We are all Caregivers
“It is your people who are your greatest asset. They are engaged, passionate and compassionate… You have world-class care because you have world-class people.”

— Quote from a report of The Joint Commission team visiting Cleveland Clinic in 2010, remarking on caregiver engagement.
Dear Friends,

The year 2011 is the 90th Anniversary of Cleveland Clinic. It’s time to celebrate our accomplishments, reaffirm our vision and prepare for the next 90 years of achievement in patient care, research and education.

The past decade has been a time of rapid change. We made “patients first” our guiding principle. Every individual in every job at Cleveland Clinic is now called caregiver. We reorganized our profession-oriented group into patient-oriented institutes. We focused on quality metrics, promoted wellness, and maintained our high ranking in U.S. News & World Report. Our achievements make news in all media, and our national recognition increases every year.

We have made progress across the system. Same-day appointments were launched, and the overall wait-time for an appointment has dropped. Our Critical Care Transport team transferred 14,000 patients last year, filling one-third of our hospitals, especially intensive care. We set the basis for an electronic medical record, and established a presence in West Palm Beach, Florida; Las Vegas, Nevada; Toronto, Canada; and Abu Dhabi, United Arab Emirates.

The Cleveland Clinic Lerner College of Medicine of Case Western Reserve University was founded. We built 10 million square feet of new facilities, and renovated another 7.5 million. Seventy-six percent of the buildings are now new or renovated across our integrated health system. We have a master plan to guide main campus development, and to assure the preservation and expansion of green space.

Today’s Innovations, Tomorrow’s Healthcare was completed in 2010. With the leadership of a dedicated Executive Board, this philanthropic campaign surpassed the goal of $1.25 billion and raised a total of $1.4 billion – one of the largest totals in the history of American healthcare. Our thanks to all who participated in this campaign.

Finally, the past decade has seen a remarkable financial turnaround. Our operating revenue has grown almost 8 percent every year (5 percent in 2010); Cleveland Clinic Florida is running in the black; our long-term investment pool has grown from $500 million in 2002 to $3.6 billion today. Cash on hand in 2002 threatened our bond charter at only 60 days. Today, it is 243 days. A notable recovery.

There are abundant challenges going forward. 2010 was a year of recession. We held steady in the face of local, national and international economic trends. We will continue to see rising local unemployment and population decline in Northeast Ohio, changes in the delivery of healthcare, and falling reimbursement from government – now our largest payor.

We are being asked to do better with less. We will do it.

Our goal is to be the world’s leader in clinical outcomes, research and education. We are moving closer to being a system where all facilities will share the same practices and procedures; we’re finding new ways to grow the enterprise, capitalize on technology and build on our values of quality, innovation, teamwork, service, compassion and integrity.

This was a year of significant transition. A. Malachi Mixon, III, retired as chairman of the Board of Directors. Mr. Mixon led Cleveland Clinic through 15 years of expansion and achievement. He has earned our most profound gratitude for his years of outstanding service, and deserves the thanks of our caregivers, patients and the community.

Robert E. Rich Jr. has been elected the new chairman of the Board. Mr. Rich joined the Board in 2002, and chaired the successful Today’s Innovations, Tomorrow’s Healthcare campaign. The Cleveland Clinic family has been delighted to welcome him.

The founders of Cleveland Clinic left us a great gift in the not-for-profit, multi-specialty group practice. What proved to be the ideal model of medicine 90 years ago remains ideal in 2011. We have never been more optimistic about the future than we are today. Our job is to demonstrate that our model of healthcare delivery can not only help people in Cleveland and Northeast Ohio, but people around the nation and around the world.

Sincerely,

Delos M. Cosgrove, MD
CEO and President
Cleveland Clinic

Chairman of the Board of Directors
Cleveland Clinic
A redcoat transports a patient for discharge outside the Miller Family Pavilion on main campus.
Everyone who works at Cleveland Clinic is a caregiver. Every individual, in every job. They are focused on their patients, and their patients’ health, comfort and feelings. Their goal is to give every patient the best outcome and the best experience. Because caregiving is not a destination. It’s a journey.
Charity Tillemann-Dick was a 26-year-old opera singer with pulmonary hypertension. She needed a lung transplant. She came to Cleveland Clinic. Caregiver Kenneth McCurry, MD, of the Miller Family Heart & Vascular Institute performed the operation. Six months later, Ms. Tillemann-Dick serenaded her caregivers with an aria from “La Bohème.” Beautiful.
Opera singer and patient Charity Tillemann-Dick performs for caregivers at Cleveland Clinic.
Vincent Tuohy, PhD, with researcher Justin Johnson in his lab in Lerner Research Institute.
Breast cancer may be preventable, the way polio is preventable — by vaccine. Caregiver Vincent Tuohy, PhD, of the Lerner Research Institute, has developed a vaccine in preclinical animal studies designed to safely and effectively prevent breast cancer. If funding develops, it will eventually be tested in humans. For the moment, there is hope.
Victor Matos is a caregiver and equipment technician in the Children’s Hospital intensive care unit. He is the “go-to” guy for the nurses, setting up patient rooms, moving and maintaining equipment and helping things run smoothly. He often befriends the children and parents. “I feel that life on earth is measured by how many people we’ve touched and the impact we’ve had on their lives.”
Victor Matos checks on equipment in a young patient’s room in the Children’s Hospital.
Fellow Gregory Spana, MD, from the Glickman Urological & Kidney Institute, performs surgery with a surgical robot.
Surgical robots are extensions of the caregiver’s hands. They allow the surgeon to perform delicate tasks through tiny incisions, with fewer complications and shorter recovery times. Cleveland Clinic has upward of 10 surgical robots. This year, caregiver Jihad Kaouk, MD, of the Glickman Urological & Kidney Institute used a surgical robot to help remove a patient’s kidney and prostate through a single belly button incision. A world robotic first.
Concussions are underestimated, under-reported and rob young athletes of future cognitive health. Caregiver Edward Benzel, MD, and his research team headed by Adam Bartsch, PhD, of the Neurological Institute, are assessing the ability of sports helmets to minimize the impact transmitted to the brain at different levels of force and velocity and at a variety of angles. The ultimate goal is protection — for contact sport athletes and members of the military.
Adam Bartsch, PhD (left), and Edward Benzel, MD, in the Spine Research Lab at Lutheran Hospital.
Andrea Harris, BSN, RN, discusses healthy eating with a diabetic patient at Huron Hospital.
Diabetes has an enemy. Education. People who have diabetes need to learn self-monitoring and correct medication use. Caregiver and diabetes educator Andrea Harris, BSN, RN, is at the heart of the diabetes epidemic. Every day she is on the frontlines at Huron Hospital’s Lennon Diabetes Center sharing stories and a laugh with patients—and educating them along the way. She strives for “breakthroughs” when patients begin to make the connection between their lifestyle choices and their health. In these cases, knowledge is life.
2010 REVIEW
The year 2010 found Cleveland Clinic caregivers at the forefront of patient care, research and education. Hard work was the keynote, as caregivers at every level maintained the daily pace of a leading academic medical center, making major contributions to science, medicine and the efficiency and effectiveness of patient care. This Year in Review offers a few highlights of this very productive year. It is by no means comprehensive. There are many more achievements than could be included in a chronicle of this scope. This year, as every year, Cleveland Clinic caregivers saved many lives and enhanced the lives of many more. What follows are some of the achievements, honors and insights of the past 12 months.
Cleveland Clinic’s Glickman Urological & Kidney Institute is ranked among the best in America, year after year (U.S. News & World Report). Urology at Cleveland Clinic will celebrate its 90th Anniversary in 2011. Here are some of the Glickman Urological & Kidney Institute’s extraordinary achievements in 2010.

