

2013

ANNUAL

REPORT



Carolinus HealthCare System

ACCELERATING THE PACE OF CHANGE



BUILT FOR EVERYONE

FROM THE KNOWLEDGE OF MANY

TO BRING HEALTH TO ALL



If 2013 is remembered for anything, it will be for the sheer variety of achievements that occurred throughout the year. It is especially impressive that these accomplishments occurred at a time when we were seeing so many material changes in the way we did business.

Indeed, the challenges we face today are in many ways without precedent. We are taking extraordinary measures to slow down the escalation in costs, while at the same time doing everything we can to improve medical outcomes and enhance customer service.

Some observers have compared this to repairing a sophisticated mechanical object while it is still in motion. It is a fitting analogy, because there is no way we can simply take a "time out" to rethink the way we do business. Our patients keep coming, seeking expert care for conditions that never lack for complexity. Our mission is to continue serving their needs, while adapting smoothly to the ever-accelerating pace of transformation.

Fortunately, we have a gifted and talented team of professionals who do not shy away from big challenges. As you scan the stories in this report, you will learn about the remarkable work they are doing to improve accessibility and convenience; perfect new treatments; redesign primary care; engage patients as partners; expand clinical trials; and apply new research findings in ways that benefit patients *everywhere*, not just in the Carolinas.

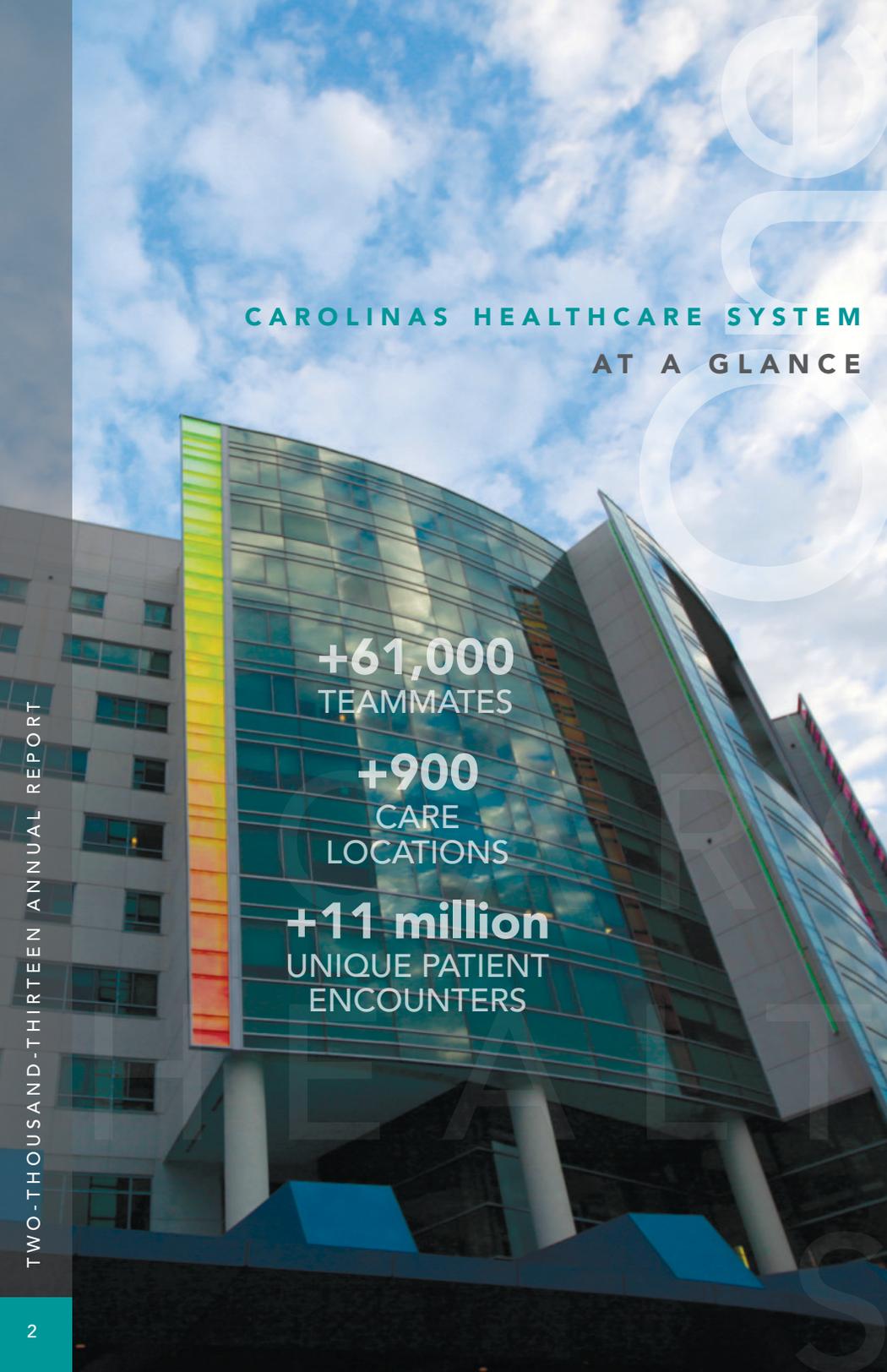
In short, our activities during 2013 were infused with a spirit of innovation, and our commitment to community benefit was extraordinary. The total value of our charitable endeavors and public service initiatives reached a record level.

It has never been more important to communicate who we are and why we do what we do, at a time when available communication channels have never been more diverse. Some of you may be reading these words in print, some online. Regardless of your preferred medium, I am confident that you will be impressed by these many successes. Working as **One** team, we continue to dedicate ourselves to the quality of the patient experience, driven by a profound sense of urgency in transforming healthcare delivery.

