



2016 Annual Report

Yale New Haven Health... Celebrating 20 Years

Value in high-quality, cost-effective healthcare

Yale New Haven Health System formed in 1996, when hospitals around the country were beginning to create and join larger health systems to deal with the federal government's new prospective payment plans, the development of HMOs and the growth of powerful insurance companies.

To manage the challenges of an increasingly difficult healthcare climate, Yale New Haven Health helped its hospitals reduce costs by centralizing basic business activities, and by forming clinical relationships and affiliations, which further manage costs and improve the delivery and quality of care.

Highlights of the past 20 years:

- 1996: Bridgeport Hospital joined YNHHS.
- 1998: Greenwich Hospital joined YNHHS.
- 1999: Yale New Haven Health and Yale School of Medicine affiliated to coordinate graduate medical education and support the growth of new clinical services.
- 2009: Smilow Cancer Hospital opened in New Haven; today there are outpatient Smilow Care Centers around the state.
- 2010: Northeast Medical Group formed a physician foundation that now includes 850 healthcare providers and more than 2,000 employees.
- 2010: Yale New Haven Health began the installation of Epic, one of the country's most respected healthcare information technology systems.
- 2012: Yale New Haven Hospital acquired the former Hospital of Saint Raphael adding 500 beds to Yale New Haven Health.
- 2016: Lawrence + Memorial and Westerly hospitals joined YNHHS. Today, Yale New Haven Health is Connecticut's premier health system with 2,563 beds serving patients from eastern New York throughout Connecticut to western Rhode Island.

A Message from the Chief Executive Officer

Celebrating its 20th anniversary this year, Yale New Haven Health has taken an increasingly important role in guiding and supporting its members. It is especially rewarding to see how, working within the health system, our hospitals and other members have formed clinical relationships and affiliations which helped manage healthcare costs and improve the delivery and quality of health care.

YNHHS worked throughout the year to address the many challenges created by state reimbursements, growing taxes on hospitals and a governor's moratorium on affiliations. But demand for services was high, and financial and operational performance was strong. The year ended on a positive note when Lawrence + Memorial Healthcare, which is composed of Lawrence + Memorial and Westerly hospitals, joined the system as a corporate member.

For Yale New Haven Health, 2016 was a year of renewed optimism. The health system adopted a new, forwardlooking brand and remained focused on its guiding vision, mission and values. We continued to grow and invest in services and facilities, and our commitment to the people we serve. Focusing on improving patient access, we celebrated the first full year of Smilow Cancer Hospital at Saint Francis Hospital, the satellite expansion of the Center for Musculoskeletal Care at the new Long Ridge Medical Center in Stamford and the opening of outpatient specialty pharmacy services in Hamden. Other milestones included the opening of the Park Avenue Medical Center in Trumbull and major renovations at each of the hospitals.

YNHHS made noteworthy progress on its High Reliability Journey toward improving patient and staff safety, and took a broader, system-wide approach to delivering the same excellent patient experience at every location. The YNHHS Cost and Value Positioning initiative continued to increase efficiencies, reduce waste and create more cost-effective and beneficial patient care processes. The effort saved the health system \$78 million this year through clinical redesign initiatives and labor- and non-labor-related savings.

Our delivery networks, physicians and staff continued to earn an outstanding reputation, validated by numerous awards and recognition, including Magnet designation at Greenwich and Yale New Haven hospitals. Yale New Haven Hospital also earned Baby Friendly designation and recognition from *U.S. News & World Report* as among the best in the nation in 11 adult and six pediatric specialties.

With our focus on providing unparalleled value to our patients, I extend my personal thanks to our leadership team, physicians and staff for their contributions, each and every day, throughout the year.



Marna P. Borgstrom Chief Executive Officer

Yale New Haven Health 2016 Performance Highlights

Celebrating 20 years as an integrated health system, Yale New Haven Health System (YNHHS) was formed to enhance the quality and scope of healthcare services for residents of Connecticut and the region. YNHHS includes Bridgeport, Greenwich, Lawrence + Memorial, Yale New Haven and Westerly hospitals, as well as Northeast Medical Group, a not-for-profit multispecialty physician practice, L+M Medical Group and the Visiting Nurse Association of Southeastern Connecticut. YNHHS has clinical relationships with several other hospitals in Connecticut and numerous outpatient locations throughout the state. Network participants include Bristol and Day Kimball hospitals. YNHHS is affiliated with Yale School of Medicine, in support of patient care, medical education and clinical research.