**Robotic Surgery Firsts**

Cleveland Clinic continues to make progress in the application and refinement of new robotic and laparoscopic surgical techniques. In 2010, teams led by Jihad Kaouk, MD, achieved a number of surgical firsts. They include a complex procedure in which a patient’s kidney and prostate were removed through a single belly button incision, using a da Vinci surgical robot. In this same procedure, and through the same incision, they performed a pyelo-plasty, a procedure that is done to revise and open a narrowed conduit out of the kidney. Dr. Kaouk and his team demonstrated that the robotic approach overcomes many of the difficulties that had limited the use of manual laparoscopic surgery for this procedure until now. (British Journal of Urology International)

Dr. Kaouk and his team also performed the first robotic partial nephrectomy on a patient with a transplanted organ. With robotic assistance, they removed a tumor from the kidney of a 35-year-old woman who had received the donor kidney at age 10. (Urology)

**Gene Expression Profiling Predicts Prognosis for Renal and Prostate Cancer Patients**

Several Glickman investigators have been involved with developing new tumor-based tests that improve the ability to predict the likelihood of cure after therapy for these common tumors. Working with Genomic Medicine, Brian Rini, MD, and Steven Campbell, MD, PhD, demonstrated that expression of certain genes in kidney tumors improves outcome prediction, helping to decide who needs additional therapy after surgery.

And Cristina Magi-Galluzzi, MD, PhD, of Pathology & Laboratory Medicine and Glickman, and Eric Klein, MD, similarly helped show that the expression of certain genes predicts who is at high risk of relapse after radical prostatectomy. Eventually, this work could lead to a biopsy-based test that can help men decide whether their prostate cancer needs treatment or can be safely watched. (Presented at the ASCO/SUO GU Cancers Symposium)

**HGPIN Controversy Solved**

The urological community has been divided over whether or not the pathological entity known as high-grade prostatic intraepithelial neoplasia (HGPIN) is a precursor or a marker of prostate cancer. Existing research grouped all patients in such a way as to produce one result or the other, or to indicate that HGPIN was meaningless. Researchers led by J. Stephen Jones, MD, and Michael Lee, MD, of the Glickman Urological & Kidney Institute, subdivided patients into those whose HGPIN was focal (limited) and those in whom it was multifocal (extensive). They showed that focal HGPIN was not meaningfully related to prostate cancer. More importantly, they discovered that multifocal HGPIN was associated with a doubled risk of developing prostate cancer at both three- and five-year intervals. They were first to show that focal and multifocal HGPIN are distinct entities, and that the latter is one of the greatest risk factors for imminent prostate cancer, and so merits careful surveillance and consideration for prevention strategies. (Journal of Urology)
Tumor Marker Range Extended
Up until recently, a marker known as the percentage of free PSA has been considered a tumor marker in patients with PSA values only within the range of 4-10. Researchers led by J. Stephen Jones, MD, noted that this reference range was outdated, and that percentage of free PSA hadn’t been tested outside that range. They discovered that percentage of free PSA is also a highly predictive tumor marker below the range of 4.0 – enhancing the clinical usefulness of this indicator. (Urology)

Novel Gammaretrovirus Causes Persistent Infection in Primates
XMRV is a novel gammaretrovirus first isolated in a study of prostate tissue of men undergoing radical prostatectomy for cancer. It was discovered by Eric Klein, MD, chair of the Glickman Urological & Kidney Institute, and Robert Silverman, PhD, of the Lerner Research Institute. In collaboration with investigators at the Yerkes National Primate Research Center, a new study by these investigators indicates that after intravenous injection XMRV causes a persistent chronic infection in rhesus macaque monkeys, infecting both whole blood cells and a variety of tissues including the prostate. This study establishes the first primate model for the study of the biology of this virus. (Journal of Virology)

XMRV Workshop
This year, Dr. Silverman co-chaired the First International Workshop on XMRV, held on the NIH campus in Bethesda, MD. More than 200 participants gathered, representing academia, industry and the government, to discuss issues related to XMRV. NIH director Francis Collins, MD, PhD, delivered the meeting’s introduction. Dr. Silverman was a featured speaker, as was Dr. Klein. Sessions covered virology, host responses, prostate cancer, chronic fatigue syndrome, assay development, and epidemiology and screening.

Agent Prolongs Lives of Renal Cell Cancer Patients
Brian Rini, MD, of the Taussig Cancer Institute and Glickman Urological & Kidney Institute, coauthored a study that found that the agent known as bevacizumab to IFN-alpha was able to prolong the lives of patients when given to patients with metastatic renal cell carcinoma, up to 2.5 years. (Journal of Clinical Oncology)

Chronic Kidney Disease Registry
Sankar Navaneethan, MD, and colleagues have used the electronic medical record to develop a kidney disease registry that could be a model nationwide. The registry stores easily retrievable demographics, medical conditions, laboratory details, medications and other characteristics of 57,276 patients. It has come about through the collaboration of Nephrology, Information Technology, Internal Medicine and Quantitative Health Services. A paper by Dr. Navaneethan reports that the registry is reliable for helping physicians follow the course of disease in patients as they progress from early to later stages of chronic kidney disease. In the future, the registry could link to other registries nationwide to help clinicians evaluate the effectiveness of treatment strategies, from primary care to dialysis or transplantation. (Clinical Journal of the American Society of Nephrology)

Insight on Transplant Patients and Dialysis
Titte Srinivas, MD, and colleagues, analyzed the Scientific Registry of Transplant Recipients data and found that patients who have received an organ transplant in the past are more likely to be placed preemptively on the waitlist for kidney transplant (before starting dialysis) than other candidates for kidney transplant. He found that previous non-kidney transplant patients died sooner on the waitlist than kidney-alone listings. These findings suggest that further study needs to be done on the health of patients at the time of first transplant, whether or not the initial transplant experience affects their later kidney transplant outcomes, and the ethical issues surrounding access to care. (Clinical Journal of the American Society of Nephrology)
A dance performance presented by the Arts & Medicine Institute in the Miller Family Pavilion enhances the caregiving environment for patients, families and visitors.
New Effective Treatment for NASH
Non-alcoholic steatohepatitis (NASH) can lead to cirrhosis of the liver and liver cancer. There is a critical need for effective therapies for NASH. Claudia Zein, MD, of the Digestive Disease Institute, led a randomized, placebo-controlled trial showing that the drug pentoxifylline can help reduce the disease activity of NASH. (Hepatology)