sincerely

*Michael C. Tarwater*  
MICHAEL C. TARWATER

CHIEF EXECUTIVE OFFICER



**CAROLINAS HEALTHCARE SYSTEM  
AT A GLANCE**

**+61,000**  
TEAMMATES

**+900**  
CARE  
LOCATIONS

**+11 million**  
UNIQUE PATIENT  
ENCOUNTERS

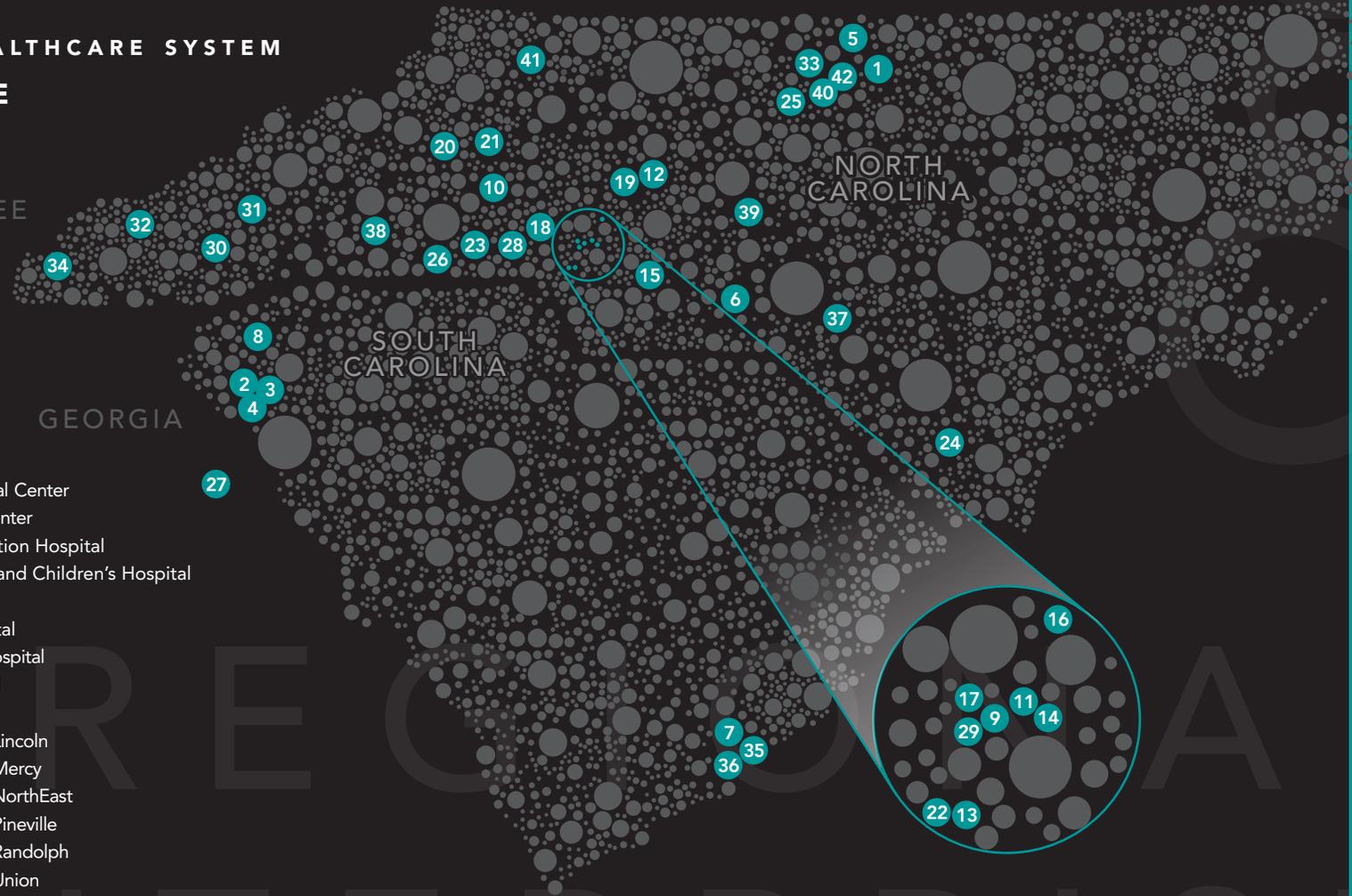
Carolinas HealthCare System is one of the leading healthcare organizations in the Southeast and one of the largest public, not-for-profit systems in the nation.

During 2013, the System operated more than 40 hospitals and served patients at more than 900 care locations, including physician practices, freestanding emergency departments, outpatient surgery centers, pharmacies, laboratories, imaging centers and other facilities. The System also operated 12 nursing homes and a variety of home care, medical equipment and hospice services.

Altogether, System operations comprised more than 7,800 licensed beds, employed more than 61,000 people, and accounted for more than 11 million unique patient encounters.

Carolinas HealthCare System's mission includes a strong commitment to community service, public health and extensive outreach to all segments of the population. Carolinas HealthCare System, with its extraordinary staff and comprehensive range of high-quality services, research and educational initiatives, ensures that all patients receive the benefits that stem from being a highly unified and fully integrated enterprise working as One.

CAROLINAS HEALTHCARE SYSTEM  
ACUTE CARE  
FACILITIES



1. Alamance Regional Medical Center
2. AnMed Health Medical Center
3. AnMed Health Rehabilitation Hospital
4. AnMed Health Women's and Children's Hospital
5. Annie Penn Hospital
6. Anson Community Hospital
7. Bon Secours/St. Francis Hospital
8. Cannon Memorial Hospital
9. Carolinas Medical Center
10. Carolinas Medical Center-Lincoln
11. Carolinas Medical Center-Mercy
12. Carolinas Medical Center-NorthEast
13. Carolinas Medical Center-Pineville
14. Carolinas Medical Center-Randolph
15. Carolinas Medical Center-Union
16. Carolinas Medical Center-University
17. Carolinas Rehabilitation
18. Carolinas Rehabilitation-Mount Holly
19. Carolinas Rehabilitation-NorthEast
20. CHS Blue Ridge-Morganton
21. CHS Blue Ridge-Valdese
22. CHS Rehabilitation, a facility of CMC-Pineville
23. Cleveland Regional Medical Center
24. Columbus Regional Healthcare System
25. Cone Health Behavioral Health Hospital
26. Crawley Memorial Hospital
27. Elbert Memorial Hospital
28. Kings Mountain Hospital
29. Levine Children's Hospital
30. MedWest-Harris
31. MedWest-Haywood
32. MedWest-Swain
33. Moses H. Cone Memorial Hospital
34. Murphy Medical Center

35. Roper Hospital
36. Roper St. Francis-Mount Pleasant Hospital
37. Scotland Memorial Hospital
38. St. Luke's Hospital
39. Stanly Regional Medical Center
40. Wesley Long Hospital
41. Wilkes Regional Medical Center
42. Women's Hospital



## CLINICAL EXCELLENCE

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Carolinas HealthCare System has made many remarkable clinical achievements in recent years, and 2013 was no exception.

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For example, a team of experts headed by Frank Arko, MD, of Carolinas HealthCare System's Sanger Heart & Vascular Institute became the first in the world to implant a branched stent graft specifically designed for the repair of thoracic aortic aneurysms. Both the device and the procedure used to implant it were original. Further advancements were made by Carolinas HealthCare System when it became the first site in the nation to perform clinical trials for this device, in partnership with the Cleveland Clinic, as part of a pilot feasibility program under the auspices of the U.S. Food & Drug Administration.

The System's expertise in the area of prenatal surgery was highlighted when Courtney Stephenson, MD, and David Iannitti, MD, became the first physicians in the world to report successful treatment of a "twin reversal arterial perfusion sequence pregnancy" by using microwave ablation. The procedure is used to save the life of one fetus when the other fails to develop properly in utero but continues to draw blood away from

the otherwise healthy twin. In 2013, both doctors presented their research to the International Fetal Medicine and Surgery Society, further establishing Carolinas HealthCare System's credentials as an international leader in this emerging field.