Our strategy is to enhance the lives of patients and families by offering unparalleled value through safe, high-quality care in a caring environment at a competitive cost. YNHHS is focusing on creating a care and patient experience signature that will define the system's quality and safety performance, engage caregivers to provide one standard of care across the system, integrate major service lines across YNHHS, reduce the cost of service, and build relationships



with other providers to expand the services available to ensure that the right patient receives the right level of care at the right time.

Safety, Quality and Operational Effectiveness

Safety and Quality

Yale New Haven Health made a commitment to command accountability when it comes to patient safety and quality of care by embarking on a High Reliability Organization (HRO) journey that required implementing a number of processes – ongoing training, rounding to influence staff, sharing safety stories, training safety coaches, studying metrics and outcomes, and applying fair and just accountability.

Over the past year, staff increasingly embraced HRO principles and practices and embodied the CHAMP (Communicate, Hand off, Attention to detail, Mentor and Practice a questioning attitude) safety behaviors. By adhering to these practices, YNHHS has made significant progress toward improving patient safety.

Looking at serious safety events (SSEs), each system hospital reduced its SSE rates: by 43 percent at YNHH; 71 percent at Bridgeport Hospital; and 84 percent at Greenwich Hospital.

A new Transitions of Care program through Northeast Medical Group employed nurse care coordinators who use a standardized process with patients after discharge to ensure they receive follow-up care. This lowered the four-month readmission rate for these patients to 15.2 percent, compared with 18.5 percent for other NEMG Medicare patients, saving an estimated \$358,000.

Operational Improvement: Value Positioning

The health system's cost and value positioning efforts, including clinical redesign, continued to generate significant efficiencies and cost savings by streamlining and standardizing care while reducing costs. In total, YNHHS' Cost and Value Positioning initiative resulted in projected savings of nearly \$78 million, including Supply Chain operational cost savings.



Clinical redesign projects resulted in several major accomplishments, including a 39 percent reduction in length of stay for Pediatric Intensive Care Unit respiratory therapy patients at Yale New Haven Children's Hospital and a 24 percent decrease in the number of patients on telemetry at Bridgeport Hospital. There was a 24 percent reduction in length of stay for hip replacement patients at Bridgeport Hospital, a 13 percent decrease in length of stay of gastrointestinal/colon surgery patients at YNHH and a 5 percent decrease in skilled nursing facility use.

The physician-led clinical redesign initiatives improved quality and patient outcomes while reducing expenses. Projects related to processes such as blood and lab utilization and recovery after surgery eliminated 7,700 inpatient days, removed more than 3,600 instruments from surgical trays and decreased the number of duplicate lab tests by almost 55 percent and point-of-care labs by 42 percent.

Supply Chain/Non-Labor

Yale New Haven Health System's nine non-labor committees reduced variation, reduced cost per unit of service and assured that decision-making is value based and sustainable by focusing on patient experience, safety, clinical quality, operational efficiency and cost. During the year, YNHHS realized \$43 million in non-labor savings: over \$7 million of that in non-clinical areas such as print management, office supplies, advertising and parking services. The non-labor committee also achieved \$32 million in operational and capital cost avoidance.

Clinical and Information Technology

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In July, YNHHS launched the Epic Beaker laboratory information system to create a single, consistent platform at Bridgeport, Greenwich and Yale New Haven hospitals. Beaker provides a more streamlined ordering process, rules and notifications to avoid duplicate tests, improved specimen tracking and streamlined results reporting and technology for nurses to collect and document specimens at the bedside.

YNHHS became the first transplantation center in New England to offer telemedicine visits to post-transplant patients. Using the Epic EMR and telemedicine platform, patients are seen remotely by the Transplant team, avoiding the need to travel into the medical center for routine follow-up. The same technology is being used for Tele-Psychiatry and expanded Tele-ICU services across the system's hospitals.