First Trial of Percutaneous Valves
Aortic valve replacement is a common surgical procedure. But many patients with aortic valve disease are too old or sick for surgery. Cleveland Clinic has been testing an alternative using a catheter with a collapsible prosthetic valve placed at the tip. The catheter is inserted through a small incision and threaded through the blood vessels to the heart. Once it reaches the site of implantation, the new valve is expanded in place of the old valve and fixed to the sides of the annulus. Lars Svensson, MD, PhD, and E. Murat Tuzcu, MD, of the Miller Family Heart & Vascular Institute, were co-investigators in the first major trial (known as PARTNER, or Placement of Aortic Transcatheter Valves) of this technique. Dr. Svensson, Dr. Tuzcu, and their co-investigators found that patients treated with the new technique improved by all measured criteria. They recommended that it become the new standard of care for patients with this condition who are ineligible for surgery. (New England Journal of Medicine)

Study Leads to Rosiglitazone Restriction
A 2007 study led by Steven Nissen, MD, chairman of the Tomsich Department of Cardiovascular Medicine, suggested that the widely used diabetes drug rosiglitazone was associated with a 40 percent increase in the risk of heart attacks. As a direct result of this study and subsequent findings, rosiglitazone was banned by the European Medicines Agency and placed under severe restrictions by the FDA. (New England Journal of Medicine)

Home Monitored Cardioverter-Defibrillators
Millions of people have been treated with implantable cardioverter-defibrillators. These devices are able to detect dangerous arrhythmias, and use an electronic pulse to correct them. Until recently, patients needed to make regular visits to their doctors’ offices to analyze data from the devices and make sure they were working properly. But a new type of cardioverter-defibrillator has been developed that is able to send the required data continuously by means of wireless telemetry. This means fewer costly office visits for patients. Niraj Varma, MD, PhD, of the Miller Family Heart & Vascular Institute, led the first multicenter trial evaluating these remote monitoring devices. He found that home monitoring is safe and allows more rapid detection of dangerous arrhythmias than office visits. He also found that remote monitoring can address a patient’s concern that an ICD or its leads has become subject to safety advisories from the FDA. At Cleveland Clinic, every implantable defibrillator is now followed by remote monitoring. (Circulation, Arrhythmia and Electrophysiology)

First Use of Berlin Heart in Northeast Ohio
The Berlin Heart implant is a new pediatric biventricular assist device for children as small as newborns. The bulk of the device sits outside of the patient’s chest, with tubes leading to the heart. Robert Stewart, MD, and Gerard Boyle, MD, of the Cleveland Clinic Children’s Hospital, were first in Northeast Ohio to implant the Berlin Heart. The patient was an 8-year-old boy with congestive heart failure who has been difficult to match with a donor heart because his body produces a high level of antibodies. To decrease the antibody count, Dr. Boyle and the transplant team undertook an innovative therapy using the proteosome inhibitor, bortezimab – a chemotherapy agent. This therapy is part of a collaborative effort with Arkansas Children’s Hospital, the Children’s Hospital of Pittsburgh and Seattle Children’s Hospital, and was spearheaded by Dr. Boyle.
The Neurological Institute Goes Regional

Through the integration of existing neurosurgery practices on the east side of Cuyahoga County, neurosurgical care and coverage is now provided by a common team of neurosurgeons and in a coordinated effort between Euclid, Hillcrest, Marymount, South Pointe and Lake West Hospitals. Through this systematic approach to providing neurosurgical coverage, patients across this region have easy access to Cleveland Clinic Neurosurgery in a system that can quickly evaluate and treat the patient locally or coordinate transfer and treatment at another facility best able to meet the care and acuity demands of that patient.

In collaboration between the Neurological Institute and Regional Hospitals’ emergency department, nursing, and stroke leadership, Euclid and Hillcrest Hospitals achieved Joint Commission Primary Stroke Certification this year. To further coordinate the treatment of acute stroke care in the community, a new bi-plane angiography suite was opened at Hillcrest Hospital allowing expansion of the Neuro-Interventional program and providing an East Side location for interventional treatment of acute stroke.

To better provide high level neurological care in the community, the Neurological Institute introduced inpatient neurology services to Lakewood and Medina Hospitals while adding to the existing services at Euclid and Hillcrest Hospitals. The inpatient neurology services provide ED coverage for Acute Stroke, inpatient consultation, and on-site interpretation of neurological specific diagnostic testing (EEG, EMG).

In Las Vegas, Nevada, the Neurological Institute provides state-of-the-art care for cognitive disorders and the family members of those who suffer from them, at the Cleveland Clinic Lou Ruvo Center for Brain Health.
RESEARCH

More Laparoscopic Splenectomy

The spleen may be totally or partially removed for a number of reasons. Splenectomy, as this procedure is called, is often performed laparoscopically – but not frequently enough, according to a study by Vikram Attaluri, MD, of the Surgery Institute. Dr. Attaluri found that even though the superiority of laparoscopic splenectomy is well established, more splenectomies are still done by means of open surgery in the United States. He suggests that greater efforts should be made to bring clinical practice into alignment with the demonstrated best practice. (Presented at the Society of American Gastrointestinal and Endoscopic Surgeons 12th World Congress of Endoscopic Surgery)

Take the Big D with a Big Meal

Angelo Licata, MD, PhD, of the Endocrinology & Metabolism Institute, led a study with a senior endocrine fellow Guy Mulligan, MD, showing that patients with vitamin D deficiency benefited most from taking their supplements with the biggest meal of the day, rather than at another time. The big meal plus supplement regimen was found to boost the level of vitamin D in the blood by an average of 56 percent. (Journal of Bone and Mineral Research)

Use of Placebo in Physician Practices

John Hickner, MD, of the Medicine Institute, co-authored a study of the use of and beliefs about placebos in routine health care. The study found that more than half of the physicians surveyed used placebos as a clinical therapy, and more than 40 percent used an antibiotic or other real drugs as placebos. Eighty-five percent believe that placebos can have psychological and physical benefits. The authors expressed concern that using real drugs as placebos at any dose might have an adverse affect on patients. (Family Medicine)

Doubling Dialysis

Frequency of dialysis may vary, but most patients are prescribed three treatments a week. Gerald J. Beck, PhD, of the Lerner Research Institute, and his section in the Department of Quantitative Health Sciences, coordinated a NIH clinical trial that suggested that there are benefits to doubling the frequency of dialysis. The study found that increasing the number of treatments to six days a week was associated with favorable results to the heart and overall physical health of dialysis patients. (New England Journal of Medicine)

Exercise Rx for Alzheimer’s Disease

Stephen Rao, PhD, of the Neurological Institute, discovered that exercise improved brain activity in memory regions in patients at high risk for Alzheimer’s disease. The study suggests that exercise helps patients build up a cognitive reserve that enables the brain to work at a higher level of function for a longer period of time. (NeuroImage)

CT for Headaches: Too Much?