Another first, this time in the area of radiation oncology, was achieved when Carolinas HealthCare System's Levine Cancer Institute became the first in the world to use new technology for advanced high-dose rate (HDR) brachytherapy, an ultrasound-guided treatment for prostate cancer. Led by Michael Haake, MD, and his team, this treatment drastically reduces recovery time and enables patients to go home just hours after receiving treatment. HDR brachytherapy involves delivering radiotherapy from inside the patient's body by temporarily placing a tiny radioactive source directly into the tumor or other targeted area. Physicians place the radioactive source into position using a robotic device called an after loader, a procedure which requires unusual precision and expertise.

Levine Cancer Institute also experienced considerable growth in its Hematologic Oncology and Blood Disorders Program, which added several nationally known physicians to the team. New team members included Saad Usmani, MD, from the University of Arkansas; Omotayo Fasan, MD, from Emory University; and Jonathan Gerber, MD, and Michael Grunwald, MD, both from Johns Hopkins. Their expertise, combined with the opening of the area's first adult bone and marrow transplantation unit in early 2014, put the program in a position to be a leading enrolling site for blood cancer clinical trials.



Another physician acquisition was made when Jorge R. Alegría, MD, joined Carolinas HealthCare System's Sanger Heart & Vascular Institute in September as the first formally trained adult congenital heart disease physician in the greater Charlotte region. Dr. Alegría is one of only approximately 60 adult congenital heart disease-trained specialists in the nation. Over the past five decades, advances in pediatric cardiology and cardiac surgery have resulted in an increasing number of children with complex congenital heart disease surviving into adulthood. This progress generated a need for new multidisciplinary programs to evaluate, follow and treat these patients as adults. Dr. Alegría will work closely with pediatric and adult cardiologists, congenital heart surgeons, and physicians at both Carolinas Health Care System's Sanger Heart & Vascular Institute and Levine Children's Hospital to provide adult congenital heart disease care.

## CLINICAL EXCELLENCE

Excellence in the areas of reproductive medicine and infertility was also achieved when CMC-Women's Institute opened in October. The center is able to accommodate more in-vitro fertilization cases than ever before. One of the key factors leading to a generally higher success rate in reproductive medicine is the ability to transfer just one embryo, as opposed to multiple embryos. The new facility allows for a more advanced use of genetic testing, which helps reproductive specialists identify which embryos are more likely to produce healthy babies. The result is a reduction in the need for multiple embryo implantations.

Carolinas HealthCare System's Levine Children's Hospital was again named one of the best children's hospitals in the country, achieving five national rankings in *U.S. News & World Report's* 2013-14 "Best Children's Hospitals" list. This was the second consecutive year Levine Children's Hospital was ranked in multiple categories and the fourth year to include at least one ranking. In the current comparative ratings, Levine Children's Hospital is listed among the nation's best pediatric hospitals in nephrology

(36th), cardiology and heart surgery (37th), gastroenterology and GI surgery (41st), neonatology (46th), and oncology (49th).

Orthopaedic surgery was another service line which achieved continued recognition during 2013 for its role as a founding member of the Major Extremity Trauma Research Consortium (METRC), funded by the U.S. Department of Defense. METRC was established to address some of the immediate research needs of the military in the acute management and long-term outcomes of severe limb injuries. Michael Bosse, MD, director of orthopaedic trauma service and orthopaedic clinical research at Carolinas Medical Center, is the METRC co-principal investigator and clinical chair. Carolinas Medical Center began enrolling patients in eight of the active studies, focusing on infection prevention and treatment, bone defect reconstruction, and recovery following major limb trauma. Dr. Bosse continues as principal investigator on three of these studies.



This METRC program also introduced the Trauma Survivors Network (TSN) to patients in this region. Carolinas Medical Center is one of only 14 trauma centers in the nation to offer TSN. This unique program was launched in February 2013 as a way to link trauma survivors and their families with others who have sustained similar injuries. These peers provide support and resources that can help survivors to gradually rebuild their lives. In June 2013, Carolinas Medical Center officially launched its TSN peer visitation program and included TSN peer visitors in a weekly family and friends class.

These accomplishments and many more signaled a banner year during 2013 for clinical excellence in multiple service lines and numerous sub-specialties. Every day, Carolinas HealthCare System works seamlessly to deliver world-class healthcare and offer exceptional clinical expertise during each patient encounter.



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## ACCESS and COORDINATED CARE

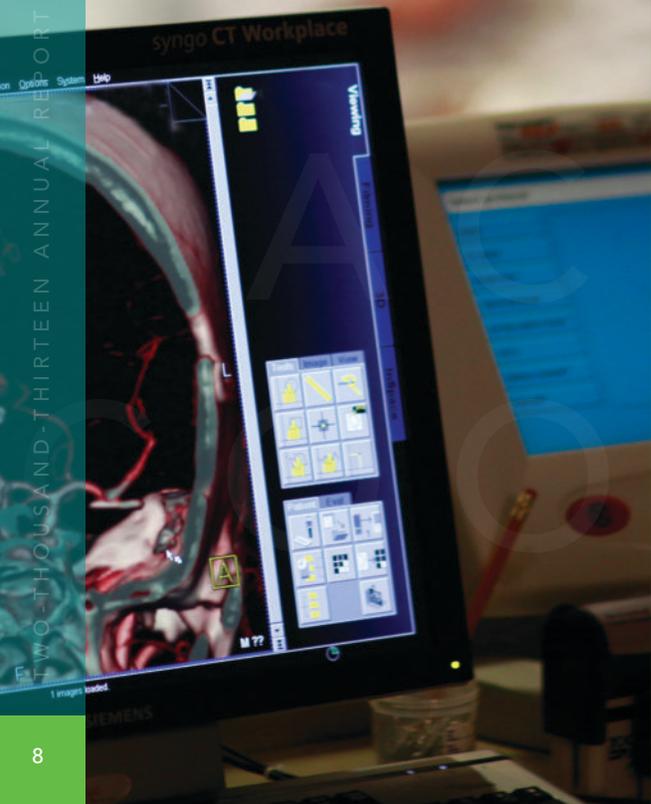
Carolinas HealthCare System's commitment to coordination and access means putting patients first, always, and providing high-quality care whenever and wherever patients need it.

In 2013, the System fulfilled its longstanding mission to share the knowledge of many for the benefit of all. It accomplished this by scaling its programs and introducing needed services in virtually every community served by System personnel. Innovations in the area of virtual care were of particular significance in 2013, when many new dimensions of telemedicine came to life.