As part of ongoing efforts to standardize systems and processes system-wide, YNHHS implemented a new cardiology and vascular imaging and reporting system at Yale New Haven, Bridgeport and Greenwich hospitals, Northeast Medical Group and Yale New Haven Hospital's outpatient Heart and Vascular Center imaging centers and cardiology practices. The system created enhanced reporting to improve quality and efficiency and provide greater research opportunities.





YALE NEW HAVEN HEALTH SYSTEM HOSPITALS AND CLINICAL AFFILIATES

YNHHS continued to use Emmi[®] patient engagement software to help empower patients to manage their own health. Emmi Prevent, the first tool launched, is an interactive voice response call campaign to contact patients who are overdue for screenings, checkups or flu shots and transfer them to scheduling, update their records or offer more information about a health topic. Emmi Engage educational programs were issued to sleep medicine patients through MyChart to supplement and reinforce key messages that they received during physician office visits or hospital stays.

The rollout of MDLIVE, YNHHS' virtual health platform, continued to connect employees with electronic consultations with physicians for non-emergency health conditions. More than 3,300 employees and their dependents have registered for MDLIVE, and 760 consultations were completed through the end of FY 2016.

YNHHS was again recognized as a Most Wired health system by *Hospitals and Health Networks* magazine, and in 2016 Yale New Haven Hospital was the first YNHHS hospital to achieve HIMSS Stage 7 status, recognizing the highest degree of electronic medical record adoption.

Provider of Choice

Service Growth and Access Improvement

Overall, patient volume remained consistent, with inpatient discharges increasing 2.3 percent. Outpatient encounters reached the 1.9 million mark, up 4.2 percent over last year. The hallmark of the year was the system's formal affiliation with Lawrence + Memorial Healthcare with approval from all regulatory agencies. The New London-based healthcare system includes Lawrence + Memorial Hospital, Westerly Hospital, the L+M Medical Group and the Visiting Nurse Association of Southeastern Connecticut.

Other highlights of the year included:

- Opening the 100,000-square-foot Park Avenue Medical Center in Trumbull
- Opening the Long Ridge Medical Center in Stamford
- Creating a system-wide Behavioral Health service line



- Transferring Bridgeport Hospital's inpatient rehabilitation unit to the Yale New Haven Rehabilitation and Wellness Center at Milford Hospital
- Expanding YNHHS Outpatient Specialty Pharmacy Services and opening a new site in Hamden
- Opening a 15-bed inpatient unit for bariatric and gastrointestinal surgery at the Saint Raphael Campus
- Opening the Center for Musculoskeletal Care inpatient units at Saint Raphael Campus
- Opening a Smilow Cancer Hospital Phase 1 Clinical Trials unit on Park Street, New Haven
- Forming the Center for Living Donors through the Yale New Haven Hospital Transplantation Center

Y Access, a streamlined patient transfer service, coordinated more than 6,847 patient transfers from other healthcare organizations – an increase of 6 percent. The system's critical care air transport service with North Shore-Long Island Jewish Health System, SkyHealth, logged 167 patient transports to Yale New Haven Health System hospitals.

Patient Experience

To support the creation of the YNHHS signature of care, the system's Patient Experience Council focused on developing a single set of professional behavioral standards that would better define expectations for employees and medical staff at every point of care in the Yale New Haven Health System. The council consolidated more than 195 behavioral standards from the various delivery networks, ensuring they aligned with the system's values with specific regard to patient safety and quality as well as diversity and inclusion.

Eighty-seven patient experience initiatives were recognized at the annual Patient Experience Conference in October 2015. With attendance topping the 1,000 mark, the conference gathered staff from across the system to learn from each other and national leaders in the patient experience, advocate Regina Holliday and Joint Commission medical director Ronald Wyatt, MD.



Population Health Management

Clinical integration workgroups, representing a crosssection of the medical community, worked collaboratively to create shared clinical practice guidelines for implementation among community practice groups. Medical and clinical representatives from YNHHS, Northeast Medical Group, Yale Medicine, Community Medical Group, Yale Health Plan and Fair Haven Federally Qualified Health Center reached a mutual commitment to the guidelines and efforts to promote the best care possible to patients through better care coordination and improved quality.