Jonathan Gladstone, MD, of Cleveland Clinic Canada, was co-author of a study looking at the use of CT scanning in Canadian hospitals. The study showed that scanning was most frequently used in patients for headaches, even though only one in 50 scans reveals a potential cause for headache. This led the authors to suggest that CT scanning is overused in patients with headaches. (American Journal of Medicine)

Age Moderates Racial Gap in Cardiovascular Disease

Stacey Jolly, MD, of the Medicine Institute, and colleagues at The University of California, San Francisco studied the prevalence of and mortality from cardiovascular disease in African-Americans, using data from government health studies. Dr. Jolly found that African-Americans between the ages of 35 and 44 were much more likely to report having a heart attack, heart failure or stroke than white Americans in the same age group. This racial gap was found to narrow through the decades, with no significant racial differences found in the older age groups. Additionally, 28 percent of deaths from cardiovascular disease among African-Americans occurred before the age of 65, versus only 13 percent among white Americans. (American Journal of Medicine)

Autism Linked to Brain Anatomy

Some cases of autism may be associated with physical changes in the brain. Thomas Frazier, II, PhD, of the Pediatric Institute, has discovered that children with autism have a much smaller corpus callosum. The corpus callosum mediates communication between the two halves of the brain and is important for social development. A smaller corpus callosum may prevent brain regions from “talking” to one another efficiently. The study suggests that the next step for understanding autism will be to identify the genetic basis for these problems in brain communication. (Biological Psychiatry)
New Oral Pharmaceutical Treatment for MS

Until recently, pharmaceutical treatments for patients with multiple sclerosis (MS) had to be injected or infused. Jeffrey Cohen, MD, of the Neurological Institute, was lead investigator of a multinational Phase III study sponsored by Novartis to study a new orally delivered drug called fingolimod. The study shows that fingolimod can successfully reduce the rates of relapse in MS. The finding should launch the hunt for new agents in the same class. Fingolimod was approved in September 2010 by the FDA to treat MS. (New England Journal of Medicine)

Poor Fare Worse After Cardiac Surgery

There are health disparities based on gender, race and socioeconomic status. A study of patients who had cardiac surgery at Cleveland Clinic showed that patients who had lower socioeconomic status as reflected in factors such as low income, poor education and inadequate housing were significantly more likely to die during the first 10 years after surgery. The study team, lead by Colleen Koch, MD, demonstrated that disadvantaged patients came to surgery with more cardiovascular disease and chronic conditions, and even after adjusting for these risk factors, their survival was lower after surgery. The authors plan further investigation to examine whether secondary prevention and access to care after surgery contributed to these findings. Their hope is to find areas for targeted interventions to eliminate observed survival differences. (Circulation: Cardiovascular Quality and Outcomes)

Family History Best for Risk Assessment

A study by Charis Eng, MD, PhD, chair of the Genomic Medicine Institute, has found that an inexpensive verbal family history is currently more accurate than costly direct-to-consumer genomic testing in assessing the risk of familial cancer. (Presented at the Annual Meeting of the American Society of Human Genetics)

PSA Testing Saves Lives

Biostatistician Chandana Reddy, MS, led a study of 1,700 prostate cancer patients that demonstrates the effectiveness of PSA screening for prostate cancer risk. The study shows that patients treated in the era before prostate cancer screening with PSA testing was commonplace, were significantly more likely to develop metastatic disease within 10 years of treatment compared to men in the post-screening era. (Presented at the Annual Meeting of the American Society for Radiation Oncology)

HDL Link to Pulmonary Arterial Hypertension

Gustavo Heresi-Davila, MD, of the Respiratory Institute, led a study showing for the first time that plasma levels of HDL cholesterol are low in patients with pulmonary arterial hypertension. They further discovered that low HDL in these patients portends a much worse prognosis, independent of other cardiovascular risk factors, insulin resistance and the severity of pulmonary arterial hypertension. Their findings may point the way to new treatment modalities for pulmonary arterial hypertension. (American Journal of Respiratory and Critical Care Medicine)

Wearable CD as Good as Implantable

There are different kinds of cardioverter-defibrillators. Some are surgically implanted in the chest (ICDs). Some are sewn into garments and worn like vests. All monitor heart rhythms and deliver an electric pulse to disrupt potentially dangerous arrhythmias. Mina Chung, MD, of the Miller Family Heart & Vascular Institute compared ICDs and wearable cardioverter-defibrillators. She found that patients are compliant in wearing the vests and that the vests are nearly as effective as the implantable alternative, at least for short-term use. The study concludes that the vests are an acceptable short-term alternative or bridge to ICDs. (Journal of the American College of Cardiology)

Smokers More at Risk of Death After Surgery

Smokers who undergo surgery are more likely than nonsmokers to have complications or to die shortly after surgical procedures, according to a new study led by Mehmet Alparslan Turan, MD, of the Anesthesiology Institute. The study found that the risk of death within 30 days of a wide variety of surgeries was nearly 40 percent higher in smokers than in nonsmokers. (Presented at the Annual Meeting of the American Society of Anesthesiologists)
In the operating room, caregivers collaborate with intense focus to create quality outcomes for patients.
New Mutation and its Consequences in Leukemia Clarified

Jaroslaw P. Maciejewski, MD, PhD, of the Taussig Cancer Institute, led a study resulting in the identification of mutations in the TET2 gene in leukemia and clarification of the role played by these mutations in the development of blood cancers. The study found that the newly discovered TET2 mutations result in an altered modification of DNA and perturbed maturation of bone marrow stem cells. Decreased 5-hydroxymethylcytosine content in DNA may become a disease biomarker and possibly a molecular target for the development of new therapies. (Nature)

Smoking in Human NAFLD

Cigarette smoking has been identified as a risk factor for liver cancer and is believed to worsen liver injury in patients with hepatitis B, C, and those with primary biliary cirrhosis. Claudia Zein, MD, who previously characterized the link between smoking and fibrosis severity in primary biliary cirrhosis, designed and led the first study demonstrating that smoking is associated with worse fibrosis in human non-alcoholic fatty liver disease (NAFLD). This study, done in collaboration with the NASH Clinical Research Network and based on liver biopsies of 1,091 patients, may support a formal recommendation of smoking cessation in patients with NAFLD. (Hepatology)

New Gene Linked to Cowden Syndrome

Charis Eng, MD, PhD, chair of the Genomic Medicine Institute, and her team have identified a new genetic alteration that predisposes individuals to Cowden syndrome, a rare disorder that puts those who have it at higher risk of breast, thyroid and other cancers. This new gene, KLLN, confers a much higher risk of breast and kidney cancer than the currently known gene PTEN. The finding further advances gene-specific personalization of preventative measures. (JAMA)

Diabetic Patients More at Risk After Surgery

Basem Abdelmalak, MD, of the Anesthesiology Institute, presented a study showing that diabetic patients who presented for non-cardiac surgery with normal blood sugar had a higher mortality rate one year after surgery compared to patients without diabetes. A related study involving Dr. Abdelmalak also showed that non-diabetic patients with high blood sugar readings before surgery had higher one-year mortality after non-cardiac surgery compared to non-diabetic patients with lower blood sugar readings. The study suggests that non-diabetic patients with high blood sugar levels may need to be followed more closely during and after their surgery, as should diabetic patients. (Presented at the Anesthesiology 2010 meeting in San Diego)

Diabetes Drugs Effective Against Lung Cancer

Peter Mazzzone, MD, of the Respiratory Institute, led a study showing that patients who took certain diabetes drugs (metformin and thiazolidinediones), were significantly less likely to develop lung cancer than a control group. The results suggest further study of the oncoprotective potential of these drugs. (CHEST)