The System invested \$12.3 million to open a new high tech facility in Mint Hill, where intensive care specialists monitor patients being treated in outlying hospitals. The center houses 25 physicians and 80 staff members, all who have the capacity and expertise to oversee some 550 critical care beds in the 10 hospitals that comprise the virtual critical care network. Accordingly, patients no longer have to visit a large tertiary care center to benefit from the level of expertise that has traditionally been concentrated in large urban medical centers.

The System's tele-psychiatry program expanded during 2013 to include nine hospitals and three freestanding Emergency Departments. The program allows patients to communicate directly with psychiatrists located elsewhere, and to be transported quickly to a more appropriate facility if necessary.

Carolinas HealthCare System also utilized its interactive video capabilities during the year to foster greater communications among medical professionals representing primary care, behavioral health, pharmacy and psychiatry. Patients with behavioral health needs can have those needs addressed and supported right in their primary medical home. Developing a scalable, sustainable health model of this kind validates the System's role as a national leader in transforming behavioral health.



In short, by optimizing the use of its advanced videoconferencing capabilities, the Institute found new ways to overcome the geographical barriers that have traditionally stood between rural patients and high-quality care. Indeed, the virtual support groups for bladder cancer proved to be so successful that the model was later expanded to include head and neck cancer, and eventually will include breast and lung cancer patients as well.

In addition to expanding opportunities for virtual care, Carolinas HealthCare System enhanced patient access and coordinated care in more traditional ways as well. Carolinas Rehabilitation expanded comprehensive inpatient rehabilitation services at CMC-NorthEast and CMC-Pineville, so that patients recovering from stroke, traumatic brain injury or complex surgery can receive care close to home.

Levine Children's Hospital launched inpatient hospitalist care at CMC-Union, CMC-Lincoln and Cleveland Regional Medical Center. As a result, the same level of care practiced at the System's main children's hospital was extended to smaller communities with growing pediatric populations.

Advancements in Carolinas HealthCare System's regional enterprise were made when the new Cone Health Cancer Center at Alamance Regional Medical Center, a \$21 million facility, opened its doors to the community of Burlington, NC. The Cancer Center provides three times the space previously available, new cancer-fighting technology, and a uniquely designed healing environment. Also, in response to community demand, St. Luke's Hospital in Columbus, NC, opened a new orthopedic wing to support continued demand in joint replacement surgeries.

Another System achievement during 2013 was the introduction of a new approach to primary care, intended to better meet the needs of growing patient populations. Innovations included team-based care to better manage chronic disease and group medical appointments. Group appointments proved to be extremely well received by patients, because they offer a supportive environment in which to share information with others experiencing similar symptoms or conditions, with medical professionals facilitating discussion.

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“The professional world I grew up in was a 'hospital world.' In that environment, if you had a capacity problem, you just added more beds or more stuff. This approach worked, but it's expensive; and in today's environment that's a non-starter. Also, we don't live in a 'hospital world' any longer. More than 90% of our patient encounters now take place in a setting other than the bedside of an inpatient hospital room. So the challenge for all of us now is how to enhance the quality and convenience of patient care in new and different ways.”

– Michael C. Tarwater, Chief Executive Officer

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## ACCESS and COORDINATED CARE

These kinds of team-based care models depend heavily on Advanced Clinical Practitioners (ACPs), who coordinate with physician leaders to execute individual care plans. Carolinas HealthCare System was one of the first in the nation to create a comprehensive approach for optimizing the role of ACPs. The System's new Center for Advanced Practice offers a graduate acute care nurse practitioner program in partnership with UNC-Charlotte. It also offers a post-graduate ACP fellowship program for nurse practitioners and physician assistants. This allows extended opportunities for hands-on patient care experience following the completion of formal coursework.

In addition to creating new access points for healthcare delivery, Carolinas HealthCare System also made significant investments in core facilities. It is one of only a few healthcare systems nationally investing in behavioral health infrastructure while still pursuing innovations in the way behavioral illnesses are treated in other medical venues. As the year drew to a close, construction was essentially complete on a \$36 million, 66-bed behavioral health hospital in Davidson, NC, with 10,000 additional square feet for medical

offices and outpatient services. A two-part leadership model was also introduced, which balances clinical expertise and administrative vision. The new administrative model also allows for centralized bed management, combined with a new patient transport system linking emergency departments throughout the Charlotte metropolitan area.

CMC-Union celebrated with a "topping out" ceremony when the roof of a new Women's and Children's Center was completed. This \$57 million expansion features state-of-the-art equipment and thoughtful amenities to support childbirth and family bonding. In addition, a new team of obstetricians, pediatricians and pediatric hospitalists was stationed at CMC-Union around the clock. Their presence ensured that CMC-Union patients would have access to the same level of expertise available at Levine Children's Hospital in Charlotte.

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"The thing that is significant about the opening of our Davidson campus is that it demonstrates our continuing commitment to improving access, even as we transform our operations to respond to unprecedented changes in the industry – changes that are coming about with unparalleled impact and speed."

– Joseph G. Piemont, President & Chief Operating Officer

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Other 2013 milestones included groundbreakings in Rock Hill, SC, and Lincolnton, NC, for new medical office buildings. These new facilities ensure convenient access to a full continuum of medical services including primary care, cardiology, cancer care and outpatient services. Other patient benefits include a more efficient reception system; on-site lab capabilities; additional in-room services; and check-out procedures that allow patients to secure prescriptions and discharge information more quickly.

All of the new facilities, programs and protocols introduced during 2013 had one overriding goal: to ensure the delivery of seamless, well-coordinated care as patients moved from one Carolinas HealthCare System venue to another.

For Christine Jordan, access to the right care meant surviving a sudden heart attack that otherwise would have been fatal.

While visiting the rural community of Waxhaw, NC, Christine suffered crippling chest pains. Friends took her to CMC-Waxhaw, a freestanding emergency department, where physicians and staff revived her after 25 minutes of resuscitation. After stabilizing Christine, the team initiated a “Code STEMI,” which facilitates immediate access to catheterization at a nearby acute care hospital.

With Code STEMI activated, Christine was quickly airlifted to CMC-Pineville, where an interventional cardiologist placed a stent to clear the blockage in her heart. Days later, Christine was up and walking, remarkably without any lasting brain damage. Exactly one week after that fateful trip to CMC-Waxhaw, Christine came back through its doors – walking on her own – to thank the staff who had saved her life.



## QUALITY and the PATIENT EXPERIENCE

Fewer things are more important in transforming healthcare delivery than making lasting enhancements to both the quality of care and the quality of the patient experience.

At Carolinas HealthCare System, it is a fundamental belief that the experience of patients and their families is a crucial component of the healing process. Therefore, it is the responsibility of every team member to provide proactive, compassionate care that ensures patient safety and excellent customer service.

