., leader for environmental sustainability at Mayo Clinic.

"Green is everywhere we look — from the daily actions of our 58,000 employees, to the products we purchase, to the energy we use, and the facilities and services we create to advance health care."

More than \$2.3 million in savings

Mayo Clinic's sustainability practices are responsible for more than \$2.3 million in financial savings per year. Environmental efforts are seen and unseen, including 462 solar panels powering elevators and lights in a downtown Rochester, Minn., parking ramp; new rain gardens and permeable parking areas filtering wastewater from area sewers; and efforts to recycle waste, repurpose equipment and recommission facilities for better energy performance.

2011 sustainability highlights

- Reprocessing over 61,000 pounds of waste at Mayo Clinic hospitals in Arizona, Florida, Mayo Clinic Health System and Rochester.
- Committing to 20 percent reduced energy use by 2020 on the Rochester, Minn., campus.
- Gaining state approval for conversion from constant volume to variable volume air conditioning at Mayo Clinic Hospital in Florida, saving a projected \$200,000 per year.
- Purchasing energy-efficient equipment in food service areas and working with authorized vendors to purchase produce from local farmers whenever possible.



Research & Education

\$839 million secured for research and education





Mayo Clinic's strong operational performance and financial stewardship allow strategic investments in research and education that benefit people worldwide.

In 2011, Mayo Clinic reinvested \$839 million in research and education programs. Mayo's goal is to advance medicine, enhance individual and population health, and redefine the future of health care. The 2011 funding represents an increase of \$48.4 million over 2010.

"Our unique environment brings together the best in patient care, groundbreaking research and innovative medical education," says John Noseworthy, M.D., Mayo Clinic president and CEO.





Research

Mayo Clinic research is essential to advancing patient care and offering new solutions and hope for patients worldwide. In 2011, Mayo's combined research programs generated:

- 2,513 new protocols.
- 8,117 active human research studies.
- 5,444 research publications and review articles in peer-reviewed journals.
- Nearly \$367 million in external funding.

Education

Mayo Clinic investments in education prepare the next generation of health care professionals to provide outstanding, compassionate care to patients worldwide. In 2011, the College of Medicine, Mayo Clinic, educated:

- 2,446 medical and allied health program students.
- 1,491 residents and fellows.

In addition, every year thousands of medical professionals enhance their knowledge and skills through Mayo Clinic's continuing medical education programs.



Safeguarding school children with asthma

Research has shown chronic asthma affects the selfesteem, school attendance and performance of children.

In 2011, the U.S. Department of Health and Human Services awarded \$12.3 million in grant money to the Southeast Minnesota Beacon Community, which is focused on improving the treatment of children with asthma through health care information exchange. Throughout the United States, Beacon Communities help advance health care information exchange and electronic health record adoption. By sharing patients' health information through a secure, validated and accurate system of electronic medical records, the Beacon Community is enabling public schools to develop their own asthma action plans using an online asthma toolkit.

"All participating schools will have the information and resources to develop their own asthma action plans to help students," says Erin Knoebel, M.D., Mayo Clinic pediatrician and coordinator of the toolkit project. The goal is to develop what Beacon leaders call a "cocoon of care" in school.

The Southeast Minnesota Beacon Community is also improving the treatment of adults with diabetes. Mayo and several community partners believe that better information technology has the potential to improve health care coordination and delivery.

Helping children enter school prepared to learn

In Rochester, Minn., nearly 50 percent of kindergartners enter school not fully prepared to learn. Many of these children are not native English speakers, making the transition from home to school more of a challenge.

"Research has shown that children who begin school not fully prepared to learn are less likely to succeed in school, to graduate and go to college, and to have the job skills necessary to succeed," says Jean Locke, chair of Rochester Area Foundation First Steps, a public-private economic development program.

Literacy-rich environments

First Steps is working to increase the number of children who enter school prepared to learn by reaching out to parents and other caregivers. Through its SEEDS program (Sensitive Parenting, Encouragement, Educate, Develop through Doing, and Positive Self-Image), First Steps is teaching parents how to create literacy-rich environments for children. Mayo Clinic has contributed \$750,000 to the program over the past seven years.



Investing in the community

Susan Ahlquist, director of community relations at Mayo Clinic, says, "We recognize the importance of education and early childhood development as key social determinants of health. Making an investment in children today will reap benefits for our entire community in the future."

Spanish- and Somali-speaking parents

With financial support from Mayo, the SEEDS program was adapted for Spanish- and Somali-speaking parents. More than 100 parents completed training in 2011. To measure effectiveness, a baseline assessment was conducted before the program began, with follow-up studies coming in 2012.



Solid 2011 Performance Financial report

Mayo Clinic reports a solid performance in 2011 and plans for growth in services and programs to meet the needs of tomorrow's patients in new and different ways.

Mayo Clinic has evolved to become a far-reaching notfor-profit national and international medical organization that treats more than 1 million patients each year, with annual revenues of \$8.5 billion. Mayo Clinic's more than 58,000 employees provide essential health care services to patients from more than 135 countries.