Atrial Fibrillation Genes Identified

Mina Chung, MD, of the Miller Family Heart & Vascular Institute; and John Barnard, PhD, Jonathan Smith, PhD, and David Van Wagoner, PhD, of the Lerner Research Institute, were co-authors on a study identifying a common gene variant that may increase the risk of lone atrial fibrillation (LAF), a type of irregular heartbeat that can occur in young and otherwise asymptomatic patients. The genetic location may offer a potential new target for study or treatment of this condition. (Nature Genetics)

Rethinking Readmissions

A hospital’s rate of readmissions is viewed by the government as an indicator of poor quality care. But that may not always be the case. A Cleveland Clinic analysis shows that for patients hospitalized for heart failure, hospitals with higher 30-day readmission rates were associated with lower 30-day mortality. The reason may be that hospitals with lower inpatient mortality rates produce a larger pool of patients who survive long enough to be readmitted, and therefore the higher readmission rate may be a consequence of successful care. Another possibility may be that appropriately planned readmissions for certain procedures may reduce risk of death at the expense of a higher readmission rate. Authors Eiran Z. Gorodeski, MD, Randall C. Starling, MD, and Eugene H. Blackstone, MD, call for a more nuanced interpretation of readmission data in light of these findings. (Letter, New England Journal of Medicine)
New Biological Pathway in Angiogenesis

The ability to control angiogenesis (the growth of new blood vessels) in and around tumor tissue, is considered a promising approach to the treatment of cancer and coronary artery disease. Tatiana Byzova, PhD, of the Lerner Research Institute, has identified a new biological pathway affecting this process, involving the mechanisms of inflammation and oxidative stress. This discovery also opens a new pathway for the development of angiogenesis treatments. (Nature)

Medication Event Reporting in Physician Office Practice

Error reporting is an established part of the safety culture in hospitals. Not so in physician offices, where errors occur but usually go unreported because of lack of knowledge and skills to use error reports to improve care, and lack of easy-to-use reporting systems. John Hickner, MD, chair of Family Medicine in the Medicine Institute, led a team that developed and tested a website on which physicians and office staff can easily report medication errors and adverse drug events. Two hundred and twenty physicians and office staff at 24 practices reported more than 500 events in a 12-week trial. The website will be available nationwide in 2012 as a patient safety improvement tool. (Annals of Family Medicine)
Cleveland Clinic Florida experienced a year of tremendous growth in 2010. Cardiac surgery cases increased by 18 percent, major joint replacements increased by 20 percent, and visits to the Clinic from international patients increased by 27 percent. Bronchoscopies increased by 66 percent, epilepsy monitoring unit cases increased by 35 percent, EMGs increased by 17 percent and the number of PET scans increased by 24 percent.

Nine thousand seven hundred square feet was added to the West Palm Beach Health and Wellness Center to accommodate Internal Medicine, Pulmonary Medicine and Sports Medicine. An infusion suite and diagnostic testing room were also added.

In Weston, capital expansion included an operating room for robotic prostate surgeries. The room combines magnified video projection with a 3D robotic surgical system and can be used for training. Construction began on the Meridian Administrative Complex to accommodate Internal Medicine and Geriatrics, and Physical Therapy and Rehabilitation.

The Bariatric and Metabolic Institute received double re-accreditation as a Center of Excellence by the American College of Surgeons and the Surgical Review Corporation. Cleveland Clinic Florida is one of few centers with double accreditation status. The Department of Breast Surgery received a three-year full accreditation designation as a Center of Excellence. This accreditation is only given to centers that have voluntarily committed to provide the highest level of quality breast care and undergo a rigorous evaluation process and review of their performance. Cleveland Clinic Florida was also recognized as one of the nation’s Top 50 Hospitals for cardiovascular care by Thomson Reuters and named a top hospital by Leapfrog Group.

Other important accolades received this year include: America’s Top 100 Hospitals by Thomson Reuters, #17 in Gastroenterology and #40 in Diabetes and Endocrinology by U.S. News & World Report. Cleveland Clinic was one of only three

Cleveland Clinic Florida’s Weston medical campus is home to 170 of the world’s top physicians and specialists representing 35 specialties and subspecialties caring for the full range of injuries and disorders. Facilities include a Weston Family Health Center, and Health & Wellness Center in West Palm Beach, Florida.

Florida-based gastroenterology programs to make the top 50 rankings and achieved the highest ranking in the state of Florida.

Cleveland Clinic Florida continues to be one of South Florida’s largest non-university, physician graduate training programs, with medical students, residents and fellows training on campus. As in previous years, Cleveland Clinic Florida provided training to pharmacy and nursing students as well as allied health care students.
NEW PROGRAMS & INITIATIVES

First Accredited Pain Program for Kids
Cleveland Clinic Children’s Hospital is among the few places offering children a comprehensive, multidisciplinary program for chronic pain. In 2010, the Pediatric Pain Rehabilitation Program became the first and only program of its kind to receive accreditation for pediatric inpatient and outpatient pain rehabilitation from the Commission on Accreditation of Rehabilitation Facilities (CARF). Led by Gerard Banez, PhD, and Douglas Henry, MD, the program treats children and adolescents with complex regional pain syndrome, headache, fibromyalgia, abdominal pain and other chronic pain conditions that interfere with school attendance and everyday activities.

New Center for Ethics, Humanities and Spiritual Care
Cleveland Clinic has created a new Center for Ethics, Humanities and Spiritual Care, under the direction of Eric Kodish, MD, the F.J. O’Neill Professor and chair of Bioethics. The new center will oversee the activities of what were previously four separate groups: the Department of Bioethics, the Department of Spiritual Care, the Program in Medical Humanities and the NeuroEthics program. As a collaborative, patient-focused enterprise, the center reflects Cleveland Clinic’s successful institute model for clinical care, research and education. Each discipline in the new center serves distinct functions: Bioethics addresses ethical concerns in patient care, advanced medical technology and biomedical research; NeuroEthics is concerned with ethical challenges presented by the wide array of advances in clinical neurosciences; Spiritual Care (formerly Pastoral Care) provides spiritual services to patients and families and partners with the Office of Patient Experience to deliver healing services and oversee a graduate-level Clinical Pastoral Education program; and Medical Humanities promotes enriched education using narrative medicine, medical history, literature and theater, working in partnership with the Cleveland Clinic Lerner College of Medicine and the Education Institute. With unified direction, these areas will be able to share knowledge, resources and best practices to enhance the overall culture of caring.

Collaborating with Microsoft for Online Monitoring
Cleveland Clinic and Microsoft collaborated on an observational study of home monitoring of chronic disease symptoms using the Internet. The study interfaced Cleveland Clinic’s electronic medical record system with Microsoft’s HealthVault software. Patients monitored their symptoms using at-home medical devices. Results suggested that at-home medical devices connecting doctors and patients via the Internet can help patients with the management of chronic diseases.