Community Benefits

This past year, YNHHS provided approximately \$178.1 million in uncompensated care, which includes \$116.7 million in free and charity care, plus more than \$61.4 million in bad debt (including Lawrence + Memorial Healthcare), representing a 15 percent increase in total uncompensated care over FY 2015. With community partners, YNHHS hospitals completed the triennial Community Health Needs Assessments (CHNA) for the greater Bridgeport, Greenwich, New Haven, New London and Westerly communities. The top health concerns in four of the five communities were healthy lifestyles (obesity and chronic disease), behavioral health and substance abuse, and access to care. To address these issues, each hospital developed a community health improvement plan to guide community health efforts over the next three years in conjunction with local health and nonprofit organizations. Westerly Hospital worked with the Hospital Association of Rhode Island and selected behavioral health as the sole priority area.

Throughout the year, YNHHS continued to collaborate with local partners to address community health needs through cardiac and diabetes screenings; Get Healthy CT, which educated the community about healthy eating and physical activity; a Get Fit Day in New Haven; a Mythbusters community education series in Greenwich



about substance abuse, vaping, e-cigarettes and marijuana; and Walk with a Doc in New London, in collaboration with area parks and recreation departments.

Each hospital worked with its local community on health and wellness initiatives and access to healthcare services, such as health screenings, support groups, community education sessions, community leadership activities and financial grants and assistance, benefiting over 157,000 people.

Employer of Choice

Human Resources

YNHHS continued its focus on cultivating an engaged workforce. The Employee Engagement Pulse Survey had a 76.5 percent response rate, which placed the system above the national benchmark at the 61st percentile, with an engagement index of 5.14 out of 6.

YNHHS was named as one of "America's Best Employers" of 2016 by *Forbes* magazine, ranking 27th among 500 companies with more than 5,000 employees in 25 different industries.

The "Know Your Numbers Plus" employee wellness reward program encouraged employees to increase their personal health awareness and save money on their medical benefits. This year the program screened more than 10,200 employees – a record participation rate of 73 percent.

YNHHS' *living***well** CARES Care Coordination program, which provides care coordination and health coaching services for employees living with chronic diseases, continued to demonstrate significant benefits for its 822 participants. For a recent two-year period, the program achieved \$8.9 million in cost avoidance due to decreased use of healthcare services by participants, who also showed significant improvement in their health outcomes.

Understanding that diversity fosters a more creative, innovative workforce, YNHHS hired its first chief diversity officer to lead initiatives and shape efforts, specifically in awareness and communication, workforce, patient experience and supplier diversity.

The national Human Rights Campaign (HRC) Foundation recognized YNHHS hospitals for commitment to equitable, inclusive care for lesbian, gay, bisexual and transgender (LGBT) patients and families. The HRC Foundation named Bridgeport, Greenwich and Yale New Haven hospitals "Leaders in LGBT Healthcare Equality" among nearly 500 healthcare facilities nationwide.

Institute for Excellence

In FY 2016, the Institute for Excellence (IFE) provided 25,728 hours of classroom and workshop instruction for 2,858 employees and managers. The IFE collaborated with Yale School of Management to provide the Nursing Leadership Academy, an accelerated leadership development program for 27 YNHHS nurse managers.

Over 22,000 active users completed approximately 338,000 hours of learning activities through HealthStream and other programs. Expanded use of e-learning technology extended to education for advanced life support certifications, Epic enhancements, diversity and inclusion efforts and other patient safety and professional development initiatives.

	үлнн	BRIDGEPORT HOSPITAL	GREENWICH HOSPITAL	LAWRENCE + MEMORIAL	WESTERLY HOSPITAL	NEMG	TOTAL YNHHS
TOTAL LICENSED BEDS $^{\rm 1}$	1,541	383	206	308	125	N/A	2,563
INPATIENT DISCHARGES	79,490	20,657	13,077	792	132	N/A	114,148
OUTPATIENT ENCOUNTERS	1.3M	294,326	280,635	21,106	4,020	N/A	1.9M
TOTAL ASSETS ²	\$3.6B	\$581.5M	\$640.5M	\$485.4M	\$60.5M	\$42.3M	\$5.4B
NET REVENUE	\$2.6B	\$513.8M	\$383.7M	\$21.3M	\$4.0M	\$311.7M	\$3.8B
MEDICAL STAFF ³	4,248	1,163	804	547	184	702	7,648
EMPLOYEES ⁴	12,700	2,659	1,848	2,374	596	2,016	22,193

2016 Yale New Haven Health System Profile

1 Licensed bed number includes bassinets.

2 Includes Yale New Haven Health Services Corporation assets in the Yale New Haven Hospital column.

3 Includes Residents and Fellows; MD Hospitalists included in NEMG column; includes non-physician Affiliated/Allied Health (advanced care practitioners).