The System reached a significant milestone in this regard during 2012, when it was selected as one of just six healthcare providers in the nation to participate in the Partnership for Patients' Hospital Engagement Network (HEN).

The System's leadership role was further recognized in 2013, when the Centers for Medicare & Medicaid Services (CMS) named Carolinas HealthCare System as one of only two systems in the nation to receive an extension to that program labeled "Leading Edge Advanced Practice Topics" (LEAPT). This was a 15-month, \$4.6 million contract extension aimed at enhancing and improving

patient safety and outcomes, in a way that could be easily shared with other providers throughout the country.

One example of outstanding HEN-related progress during 2013 was the System's consistent success in reducing ventilator-acquired pneumonia (VAP), in comparison with national benchmarks. One participating Carolinas HealthCare System hospital, AnMed Health Medical Center in Anderson, SC, saw particularly impressive results.

By bundling protocols for intubated patients and measuring the results, the 461-bed hospital was recognized by CMS for nearly eliminating VAP occurrences during a period lasting more than six months. AnMed strategies are now being adapted on a broader scale, emphasizing an assessment protocol that liberates patients from ventilator use as quickly as possible and moves them toward mobility whenever possible.

Another important HEN goal is reducing the incidence of an infection called a catheter-associated urinary tract infection (CAUTI). Having a CAUTI can add one to one-and-a-half days to a patient's hospital length of stay, with related additional treatment costs that can exceed \$2,000. Accordingly, a new pilot program was launched at Carolinas Medical Center-Union during 2013 to reduce CAUTIs.

The program is facilitated by urinary catheter protocols embedded in the System's electronic medical records system. Every day, attending staff members are prompted to reassess the need for continued use of a catheter. Nurses are empowered to remove a catheter without a physician's order. After implementing the pilot program, clinicians saw a 63 percent reduction in the number of CAUTIs, compared to baseline numbers from two years earlier. In addition, the average number of patient catheterization days declined from four to one.

System-wide sharing of best practices was also encouraged and facilitated during 2013 through Quality & Service Sharing Day. Thousands of teammates from across the System gathered to share successful outcomes and reinforce a shared culture of clinical and service excellence.

More than 210 best practice projects were reviewed during the year, with 14 selected as top winners by a multidisciplinary panel of 70 judges. These new procedures were then eligible for System-wide adoption as officially designated Carolinas HealthCare System best practices.



## QUALITY and the PATIENT EXPERIENCE

Carolinas HealthCare System's commitment to educating future generations of medical professionals continued in 2013 with its support of Carolinas College of Health Sciences, Cabarrus College of Health Sciences and Mercy School of Nursing. Students at all campuses are continually encouraged to enhance their skills so they can practice at the top of their licenses after starting work. In July, Carolinas College of Health Sciences facilitated one such opportunity.

The College partnered with the Carolinas Simulation Center and Children's Miracle Network to create a simulation exercise focused on actual contingencies. This event brought together the skills of students, faculty, actors and emergency department physicians – all working with high-tech simulators that mimic human response to numerous medical complications. Students unable to participate in person were able to watch via live simulcast. All participants and observers learned lessons in the value of close coordination and teamwork, especially when dealing with potentially life-threatening situations.

QUALITY AND  
PATIENT  
EXPERIENCE

In the area of cancer care, Carolinas HealthCare System's Levine Cancer Institute launched an innovative virtual support group for bladder cancer patients in June 2013, and started hosting support groups for head and neck cancer patients in October.

These support groups enable patients to interact with other patients, caregivers and physicians located throughout the Institute's extensive network of cancer centers in North and South Carolina. Because of a historical shortage of resources in rural communities, this kind of support is typically only available in metropolitan areas.

The support groups are held once a month, at nine of the Institute's locations, including Stanly Regional Medical Center in Albemarle, NC, and Roper St. Francis Health System in Charleston, SC. The groups are open to any cancer patient, including spouses and caregivers, regardless of an individual's medical condition or treatment protocol.

These examples comprise just a small sampling of the many initiatives undertaken in 2013 to solidify Carolinas HealthCare System's growing reputation as a national leader in patient safety and quality.



## INNOVATION

Carolinas HealthCare System demonstrated great progress as an innovative organization during 2013 by adding significantly to the number of facilities linked by electronic medical records (EMR). The EMR have become increasingly vital in promoting patient safety because they can be shared so easily among physicians across the System.

Anson Community Hospital became the 13th primary enterprise hospital to convert to the EMR system, a milestone in a System-wide process that had begun three years earlier.

Carolinas HealthCare System was named as one of healthcare's "Most Wired" systems during 2013 by *Hospitals and Health Networks* magazine. This was the 10th consecutive recognition for exceptional achievements in enhancing infrastructure, business and administrative systems, clinical quality, safety systems and continuum of care.

CMC-Mercy reached a unique goal by reaching an operational stage where paper charts were no longer used. This earned the hospital a "HIMSS Analytics Stage 7 Acute Award," the highest level on the EMR adoption model. The award not only ranks Carolinas HealthCare System in the top 2.2 percent in the nation, but also makes it the first healthcare system in North or South Carolina to achieve such a prestigious recognition.

The year 2013 also saw the introduction of mobile solutions that give patients access to critical information when and where they need it. By using a new portal called MyCarolinas, patients can now securely access their complete health history, send messages to providers, view lab results, schedule appointments, renew prescriptions and pay medical bills online.

**Nearly 15,000 Carolinas HealthCare System clinicians use the EMR.**

The Dickson Advanced Analytics (DA<sup>2</sup>) group gained increased visibility and importance during 2013, as a result of its enhanced ability to gather and analyze data from electronic medical records at hundreds of care locations.

The System's Enterprise Data Warehouse, managed by DA<sup>2</sup>, is capable of integrating vast amounts of data within minutes, utilizing a wide range of sources that include not only clinical information but billing and claims data as well. This intensive effort brings information from more than 5 million patients into a repository that includes 1.5 petabytes of data.

By analyzing more than 40 different patient variables, DA<sup>2</sup>'s new data models allow hospitals and physicians' offices to predict the health of their patients with much greater accuracy. In fact, System analysts are now able to predict with nearly 80 percent accuracy a patient's risk for being readmitted within 30 days.

This allows more aggressive measures to be taken *before* a patient leaves the hospital, in order to reduce the chances of subsequent re-admission. Such measures include scheduling home follow-up visits, helping patients to better manage their medications, and connecting patients with dietitians, trainers or coaches for continued monitoring.

Another Carolinas HealthCare System achievement during 2013 was joining together with other healthcare organizations and information technology enterprises to launch an organization called the Data Alliance Collaborative (DAC). The DAC combines data and resources from 4 geographically distinct health systems, which together operate 100 hospitals, manage more than 1,600 non-acute care locations and oversee more than 28 million patients. The DAC allows for continuous sharing of experiences and intelligence to develop solutions that integrate data across the continuum of care. Partnering healthcare systems are building data analytics in a collaborative format that accelerates efficiencies and cost savings while avoiding duplication of effort.