Using EMR for Better Stroke Care
The electronic medical record (EMR) is rich with data on individual patients. Caregivers are finding new ways to use this information to improve patient care. They are developing what they call CarePaths to integrate disease-specific standardized care plans within the electronic workflow of the EMR. A collaboration among Knowledge Program CarePath teams, the Nursing Institute, ITD, the Pharmacy Institute, Contact Center, Neurological Institute and other areas, has produced a Stroke CarePath. This CarePath integrates individual and aggregate patient data, quality alerts, clinical algorithms, checklists and other resources to support decision-making at every stage of stroke care – from the Emergency Department, to hospitalization, to outpatient followup. The Stroke CarePath is expected to make it easier and more efficient to deliver high-quality stroke care.

Sharing Data to Reduce Costs
Cleveland Clinic and Mayo Clinic have joined with four other major medical centers to share data and determine best treatment practices for a slate of common injuries and diseases. Data will be collected, analyzed and distributed by the Dartmouth Institute for Health Policy and Clinical Practice. The participating hospitals will focus on knee replacement, diabetes, heart failure, asthma, bariatric surgery, obstetrics, spine surgery and depression. The list of conditions is expected to grow as the initiative progresses. The group will compare data and determine the best treatments for each condition. Their findings will be shared with physicians and hospitals. The hope is that caregivers receiving this information will put these best practices into operation for the benefit of patients and to reduce healthcare costs. The combined database of the participating centers is estimated to be nearly 10 million patients.
In the Simulation Lab for nursing students, future caregivers learn to work as a team to save a patient in a “Code Blue” cardiac emergency.
New Rejection Test for Transplant Patients

Randall C. Starling, MD, MPH, of the Miller Family Heart & Vascular Institute, coauthored a study that offers heart transplant patients a less painful and less risky means of testing for heart rejection than the standard procedure of endomyocardial biopsy. Gene profiling of peripheral blood specimens was found to produce results that correlated with the biopsy, and may be adopted as an alternative test. (*New England Journal of Medicine*)

PleuraFlow Approved

Cleveland Clinic spinoff Clear Catheter Systems received FDA approval to sell its PleuraFlow Active Tube-Clearance System in the United States. PleuraFlow keeps catheters clear while draining blood and other fluids from the chest after heart or lung surgery. This innovation came about through the work of A. Marc Gillinov, MD, of the Miller Family Heart & Vascular Institute and Kiyotaka Fukamachi, MD, PhD, of the Lerner Research Institute.

AtriClip Gets FDA Approval

Atrial fibrillation (AF) affects millions of people and greatly increases the risk of stroke. Rapid, irregular heartbeat agitates the blood, causing it to clot. This frequently happens in an area of the heart known as the left-atrial appendage – a soft, pouchy structure that does not affect cardiac function. Blocking the left-atrial appendage can reduce the risk of stroke in patients with AF. Two cardiac surgeons, A. Marc Gillinov, MD, and Delos M. Cosgrove, MD, of the Miller Family Heart & Vascular Institute, led the team that developed a surgically implantable clip to isolate the left atrial appendage and prevent the escape of stroke-causing blood clots. This year, the FDA approved the device — called the AtriClip — for AF patients undergoing open heart surgery. AtriClip is the first device of its kind to received FDA approval.

Better Blood Test to Predict Heart Attack

A team led by Stanley Hazen, MD, PhD, of the Lerner Research Institute and Miller Family Heart & Vascular Institute, has developed a computational model that enables them to accurately predict one-year risk for heart attack and death for stable cardiac patients, using blood components obtained by a hematology analyzer. The model, called PEROX, in combination with traditional risk factor data, predicted patient risk with 78 percent accuracy. (*Circulation*)

New Biofeedback Device Developed

Michael McKee, PhD, of the Neurological Institute, and Christine Moravec, PhD, of the Miller Family Heart & Vascular Institute, have designed a new handheld biofeedback device intended to help individuals regulate their daily stress levels. The new device allows an individual to learn control of finger temperature, skin conductance and heart rate variability, all of which change with stress. With assistance from the Cleveland Clinic Product Development Fund, a provisional patent has been filed and the device is currently undergoing testing.

Superior Risk Stratification Index

The nationwide push for quality improvement in healthcare has created a demand for risk-adjusted benchmarks to measure progress, compare hospital performance and establish best practices. The problem is that not all hospitals and providers are equal. Now, a team led by Daniel Sessler, MD, professor and chair of the Department of Outcomes Research, has developed a Risk Stratification Index that permits “apples to apples” comparisons across institutions and individual physician practices. The Index was created based on an analysis of 35 million Medicare records and then validated on 110,000 Cleveland Clinic surgical patients. An editorial in the journal *Anesthesiology*, called it “an enormous contribution to the quality and uniformity of hospital outcome reporting,” and predicted its “widespread adoption as the national standard tool.” (*Anesthesiology*)

Innovations’ Expanding Playbook

Innovations is Cleveland Clinic’s technology transfer arm. Since 2000, 35 companies have been spun-off. Innovations transacted more than 260 technology licenses, filing 1,600 patents and as many inventions. In 2010, Innovations acted on 207 inventions, filed 126 patents, secured 31 license agreements, issued 55 patents, created 5 new companies (iVHR, Image IQ, NaviGate, SironRx and YouDocsBeauty), and was awarded two commercialization grants from the Ohio Third Frontier Program for a total of $5 million dollars. It hosted the 8th Annual Cleveland Clinic Medical Innovation Summit; and opened the new 50,000 square foot Global Cardiovascular Innovation Center, the new on-campus home for Innovations and 20 companies. It is also launching a new “Innovation Playbook” project to profile invention and commercialization at the top 100 healthcare institutions.
Sheikh Khalifa Medical City

Cleveland Clinic manages Sheikh Khalifa Medical City (SKMC), in Abu Dhabi, United Arab Emirates. SKMC is a comprehensive health system that includes a 520-bed acute care hospital, 120-bed Behavioral Sciences Pavilion, 88-bed Abu Dhabi Rehabilitation Center, 14 specialized outpatient clinics, six family medicine clinics, two urgent care centers, two dental centers and a blood bank. SKMC is owned by SEHA, the Abu Dhabi Health Services Company, which is responsible for all public hospitals and clinics in the Emirate of Abu Dhabi.

The implementation of operational improvement projects has led to a large drop in the waiting times at the outpatient clinics, and fewer cancellations. Patient experience initiatives have lifted satisfaction ratings. Ninety-seven percent of patients now indicate that they would recommend SKMC for care.

Clinically, the implementation of the Bariatric Surgery and Weight Reduction Program at SKMC, with the assistance and close affiliation to Cleveland Clinic, established SKMC as a nationwide referring entity on bariatric surgeries with more than 100 cases in its first year. Similarly, the implementation of Interventional Pulmonology placed SKMC as a regional hub for such procedures, increasing volumes from double digits in 2008 to more than 400 in 2010. SKMC launched a pilot program with Cleveland Clinic enrolling 100 caregivers in a free wellness and weight control program. The program monitors weight, blood pressure, blood sugar levels and cholesterol, and includes smoking cessation programs, and exercise — including yoga, walking and dancing. Moreover, SKMC has converted all facilities to Healthy Eating Zones eliminating all fried food and displaying calorie counts. SKMC’s Laboratory and Blood Bank services passed a December survey measuring more than 3,000 standards, earning certification from the College of American Pathologists.
The Education Institute oversees Cleveland Clinic’s educational mission, including the Lerner College of Medicine of Case Western Reserve University, executive education, community education and one of the nation’s largest graduate medical education programs. The volume and diversity of clinical problems seen by trainees at Cleveland Clinic and the opportunity to participate in a group practice model of medical care provide an ideal teaching and learning environment.