4 Employees represent counts and not FTEs. System Total includes Health Services Corporation employees; NEMG includes LMMG employees

NOTE: Inpatient discharges, outpatient encounters and net revenue for Lawrence + Memorial and Westerly Delivery Networks reflect data collected beginning 9/8/16, once these entities became part of YNHHS; therefore, internal and audited financial statements will not agree with data presented in this table.

The SYN:APSE Center for Learning, Transformation and Innovation provided over 3,000 hours of instruction for approximately 7,400 staff members. SYN:APSE also provided facility design consultation, workflow assessment and safety testing for many new construction initiatives throughout YNHHS, including the Park Avenue Medical Center.

Financial Performance

Weathering a challenging regulatory and financial climate, YNHHS posted an operating margin of 3.6 percent and a total margin of 5.7 percent this year. This solid financial performance helps support the system's ability to support clinical programs, improve facilities, purchase equipment and fund employee pension plans. Revenue cycle enhancements totaled \$153 million.

Through the cost and value positioning initiative, which continued to increase efficiency, reduce waste and create more cost-effective and beneficial patient care processes, YNHHS saved nearly \$77 million, including supply chain operational cost savings. The system also saw continued savings from the integration of Yale New Haven Hospital with the former Hospital of Saint Raphael of \$78.4 million.

Moody's Investors Service affirmed the system's obligated group's Aa3 bond rating, and gave it a stable outlook, citing YNHHS' leading position in Connecticut, wide patient draw and strong history of consistent solid margins.



From accident scene to trauma team, coordination helps save a life

Even to seasoned emergency response professionals, it was a dramatic scene. But what occurred behind the scenes helped save a Trumbull man's life.

Tony Ferreira had been up on a ladder, trimming a tree in his backyard, when a heavy limb crashed down on him, impaling his leg on the ladder. "I couldn't feel my legs," said Ferreira, who was stuck 12 feet up in the tree.

Upon arriving and assessing the situation, the chief of Trumbull Emergency Medical Services called Shea Gregg, MD, chief of Trauma at Bridgeport Hospital. "I heard in his voice, quite clearly, that there was a problem," Dr. Gregg said.

As firefighters began the complicated process of removing Ferreira from the tree, Nabil Atweh, MD, Bridgeport Hospital chief of Surgery, arrived at the accident scene. He and emergency responders relayed detailed information to Bridgeport Hospital so the trauma team would know exactly what to expect when Ferreira arrived.

Ferreira was loaded into the ambulance with a portion of the ladder still in his leg. Luckily, it had just missed his femoral artery, and trauma surgeons were able to remove the ladder.

After two more surgeries and rehabilitation, Ferreira is back on his feet – which he's keeping firmly on the ground.

"I didn't think I was going to make it," Ferreira said. "Thank God for the Trumbull Fire Department, EMS and the trauma team at Bridgeport Hospital," he said. "They saved my life."



Learning that cancer is not the end of the world

Last April, Robert McCarthy had every intention of focusing on his spring golf game. A physically active 53-year-old postal worker, McCarthy never expected that blood work after a routine exam would change his plans.

"When the blood work came back, my doctor told me that my PSA (prostate-specific antigen) level was high and referred me to a urologist, Dr. Judd Boczko," McCarthy said.

McCarthy knew the signs pointed toward possible prostate cancer, even though he was in great shape, ran five miles a day, biked and lifted, and delivered parcels daily.

"Most men don't have any symptoms or discomfort during early stages," Dr. Boczko said. "When detected early, prostate cancer is very treatable." Within days, McCarthy had the result of a biopsy that confirmed the presence of cancer. After consulting with Dr. Boczko, McCarthy opted for a robotic radical prostatectomy at Greenwich Hospital with the new da Vinci XI robotic surgical system. Dr. Boczko was able to remove the cancerous tissue through two small incisions.