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Each day, nearly 10 million transactions are performed in the EMR, including accessing patient charts, placing medication orders and ordering lab studies.

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## INNOVATION

Carolinas HealthCare System also has a greater capability now to provide group claims data to employers. The resulting data analysis helps self-funded employers determine the programs and medical practices that will best serve the needs of their own particular sub-set of covered employees.

Considerable strides were made during 2013 to expand the uses and usefulness of mobile technology applications as well.

One noteworthy innovation was the start-up of a mobile app that gives users access to nearly 175 currently active clinical trials at Levine Cancer Institute. The app contains information about each trial, including eligibility, disease site, lead investigators, participating physicians and locations, drugs or devices used, and contact information.

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**More than seven million patient records are securely stored in the EMR.**

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A free mobile app called CeQOL (Carolinas Equation of Quality of Life) received several recognitions, and contributed to a System placement (for the eighth consecutive year) on the InformationWeek 500 list. This is a list of the top technology innovators in the nation. Yet another recognition for technology was inclusion on the "Most Wired Innovator Finalist" listing by Hospitals and Health Networks magazine.

Another citation highlighted the success of a smartphone app for pre-operation hernia patients and their physicians. The app helps determine the likelihood a patient will have chronic post-surgery discomfort.

Carolinas HealthCare System also made strides during 2013 by employing technology to solve a variety of healthcare problems. Innovations include the introduction of virtual care, personal health sensors and trackers, group visits, online communities, and other team-based care approaches.

# INNOVATION

In an effort to reach out to those living in rural communities, Levine Cancer Institute began offering telemedicine cancer genetic programs for patients in Cleveland, Burke and Rutherford counties. The program serves patients deemed likely to benefit from genetic counseling and testing.

In each hour-long session, patients receive assistance from a genetic counselor at Levine Cancer Institute using a secure Internet connection. Discussion topics include family history, the propriety of genetic testing and the availability of associated insurance coverage, all with a goal of early detection and risk reduction.

These and many other similar innovations during 2013 reinforced Carolinas HealthCare System's position as a national leader in the transformation of healthcare delivery.

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#### **Edison Nation Medical**

For several years, Carolinas HealthCare System has been working with Edison Nation, Inc. in a strategic partnership focused on open innovation. A new entity, Edison Nation Medical was launched to provide an online community for inventors interested in healthcare delivery. In 2013, Edison Nation Medical's first invention was brought to market: a disposable isolation gown called GoGown. The new gown was invented by a nurse from Raleigh who wanted to reduce the incidence of hospital-associated infections.

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#### **Innovation Engine**

In 2013 Carolinas HealthCare System's in-house innovation consulting team, Innovation Engine, helped to pilot several programs aimed to increase efficiency and improve care delivery. Particular attention was devoted to implementing virtual behavioral health programs in primary care settings. Similar technology played an important role in developing programs to improve critical care outcomes and reduce readmission rates by patients with breathing disorders.

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## COMMUNITY BENEFIT

During 2013, Carolinas HealthCare System invested more than \$1.54 billion in community benefit initiatives that enhanced not only the quality of medical care but the quality of life in communities served by System personnel.

The System provides significant financial assistance to uninsured and underinsured patients; subsidizes Medicare and Medicaid reimbursements; and finances other services that address vital needs but do not pay for themselves, such as allied and graduate education, research, behavioral health and community health clinics. During 2013, Carolinas HealthCare System also placed an increased focus on programs and activities that provide treatment and promote health and healing in response to identified community needs.

### Closing the gap on health disparities

Carolinas HealthCare System, in partnership with the YMCA of Greater Charlotte, launched Pre-D Challenge: Reverse the Risk during 2013. Pre-D stands for prediabetes, and the aim of the community challenge is to identify people with a higher risk of developing diabetes and arm them with the tools they need to reverse their risk and prevent diabetes altogether. This partnership has committed to engage 50,000 people in taking a free risk assessment, with a goal of identifying 10,000 individuals who are at risk for developing the disease. At-risk candidates are offered a chance to participate in the National Diabetes Prevention Program (NDPP), a Centers for Disease Control lifestyle change program, at a variety of locations across the Charlotte metro area.

Another area of concern was addressing the stigma surrounding individuals battling mental health issues. The System believes that no one should be alone on the journey to recovery from mental illness or substance abuse disorders, and so Mental Health First Aid training was provided to the community. In partnership with Mental Health First Aid USA, more than 500 trainees, including 150 Carolinas HealthCare System personnel, learned about a five-step action plan to identify, understand and respond to an individual experiencing mental illness or severe emotional crisis.

### International spotlight

The International Medical Outreach (IMO) program, which works in partnership with the Heineman Foundation of Charlotte, helped to equip the first cardiology and cardiac surgery program in Belize. The program, housed in the nation's only tertiary care facility, Karl Heusner Memorial Hospital, supports affordable diagnostic and interventional cardiac services that previously were not available in the country.

IMO also donated echocardiography machines to rural hospitals in Guatemala and El Salvador, helping residents gain access to basic diagnostic heart tests. In Quetzaltenango, Guatemala, the program donated more than 14,000 pounds of medical equipment and supplies, helping to open the first comprehensive adult and pediatric intensive care units (ICUs) in the city. The ICUs are located in one of the country's largest public hospitals, Hospital Nacional de Occidente, which treats a large number of medically underserved patients.



In a non-medical project, IMO continues to donate refurbished computers to Technology to Educate, a project that seeks to equip Guatemala's public schools with computer laboratories. To date, IMO has donated enough materials to assemble more than 8,000 computers.

In addition, IMO joined hands with Chiquita Brands and Harris Teeter to facilitate the transportation and delivery of medical and computer equipment donations in Central America. Beneficiaries include hospitals and clinics in Honduras, Guatemala and Panama and public schools in Guatemala.

These and other similar initiatives reflect not only the profound impact, but the truly global scope of Carolinas HealthCare System's public service endeavors.

## COMMUNITY BENEFIT

### Giving total highest ever

The 2013 giving campaign total was the highest ever. The figures below show results in areas served by Primary Enterprise facilities, except the United Way sub-total, which includes both Primary and Regional Enterprise. Carolinas HealthCare System was awarded the prestigious “United Way Spirit of NC Award” for conducting a campaign of distinction and excellence.