Graduate Medical Education
In 2010, approximately 887 residents and fellows trained in 61 training programs approved by the Accreditation Council for Graduate Medical Education (ACGME). In addition, 184 fellows trained in 100 non-accredited programs.

Continuing Medical Education
Physicians and other medical personnel around the world are required to keep their knowledge and skills current by participating in Continuing Medical Education (CME) programs. The Education Institute is a leading provider of CME courses in virtually all media. In 2010, the Education Institute offered 1,160 CME programs to 187,114 participants from around the world.

The CME website, ccfcme.com, received awards, including “Best Healthcare Content,” from two respected health information organizations, Strategic Health Care Communications and Health Information Resource Center, for its content, credibility and ease of use. These distinctions bring prominence to a website that physicians have relied upon for world-class medical content for more than 10 years. Launched in 2000 and featuring a virtual textbook of medicine, ccfcme.com has attracted millions of visitors and has become one of the largest providers among the nation’s academic medical centers of online CME in the world. Cleveland Clinic issued 75,000 online training certificates in 2010.

Patient Education
The Education Institute offers patient education and health information for the public through its Center for Consumer Health Information. In 2010, the Center provided 51 community Health Talks to 3,207 attendees. Users of the Center’s Online Health Information Database continue to increase, with 10.1 million page views in 2010, up from 100,000 in 2001. Podcasts, webcasts and live web chats also are offered as a means of consumer health information outreach. (Cleveland-clinic.org is one of only two hospital websites cited as reliable sources of health information in Consumer Reports Health.)

Scientific Publications
Cleveland Clinic Journal of Medicine (CCJM) enjoyed a circulation of 101,642 in 2010, and continued to rank second in readership among journals directed to office-based internists and cardiologists.

Cleveland Clinic Academy
Cleveland Clinic Academy offers professional development learning opportunities to Cleveland Clinic employees and beyond. It is part of an effort to develop a pipeline of leadership talent for Cleveland Clinic and Northeast Ohio. Caregivers with a master’s degree and above or three years of supervisory experience select from relevant courses in leadership, education and business. Since its founding in 2006, and through 2010, 86 Cleveland Clinic Academy faculty have provided 54 competency-based courses in leadership and management to more than 3,500 employees. In 2010, the academy experienced a 25 percent year-over-year increase in course enrollment.

Executive Education
Building on our strengths for educating its own leaders, Cleveland Clinic launched leadership and management training programs for outside healthcare executives in 2010. The programs are designed to provide attendees with the knowledge and skill required to run a successful healthcare system.
Sustainability
Cleveland Clinic takes sustainability seriously. There are many challenges, but the goal is to help meet the current generation’s need for jobs, building and transportation, without leaving a harmful legacy.

In 2007, Cleveland Clinic launched an initiative to align our needs with the health of the regional environment.

“Throughout our system, we continue to advance our strategic sustainability goals—from waste minimization, energy efficiency and recycling—to designing healthier buildings, supporting local agriculture, managing storm water and actively engaging caregivers,” says Christina Vernon, AIA, LEED AP, senior director of Sustainability and Environmental Strategy in Cleveland Clinic’s Office for a Healthy Environment.

The sustainability program has led Cleveland Clinic to make changes in the way that it builds, operates, purchases and thinks. It adopted the U.S. Green Building Council’s sustainable building practices. It became an Energy Star partner. 2010 saw Cleveland Clinic’s first solar panel installation which created employee-ownership jobs in the neighborhood. The institution managed a 20 percent reduction in its energy intensity over the past three years. Several

Cleveland Clinic hospitals have exceeded a 30 percent recycling rate. The system embraced local food through a main campus farmers market, hospital gardens and purchasing. It has switched to air-friendly cleaning products, paints and carpeting.

Cleveland Clinic is proud to be the first healthcare provider to sign the United Nations Global Compact which stands for sustainability, fairness and integrity. It allows the institution to share best practices with partners around the world. Cleveland Clinic has been recognized as Energy Star Partner of the Year and earned Practice Green Health’s System for Change and Environmental Leadership Award.

Cleveland Clinic’s journey to sustainability has just begun. By working with the community for a better environment, it hopes to make Northeast Ohio the healthiest community in America.
The human touch helps in the healing process at South Pointe Hospital, where a caregiver on the Pastoral Care Services team shares a special moment with a patient.
2010/2011 CONSUMER CHOICE AWARD
National Research Corporation
This award recognizes the most-preferred hospitals for quality, based on consumer reporting.

WORLD’S 100 MOST ETHICAL COMPANIES
Ethisphere Institute
Cleveland Clinic is one of only two health-care institutions to have earned this honor.

ENVIRONMENTAL LEADERSHIP CIRCLE
Practice Greenhealth
This award represents the highest recognition for healthcare facilities for environmental achievement.
(Practice Greenhealth also recognized Cleveland Clinic with 22 other honors for its main campus, community hospitals and family health centers. To be considered, facilities must meet the criteria for the mercury-free award, recycle at least 25 percent of their total waste stream, have implemented other innovative pollution prevention programs and be leaders in their communities.)

LEED SILVER CERTIFICATION
U.S. Green Building Council
Awarded to East 89 Street Service Center and Garage for environmentally-responsible design and efficient operating systems.

SPECIALTY EXCELLENCE AWARDS
HealthGrades
TOP 50 CARDIOVASCULAR HOSPITALS – CLEVELAND CLINIC FLORIDA
Thomson Reuters
This award recognizes hospitals that deliver higher survival rates, shorter hospital stays, fewer readmissions and lower costs.

GOLD PLUS PERFORMANCE ACHIEVEMENT AWARD
American Heart Association/American Stroke Association
This award recognizes Cleveland Clinic's commitment and success in implementing excellent care for stroke patients.

CORPORATION OF THE YEAR AWARD FOR SUPPLIER DIVERSITY
Northern Ohio Minority Supplier Development Council
Awardees are nominated by the local minority business community and chosen according to strict metrics.

NORTHCOAST 99, BEST PLACES TO WORK IN NORTHEAST OHIO
Employers Resource Council
TOP FIVE HOSPITAL SYSTEMS (DIVERSITY)
DiversityInc

TRANSPLANT PROGRAM AWARDS – BRONZE WINNER
U.S. Department of Health and Human Services
This award recognizes success in increasing the number of donor organs available for transplant.

ENERGY STAR
U.S. Environmental Protection Agency

CLEVELAND CLINIC TOP CHOICE FOR "MYSTERIOUS DISORDER"
Cleveland Clinic was among the top choices of 340,000 physicians from the 53 largest U.S. metropolitan areas, who were asked where they would send a friend or family member with a mysterious disorder. The survey was done by an organization called Consumers’ CHECKBOOK, which also found that Cleveland Clinic was among the top choices for general gastrointestinal problems and Crohn’s disease.

eHEALTHCARE LEADERSHIP AWARDS
Strategic Health Care Communications
The leading awards program for healthcare websites, including healthcare organizations, online health companies, pharmaceutical/medical equipment firms, suppliers and business improvement initiatives.