"I was in the hospital overnight and went home the next day," McCarthy said. "They told me it was a very early-stage, slow moving cancer."

Determined to get back to his active lifestyle, McCarthy was driving and walking in the park two weeks later, although he admits it wasn't easy. "I was riding a bike again within a month and back at work after nine weeks."

McCarthy said his prognosis is very good. "Cancer is bad, but if you're going to get cancer, this is the one you want if you're a man. I learned that it's not the end of the world."



"Major breakthrough" gives hope to stroke patients

It could have been laughed off as a silly mistake. Luckily, the person helping Bill Yocum set up for a meeting at his church knew better.

"I hung this sign up, and the guy who was with me said, 'You've got it upside-down,'" Yocum recalled. "I thought, 'That's a weird thing for him to say.' I turned around and he said, 'You're having a stroke.""

Yocum was transported to Lawrence + Memorial Hospital in New London, where a neurologist confirmed a stroke and contacted Yale New Haven Hospital via the TeleStroke service, which allows physicians at participating hospitals to use video and image-sharing telecommunications to consult with specialists in YNHH's Stroke Center. The L+M neurologist and Joseph Schindler, MD, YNHHS TeleStroke director, determined that Yocum was having a stroke that would have left him with significant paralysis and unable to communicate.

He was flown by SkyHealth helicopter to YNHH, where physicians performed a mechanical thrombectomy. They inserted a catheter fitted with a stent into his groin and threaded it to the artery in the brain that was blocked by the blood clot, then suctioned out the clot through the stent.

"This is a major breakthrough in medicine," said YNHH neurosurgeon Charles Christian Matouk, MD. "It can benefit patients who would likely have been unable to go back to work, and needed full-time care or nursing facilities."



Sometimes it takes a village

An easy smile is Carol Gray-Spencer's ready companion. The Bridgeport resident takes everything life sends her way in stride – including a diagnosis of type 2 diabetes that changed her life 27 years ago.

"I developed gestational diabetes during my first pregnancy, but it went away after my son was born," Gray-Spencer said. "A year later, the diabetes came back."

Women who have had gestational diabetes are at higher risk of developing diabetes in the future. While Gray-Spencer had some classic symptoms (high blood sugar levels, high blood pressure, increased thirst), telltale signs may not develop for years, leading to tissue and nerve damage throughout the body.

Gray-Spencer knew how serious the diagnosis was, and that she couldn't take an ostrich's approach of denial when it came to managing her health. She had lost her mother and two brothers to the disease.

She credits her longtime medical team of specialists with Northeast Medical Group for helping her learn how to live with diabetes through diet, exercise, medication, regular checkups and pep talks. "It's hard to be diabetic. It often feels impossible to change the way you eat in a culture that focuses so much on food," she said.

What works for Gray-Spencer is the commitment she brings to her health as well as that of her "dream team" consisting of primary care physician Jo-Ann Passalacqua, MD; endocrinologist Joseph Rosa, MD; ophthalmologist David McCullough, MD; and nutritionist Lisa Bishop, RD.

"They work together to look out for my well-being," she said. "I trust them and appreciate what they do for me."



Delivery Networks and Northeast Medical Group

Bridgeport Hospital

Bridgeport Hospital is a nonprofit 383-bed urban teaching hospital and home to the second inpatient campus of Yale New Haven Children's Hospital. Affiliated with Yale School of Medicine, the hospital operates the only burn center in Connecticut – The Connecticut Burn Center. Bridgeport Hospital is certified by The Joint Commission as a Primary Stroke Center and approved by the American College of Surgeons Commission on Cancer as a teaching hospital cancer program.