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Arts and culture organizations in Mecklenburg Anson, Cabarrus, Cleveland, Gaston, Lincoln, Union and York Counties .....	\$752,417
Children’s Miracle Network .....	\$1,518,181
United Way (including regional affiliates) .....	\$2,693,763
<b>Total Giving .....</b>	<b>\$4,964,361</b>

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Carolinas HealthCare System employees volunteered 57,690 hours, the equivalent to \$2.55 million in-kind contributions, during 2013. The Community Benefit department aligned its community service projects to address priorities outlined in the Community Health Needs Assessment of Mecklenburg County.

More than 600 Carolinas HealthCare System physicians and other clinicians provided volunteer support for Heart of Champion events in Mecklenburg, Union, Lincoln and York Counties. High school athletes are screened for previously unknown heart conditions that might lead to sudden cardiac death. The program has grown steadily, with approximately 2,500 students screened in 2013, including more than 125 who required follow-up care.

### Charitable giving

Carolinas HealthCare System donated more than \$1 million in medical supplies and equipment to non-profit organizations. Refurbished cell phones were donated to domestic violence victims, while generous contributions were made to the Spokes Group for bicycle helmets and Loaves & Fishes.

Cone Health’s Annie Penn Hospital employee Cicely Alston chose the Rolling Ridge Riding program in Rockingham County to receive \$1,000 as part of Cone Health’s Pay It Forward project. This project stemmed from Cone Health’s People Excellence Celebration. Ms. Alston was one of 12 employees who received \$1,000 to use for the benefit of local communities and programs. The riding program at Rolling Ridge provides therapeutic horseback riding for children with physical, mental and emotional challenges.

## Community Benefit

Costs of financial assistance to uninsured patients .....	\$324 million
Costs of discounts extended to uninsured patients .....	\$59 million
Bad debt costs by patients who do not pay for services.....	\$231 million
Losses incurred by serving Medicare patients .....	\$563 million
Losses incurred by serving Medicaid patients .....	\$161 million
Costs of community-building activities and other services that meet a strong community need but do not pay for themselves .....	\$56 million
Costs of professional medical education, research, and cash and in-kind contributions to local nonprofits and charities.....	\$146 million

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**The total value of uncompensated care and other community benefits during 2013 was \$1.54 billion.**

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Note: This chart reflects the major categories of community benefit recognized by the North Carolina Hospital Association in addition to bad debt costs and discounts extended to uninsured patients. Figures are based on actual costs, not charges. The \$1.54 billion figure represents the collective value of benefits attributable to the Total Enterprise during 2013, including Carolinas Medical Center, 15 other Primary Enterprise hospitals, and 23 other NC and SC medical centers and hospitals affiliated with Carolinas HealthCare System.

# TOTAL ENTERPRISE NET REVENUE AND EXPENSES

For the year ended Dec. 31, 2013  
(dollars in thousands)

	Primary Enterprise and The Carolinas HealthCare Foundation <sup>A</sup>		Regional Enterprise <sup>B</sup>		Total Enterprise	
	DOLLAR TOTAL	PERCENTAGE OF TOTAL	DOLLAR TOTAL	PERCENTAGE OF TOTAL	DOLLAR TOTAL	PERCENTAGE OF TOTAL
Tertiary & Acute Care Services	\$3,093,764	64%	\$2,738,124	77%	\$5,831,888	68%
Continuing Care Services	199,451	4%	93,664	3%	293,115	4%
Specialty Services	31,015	1%	21,304	1%	52,319	1%
Physician's Services	1,051,152	22%	436,236	12%	1,487,388	18%
Other Services	199,125	4%	25,487	1%	224,612	3%
Non-Operating Activities <sup>C</sup>	241,791	5%	227,222	6%	469,013	6%
<b>Totals</b>	<b>\$4,816,298</b>	<b>100%</b>	<b>\$3,542,037</b>	<b>100%</b>	<b>\$8,358,335</b>	<b>100%</b>

	Primary Enterprise and The Carolinas HealthCare Foundation <sup>A</sup>		Regional Enterprise <sup>B</sup>		Total Enterprise	
	DOLLAR TOTAL	PERCENTAGE OF TOTAL	DOLLAR TOTAL	PERCENTAGE OF TOTAL	DOLLAR TOTAL	PERCENTAGE OF TOTAL
Wages, Salaries & Benefits	2,787,193	58%	\$1,828,967	52%	\$4,616,160	55%
Materials, Supplies & Other	1,368,173	28%	1,246,722	35%	2,614,895	31%
Depreciation & Amortization	235,354	5%	219,142	6%	454,496	5%
Financing Costs	87,625	2%	37,784	1%	125,409	2%
Funding for Facilities, Equipment & Programs	337,953	7%	209,422	6%	547,375	7%
<b>Totals</b>	<b>\$4,816,298</b>	<b>100%</b>	<b>\$3,542,037</b>	<b>100%</b>	<b>\$8,358,335</b>	<b>100%</b>

<sup>A</sup> — Only the Primary Enterprise and The Carolinas HealthCare Foundation, collectively known as the Obligated Group, have a direct obligation to pay amounts due with respect to CHS bonds.

<sup>B</sup> — Regional Enterprise includes all CHS managed facilities.

<sup>C</sup> — Consists primarily of investment results including realized and unrealized gains and losses.

**BOARD OF  
COMMISSIONERS  
AND ADVISORS**

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Malcolm E. Everett III, First Vice Chair\*  
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Elizabeth G. Reigel  
Michael D. Rucker  
Felix S. Sabates, Jr.

G. Kennedy Thompson  
Angelique R. Vincent-Hamacher\*\*  
Donaldson G. Williams  
Richard "Stick" Williams\*\*  
Ronald H. Wrenn

\*Executive Committee  
\*\*Board of Advisors

Note: This list includes the names of board members who were in office at the conclusion of calendar year 2013.

## CORPORATE STAFF

Michael C. Tarwater, MHA, FACHE  
Chief Executive Officer

Joseph G. Piemont  
President & Chief Operating Officer

Paul S. Franz, MHA, FACHE  
Executive Vice President, Physician Services Group

Greg A. Gombar, CPA  
Executive Vice President & Chief Financial Officer

Laurence C. Hinsdale, MHA, FACHE  
Executive Vice President, Regional Group

John J. Knox III, MHA  
Executive Vice President & Chief Administrative Officer

Carol A. Lovin, MSN, MHSA  
Executive Vice President & Chief Strategy Officer

Dennis J. Phillips, MHA  
Executive Vice President, Metro Group

Debra Plousha Moore, MS  
Executive Vice President & Chief Human Resources  
Officer

Roger A. Ray, MD  
Executive Vice President & Chief Medical Officer

Keith A. Smith, JD  
Executive Vice President & General Counsel

Connie C. Bonebrake, MSW  
Senior Vice President & Chief Patient  
Experience Officer

Sara J. Herron, RN, MPH, CHC  
Senior Vice President & Chief Compliance  
and Privacy Officer

Zeev E. Neuwirth, MD, SM  
President & Chief Clinical Executive,  
CHS Medical Group

Craig D. Richardville, MBA, FACHE  
Senior Vice President & Chief Information Officer

Michael L. Rose, ME  
President, Carolinas HealthCare Foundation

Joan T. Thomas, MBA  
President, Managed Health Resources

Robert H. Wiggins Jr., CPA  
Senior Vice President, Financial Services

Mary Ann Wilcox, MS, RNC, NEA-BC  
Senior Vice President, System Nurse Executive

Phyllis Wingate, MHA, FACHE  
Division President, Northern Group  
President, Carolinas Medical Center-NorthEast

Zachary J. Zapack, M. Arch  
Senior Vice President, Facilities Management Group

Note: The titles used in  
this listing are those  
which were in effect  
when this report was  
published in 2014.