PLATINUM:
• Best Site Design: ClevelandClinic.org
• Best Site Design: Cleveland Clinic Children’s Hospital Microsite
• Best Doctor Directory: Find a Doctor

GOLD:
• Best Integrated Ad Campaign: National Ad Campaign
• Best Overall Internet Site: ClevelandClinic.org
• Best Web 2.0: 2009 Annual Report

SILVER:
• Best Quality & Safety Communication: Quality & Safety Institute

WINNER:
• eHealth Organizational Commitment
Cleveland Clinic
Community Hospital Awards

PATHWAY TO EXCELLENCE – Lakewood Hospital
American Nurses Credentialing Center

FINALIST, BEST PRACTICE AWARD –
Euclid Hospital
Ohio Patient Safety Institute

SPECIALTY EXCELLENCE AWARDS –
Euclid Hospital
HealthGrades

CERTIFICATE OF DISTINCTION, ADVANCED
PRIMARY STROKE CENTER – Euclid Hospital
Joint Commission

AMERICA’S 50 BEST HOSPITALS –
Hillcrest Hospital
HealthGrades

DISTINGUISHED HOSPITAL AWARD FOR CLINICAL
EXCELLENCE – Hillcrest Hospital, Marymount
Hospital, South Pointe Hospital
HealthGrades

SPECIALTY EXCELLENCE AWARDS –
Hillcrest Hospital
HealthGrades

BLUE DISTINCTION CENTER FOR CARDIAC CARE –
Hillcrest Hospital
Blue Cross Blue Shield

SPECIALTY EXCELLENCE AWARDS –
South Pointe Hospital
HealthGrades

PARTNER FOR CHANGE AWARD –
South Pointe Hospital
Practice Greenhealth

U.S.NEWS & WORLD REPORT NATIONAL
RANKING, NEUROLOGY & NEUROSURGERY –
Lutheran Hospital

GET WITH THE GUIDELINES, BRONZE –
Fairview Hospital
American Stroke Association

U.S.News & World Report

OVERALL RANKING
Cleveland Clinic 4th

RANKED NO. 1
Heart and Heart Surgery *1 for 16 years in a row

IN AMERICA’S TOP 2
Urology 11 years in a row
Digestive Disorders 10 years in a row
Rheumatology 3 years in a row

IN AMERICA’S TOP 10
Kidney Disorders 3rd
Respiratory Disorders 3rd
Gynecology 4th
Orthopedics 4th
Diabetes & Endocrine Disorders 6th
Neurology & Neurosurgery 6th
Pediatric Neurology & Neurosurgery 6th
Ear, Nose & Throat 8th
Cancer 9th
Geriatric Care 10th
Ophthalmology 10th

IN AMERICA’S TOP 30
Pediatric Diabetes & Endocrine Disorders 18th
Pediatric Digestive Disorders 21st
Pediatric Orthopedics 21st
Pediatric Heart & Heart Surgery 22nd
Psychiatry 22nd
Pediatric Kidney Disorders 26th
Pediatric Cancer 27th
Pediatric Urology 30th
A caregiver on the Critical Care Transport team checks a patient’s vital signs as she is transported to the Cleveland Clinic facility that can best meet her healthcare needs.
### Cleveland Clinic Financial and Statistical Highlights

#### Patient Care

<table>
<thead>
<tr>
<th></th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Clinic Visits</td>
<td>3,670,622</td>
<td>3,846,512</td>
</tr>
<tr>
<td>Emergency Visits</td>
<td>56,227</td>
<td>54,138</td>
</tr>
<tr>
<td>Total Admissions (excluding newborns)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute</td>
<td>52,164</td>
<td>52,881</td>
</tr>
<tr>
<td>Non-Acute</td>
<td>1,786</td>
<td>529</td>
</tr>
<tr>
<td>Surgical Cases</td>
<td>79,312</td>
<td>80,687</td>
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<tr>
<td>Inpatient</td>
<td>27,160</td>
<td>27,418</td>
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<tr>
<td>Outpatient</td>
<td>52,152</td>
<td>53,269</td>
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#### Education

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<tr>
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<th>2010</th>
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<tbody>
<tr>
<td>Residents and Fellows in Training</td>
<td>978</td>
<td>1,041</td>
</tr>
<tr>
<td>Continuing Medical Education Programs</td>
<td>605</td>
<td>1,125</td>
</tr>
<tr>
<td></td>
<td>126,777</td>
<td>234,698</td>
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<tr>
<td>Accredited Residency Training Programs</td>
<td>61</td>
<td>60</td>
</tr>
<tr>
<td>Allied Health Students</td>
<td>476</td>
<td>1,421</td>
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<tr>
<td>Programs for Allied Health Specialists</td>
<td>44</td>
<td>55</td>
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#### Research

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</tr>
</thead>
<tbody>
<tr>
<td>Total Grant and Contract Revenue</td>
<td>$175M</td>
<td>$169M</td>
</tr>
<tr>
<td>Total Federal Revenue</td>
<td>$101M</td>
<td>$106M</td>
</tr>
<tr>
<td>Total Laboratory Principal Investigators</td>
<td>152</td>
<td>159</td>
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</table>

#### Cleveland Clinic Health System

#### Patient Care

<table>
<thead>
<tr>
<th></th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emergency Visits</td>
<td>439,568</td>
<td>436,204</td>
</tr>
<tr>
<td>Total Admissions (excluding newborns)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute</td>
<td>171,177</td>
<td>167,127</td>
</tr>
<tr>
<td>Non-Acute</td>
<td>155,762</td>
<td>153,486</td>
</tr>
<tr>
<td>Surgical Cases</td>
<td>192,145</td>
<td>191,568</td>
</tr>
<tr>
<td>Inpatient</td>
<td>62,866</td>
<td>61,783</td>
</tr>
<tr>
<td>Outpatient</td>
<td>129,279</td>
<td>129,785</td>
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</table>

#### Financial Highlights ($ in Thousands)

<table>
<thead>
<tr>
<th></th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Operating Revenues</td>
<td>5,589,609</td>
<td>5,885,738</td>
</tr>
<tr>
<td>Operating Income</td>
<td>359,367</td>
<td>250,552</td>
</tr>
<tr>
<td>Charity Care (at cost)</td>
<td>8,109,836</td>
<td>8,783,758</td>
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</tbody>
</table>

Statistics exclude Medina Hospital. NOTE: Chart includes revised figures since 2009 annual report.

Total grant and contract revenue 2009 is adjusted to remove $15M in GCIC state funding and $4M in 2010. Total Federal Revenue is adjusted to remove $8M in Federal - RTA.
At the end of 2010, nursing had 90 active research projects in progress and completed an additional 10 projects during the year. Twenty research-based manuscripts with a nurse author were published in 2010.
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The Plain Dealer

Nancy F. Fisher, Esq.
Former Prosecutor
City of Cleveland

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Cleveland Clinic

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Quicken Loans
Majority Owner
Cleveland Cavaliers

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Non Executive Director
BCB Holdings Limited

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A day in the life of Cleveland Clinic:
A husband and wife steal a kiss while waiting to be discharged home, following his stay in the hospital.