Growth strategies benefit people everywhere

"Mayo Clinic creates, connects and applies integrated medical knowledge to deliver the best health care, health guidance and health information to people everywhere," says John Noseworthy, M.D., Mayo Clinic president and CEO. "Our employees make the impossible possible for our patients every day. Their dedication to our mission makes me confident about how we will redefine the future of health care." As an example, in 2011, Mayo Clinic launched the Mayo Clinic Care Network, a network of provider organizations that have access to Mayo expertise and physicians to help them care for their patients closer to home whenever possible. Altru Health System, Grand Forks, N.D., was the first member to join the Mayo Clinic Care Network. Kingman Regional Medical Center, Kingman, Ariz., has also been added to the network.

Links between research and patient care

Dr. Noseworthy says that to continue to advance its mission, Mayo Clinic must create even tighter links between research and patient care. "We never give up until we find answers for our patients," he says. "Our unique environment brings together the best in patient care, groundbreaking research and innovative medical education."

One way Mayo is making tighter connections between research and patient care is with the creation of Mayo Clinic's three new centers: the Center for the Science of Health Care Delivery, the Center for Individualized Medicine and the Center for Regenerative Medicine.

"These three new centers represent strategic investments in the future of health care," Dr. Noseworthy says. "By making these investments, we can reduce costs, advance medicine and enhance both individual and population health." Another example of delivering care in new ways is Mayo Clinic's Telestroke Network, which serves rural residents in geographic areas without access to neurological expertise. Mayo Clinic in Arizona started the telemedicine stroke program when statistics revealed that 40 percent of Arizona residents did not live in an area with stroke expertise. The program uses a digital video camera and Internet telecommunications to perform live, real-time audiovisual consultations on patients who have suffered an acute stroke. Studies show it is cost-effective and improves outcomes for patients.

Advancing the science of health care delivery

On the educational front, Mayo Clinic is advancing medicine with a new medical school branch campus in Arizona that will focus on teaching medical students about the science of health care delivery as a part of their medical education. This program will address the changing needs of 21st century health care delivery and redesign medical education in ways that will transform the future of health care.

Income from Current Activities (in millions and % of revenue)



Operating Performance (in millions)

	2011	2010	CHANGE
Total Revenue	\$8,475.7	\$7,942.0	6.7%
Total Expenses	7,865.5	7,426.7	5.9%
Income from current activities	\$ 610.2	\$ 515.3	
Percent of Revenue	7.2%	6.5%	0.7p

MARGIN

Strategic investments in the future of health care

Shirley Weis, the clinic's vice president and chief administrative officer, says that Mayo Clinic's strong operational performance and financial stewardship allow strategic investments in the future of health care. "We anticipate that the next three to five years will be marked by higher-than-average job growth and continued capital spending as we execute a set of strategic initiatives designed to meet patients' evolving needs," she says.

Investing in innovation, education, research

In the coming year, Mayo Clinic will continue to invest in practice innovation, education and research. "In 2012, Mayo Clinic will launch \$600 million in capital projects," Weis says. "We estimate spending \$700 million per year in capital projects for the next five years."

This commitment to capital spending includes both ongoing and new projects. Ongoing projects announced in 2010 and 2011 include the proton beam therapy program, expansion of the Dan Abraham Healthy Living Center, expansion and renovation to the Emergency Department at Saint Marys Hospital in Rochester, Minn., and improvements to Mayo Clinic Health System sites in Austin, Minn., and Barron, Wis. New projects include the Center for Regenerative Medicine, Center for Individualized Medicine, Center for the Science of Health Care Delivery and others.





Jeff Bolton, Chief Financial Officer

Shirley Weis, Vice President and Chief Administrative Officer

Key 2011 accomplishments

- Mayo Clinic cared for more than 1 million patients at its campuses in Minnesota, Florida, Arizona and Mayo Clinic Health System, a network of clinics, hospitals and health care facilities serving more than 70 communities in Minnesota, Iowa and Wisconsin.
- Mayo research programs garnered nearly \$367 million in external funding. About 8,117 active human studies were under way in 2011.
- The College of Medicine, Mayo Clinic, educated 2,446 students, and 1,491 residents and fellows.
- Fortune magazine named Mayo Clinic to its select list of the "100 Best Companies to Work For" in 2011. This marks Mayo's ninth consecutive year on the magazine's annual compilation of companies that rate high with employees.

Financial highlights

Mayo Clinic experienced strong revenue growth in 2011 despite the challenging economic environment, with growing surgical volumes and by serving patients that tended to have more serious medical issues. At the same time, Mayo Clinic was able to control expenses through re-engineering and process improvement efforts.