## PRIMARY ENTERPRISE FACILITIES

### Anson Community Hospital

- Lillie Bennett Nursing Center  
Frederick G. Thompson, PhD  
President

### Cabarrus College of Health Sciences

Dianne Snyder, DHA  
Chancellor

### Carolinas College of Health Sciences

Ellen T. Sheppard, EdD  
President, Carolinas College of Health Sciences  
Vice President, Carolinas HealthCare System

### Carolinas HealthCare System Behavioral Health

- CMC-Randolph  
Martha Whitecotton, RN, MSN, FACHE  
Senior Vice President

### Carolinas Medical Center

W. Spencer Lilly, MHA  
President, Carolinas Medical Center  
Senior Vice President, Central Division

### Carolinas Medical Center-Lincoln

Peter W. Acker, MHA, FACHE  
President

### Carolinas Medical Center-Mercy

Scott R. Jones, MBA, FACHE  
Vice President-Facility Executive

### Carolinas Medical Center-NorthEast

Phyllis Wingate, MHA, FACHE  
President, CMC-NorthEast,  
Senior Vice President, Northern Division

### Carolinas Medical Center-Pineville

Christopher R. Hummer, MHA  
President, CMC-Pineville  
Senior Vice President, Southern Division

### Carolinas Medical Center-Union

- Jesse Helms Nursing Center  
Michael J. Lutes, MHA  
President, CMC-Union  
Senior Vice President, Southeastern Division

### Carolinas Medical Center-University

William H. Leonard, MHA  
President

### Carolinas Rehabilitation

- Carolinas Rehabilitation
- Carolinas Rehabilitation-Mount Holly
- Carolinas Rehabilitation-NorthEast
- Carolinas HealthCare System Rehabilitation  
(a facility of CMC-Pineville)  
Robert G. Larrison Jr., MBA, FACHE  
President

### Cleveland County HealthCare System

- Cleveland Regional Medical Center
- Crawley Memorial Hospital\*
- Kings Mountain Hospital
- Cleveland Pines Nursing Center  
Brian D. Gwyn, MBA  
President & Chief Executive Officer

### Huntersville Oaks

Melessia (Missy) McGinnis, MHA, NHA  
Executive Director

### James G. Cannon Research Center

Michael A. Gibbs, MD  
Interim Vice President, Research

### Levine Children's Hospital

W. Spencer Lilly, MHA  
President

### Sardis Oaks

Colin C. Clode, NHA  
Executive Director

\*Crawley Memorial  
Hospital ceased  
operations as a hospital  
facility on March 1, 2014.

## REGIONAL ENTERPRISE FACILITIES\*

### AnMed Health

- AnMed Health Medical Center
- AnMed Health Rehabilitation Hospital
- AnMed Health Women's And Children's Hospital  
John A. Miller Jr., FACHE  
Chief Executive Officer

### Blue Ridge HealthCare

- Carolinas Healthcare System Blue Ridge-Morganton
- Carolinas Healthcare System Blue Ridge-Valdese
- Carolinas Healthcare System Blue Ridge-College Pines
- Carolinas Healthcare System Blue Ridge-Grace Heights
- Grace Ridge Retirement Community  
Kathy C. Bailey, FACHE  
President & Chief Executive Officer

### Cannon Memorial Hospital

Norman G. Rentz, MHA  
President & Chief Executive Officer

### Columbus Regional Healthcare System

Henry C. Hawthorne III, MHA, FACHE  
President & Chief Executive Officer

### Cone Health

- Alamance Regional Medical Center
- Annie Penn Hospital
- Behavioral Health Hospital
- Edgewood Place at The Village at Brookwood
- Moses H. Cone Memorial Hospital
- Wesley Long Hospital
- Women's Hospital
- Penn Nursing Center  
R. Timothy Rice, MHA, FACHE  
Chief Executive Officer

### MedWest Health

- MedWest-Harris
- MedWest-Swain  
Stephen L. Heatherly, MBA, MHA  
President & Chief Executive Officer
- MedWest-Haywood  
Janie M. Sinacore-Jaberg, MBA, MHA, FACHE  
President & Chief Executive Officer

### Murphy Medical Center

- Murphy Medical Center Nursing Home  
J. Michael Stevenson, CPA  
President & Chief Executive Officer

### Roper St. Francis Healthcare

- Bon Secours-St. Francis Hospital
- Mount Pleasant Hospital
- Roper Hospital
- Roper Berkeley Day Hospital
- Roper St. Francis Rehabilitation Hospital  
David L. Dunlap, FACHE  
President & Chief Executive Officer

### Scotland Health Care System

- Scotland Memorial Hospital
- Edwin Morgan Center  
Gregory C. Wood, FACHE  
President & Chief Executive Officer

### Stanly Health Services\*\*

- Stanly Regional Medical Center
- Stanly Manor  
Alfred P. Taylor, MHA, FACHE  
President & Chief Executive Officer

### St. Luke's Hospital

Kenneth A. Shull, FACHE  
Chief Executive Officer

### Wilkes Regional Medical Center

J. Gene Faile, FACHE  
President & Chief Executive Officer

\*Note: This list includes the names of facility executives who were in office on December 31, 2013.

\*\*Stanly Health Services became part of the Primary Enterprise on March 1, 2014.

BUILT FOR  
EVERYONE  
FROM THE  
KNOWLEDGE  
OF MANY  
BRINGING HEALTH  
TO ALL



Built for everyone  
From the knowledge of many  
To bring health to all

One system  
Connecting and transforming  
Breaking down the walls of access  
Focused on delivering the latest,  
the most effective, and the best

One team  
Driven to make a difference  
Bringing together hundreds of locations  
and thousands of minds  
To care for millions of people

One belief  
That patients are partners  
That communities can collaborate  
To prevent and educate, to eradicate and cure

One mission  
To move possible, forward  
To advance the cause  
and change the face of medicine  
Together as one



Carolinan HealthCare System

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704-355-2000

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ACCELERATING THE PACE OF CHANGE

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