"As a humanitarian not-for-profit organization, Mayo Clinic is not in the business of making money for money's sake. All of the earnings of Mayo Clinic are reinvested in fulfilling our mission," says Jeff Bolton, Mayo Clinic's chief financial officer. Some key financial highlights:

- Mayo Clinic built on its solid 2010 financial performance, ending 2011 with more than \$610 million in income from current activities or net operating income which translates to an operating margin just over 7 percent and aligns with the clinic's long-term objectives.
- Patient volumes remain steady, but Mayo Clinic continues to see a mix of medically complex patients.
- Benefactors, primarily grateful patients, contributed \$318 million to fund Mayo Clinic programs in practice, education and research.

- In 2011, the total budget for education and research programs was \$839 million, with Mayo Clinic investing nearly \$421 million.
- Securing Mayo Clinic's pension fund continues to be a priority and underscores Mayo Clinic's commitment to its staff. Mayo Clinic made an additional 2011 cash contribution of \$196 million to the pension fund in December, bringing the total contribution in 2011 to \$384 million.
- "I believe the door to our future is open wide, and the pathway is clear," says Dr. Noseworthy. "Today, we take the best of what Mayo has done for nearly 150 years into the dawn of the next century. With technology and partnership, we will redefine the future of health and health care."

Investment Performance

(annualized return)

	1-YEAR	3-YEAR	5-YEAR
General Fund	5.4%	9.7%	4.5%
Benchmark	3.7%	8.8%	1.6%

Research & Education Funding



Consolidated Statements of Activities

Years ended Dec. 31, 2011 & 2010 (in millions)

Revenue, gains, and other support:		2011	2010
	Net medical service revenue	\$7,141.1	\$6,735.7
	Grants and contracts	368.5	344.6
Inve	stment return allocated to current activities	144.6	122.8
(Contributions available for current activities	254.7	178.7
	Premium revenue	108.5	108.6
	Other	458.3	451.6
	Total revenue, gains, and other support	8,475.7	7,942.0
Expenses:			
	Salaries and benefits	5,141.3	4,911.8
	Supplies and services	1,897.5	1,725.0
	Facilities	614.6	590.7
	Provision for uncollectible accounts	159.8	160.1
	Finance and investment	52.3	39.1
	Total expenses	7,865.5	7,426.7
Income from current activities		610.2	515.3
Non-current and other items:			
Contribu	tions not available for current activities, net	55.6	24.0
	Unallocated investment return, net	(9.0)	274.5
	Income tax expense	(22.9)	(22.3)
	Contribution received from affiliation	16.2	—
	Other	0.4	1.3
	Total non-current and other items	40.3	277.5
Increase (decrease) in net assets before other changes	in net assets	650.5	792.8
Pension and other postretirement benefit adjustments		(734.9)	(250.0)
Increase (decrease) in net assets		(84.4)	542.8
Net assets at beginning of year		4,813.8	4,271.0
Net assets at end of year		\$4,729.4	\$4,813.8

Consolidated Statements of Financial Position

Years ended Dec. 31, 2011 & 2010 (in millions)

Assets	2011	2010
Cash and cash equivalents	\$ 141.3	\$ 73.8
Accounts receivable for medical services – net	1,422.4	1,221.0
Investments – at market	4,237.4	3,963.0
Other assets	828.8	831.6
Property, plant, and equipment – net	3,499.0	3,489.6
Total assets	\$10,128.9	\$9,579.0
Liabilities and Net Assets		
	\$ 1,459.3	\$1,635.8
Accounts payable and current liabilities	\$ 1,459.3	\$1,635.8
Accounts payable and current liabilities Long-term debt	\$ 1,459.3 1,631.9	\$1,635.8 1,360.4

2011

This summary is intended to Measures of service present a brief review of Mayo Clinic's financial condition and Total clinic patients* 1,113,000 activities for 2011 compared with 2010. The Consolidated Financial Hospital admissions 123,000 Statements of Mayo Clinic for the years ended Dec. 31, 2011 Hospital days of patient care 588,000 and 2010 were examined by McGladrey & Pullen, LLP. A copy of their report and Mayo Number of personnel (including temporary and supplemental employees) Clinic's financial statement can be obtained by writing to: Staff physicians and medical scientists 3,800 Treasurer Allied health 50,900 Mayo Clinic 200 First Street SW Residents, fellows and students 3,600 Rochester, MN 55905 58,300

Total

*Individual patients are counted once annually.

Mayo Clinic Services and People

Consolidated Benefit Summary: Benefits to those in need and the broader community¹

Year ended Dec. 31, 2011 (in millions)

Cost of benefit provided to those in need	2011
Charity care Unpaid portions of Medicaid and other indigent care programs	\$ 61.9 260.4
Total quantifiable benefit to those in need	\$ 322.3
Cost of benefit provided to the broader community	
Non-billed services and cash and in-kind donations Education and Research ²	\$ 3.3 838.5
Total quantifiable benefit to the broader community	\$ 841.8
Total estimated cost of quantifiable benefit to those in need	\$1,164.1
Unpaid portions of Medicare and other senior programs	\$ 999.4

¹ The estimated cost of benefits to those in need and the broader community were calculated in accordance with the guidelines set forth by CHA/VHA.

² The estimated cost of research and education includes externally sponsored funding that totaled \$417.6 in 2011.

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