2016 Bridgeport Hospital Highlights

Continuing to build its investments in clinical programs, infrastructure and employees, Bridgeport Hospital improved the quality of patient care, safety and service. Major initiatives reduced serious safety event rates; improved employee engagement, diversity and recognition; and realized operational and cost efficiencies through clinical redesign initiatives. The hospital also reached medical milestones, performing the system's first cardiac cryoablation to treat atrial fibrillation and its 100th bariatric surgery. Highlights of the year at Bridgeport Hospital included:

Park Avenue Medical Center Park Avenue Medical Center (PAMC) in Trumbull opened in May, combining new

and existing services on a single campus. Services include outpatient surgery and gastroenterology suites, specialty physician offices, a Norma Pfriem Breast Center satellite, as well as antenatal testing, a laboratory draw station, outpatient radiology, a Yale New Haven Children's Hospital specialty center and a Smilow Cancer Hospital Care Center.

Transcatheter Aortic Valve Replacement (TAVR) Surgery In April, members of the medical staff performed the first transcatheter aortic valve replacement (TAVR) procedure, marking the start of the hospital's structural heart program. TAVR is considered an effective option for heart valve replacement for high-risk patients not eligible for surgery.

Facility Enhancements The hospital continued to work on facility enhancements and expansion to meet growing patient demand. East Tower 8 was renovated to add 19 medical/surgical beds, the Pharmacy was updated, and the Emergency Department was renovated to improve patient flow, patient experience and capacity. Construction also began on the hybrid operating room and renovation of the Northeast 10 patient care unit, both expected to open in spring 2017.

Greenwich Hospital

Greenwich Hospital is a nonprofit, 206-bed community teaching hospital, affiliated with Yale School of Medicine. It was the first Connecticut hospital to receive The Joint Commission's Gold Seal of Approval for adhering to strict standards for excellence and safety in spinal fusion and total hip and knee replacement. The hospital also received the American Heart Association and American Stroke Association quality achievement award for its higher stroke care standard. As a progressive regional healthcare center, it includes Smilow Cancer Hospital's Greenwich Hospital Campus.

2016 Greenwich Hospital Highlights

Committed to achieving value by focusing on enhancing patient care and managing finances, Greenwich Hospital increased volume in targeted services, expanded access and reach, and improved patient safety and quality during the year. Magnet Designation® Greenwich Hospital received the prestigious Magnet designation from the American Nurses Credentialing Center (ANCC), placing it among approximately 7 percent of the more than 5,600 hospitals nationwide, and one of only six in Connecticut, to achieve this distinguished honor. Magnet designation is the highest honor of nursing excellence that any hospital can achieve. The Magnet Recognition Program recognizes healthcare organizations for quality patient care, nursing excellence and innovations in professional practice.

Long Ridge Medical Center In August, Greenwich Hospital opened a new outpatient center at 260 Long Ridge Road in Stamford offering services in rehabilitation, laboratory, radiology, rheumatology and neurology infusion as well as NEMG primary care physician services and Yale Medical Group Center for Musculoskeletal Care services. The center, designed with patient convenience and comfort in mind, represents the largest, most comprehensive outpatient site spearheaded by Greenwich Hospital.

TrueBeam Radiation Therapy Placing Greenwich Hospital at the forefront in the fight against cancer, the hospital installed the TrueBeam radiation therapy system, which offers advanced speed and accuracy to treat cancer anywhere in the body. The new linear accelerator zeroes in on moving targets quickly and accurately, leading to shorter treatment times. TrueBeam features a larger field size, streamlined imaging and patient positioning tools that enable more flexibility.

Yale New Haven Hospital

Yale New Haven Hospital, founded in 1826 as the first hospital in Connecticut, is a 1,541-bed acute and tertiary care hospital, which also includes Yale New Haven Children's Hospital, Yale New Haven Psychiatric Hospital, Smilow Cancer Hospital and Grimes Center. With two inpatient campuses in New Haven, YNHH is the primary teaching hospital for Yale Schools of Medicine and Nursing and a major tertiary care center for acutely ill or injured patients. The hospital includes several outpatient centers in New Haven, North Haven, East Haven and Guilford and dozens of radiology and blood-drawing services throughout



the state. YNHH was ranked nationally by U.S. News & World Report in 11 adult and six pediatric specialties this year.

2016 Yale New Haven Hospital Highlights

Yale New Haven Hospital's year was characterized by strong patient volume, continued progress toward sustaining a culture of safety and quality, and numerous clinical program advancements – all of which contributed to its growing awareness as a leading destination hospital.

Magnet® Re-designation Yale New Haven Hospital again received the prestigious Magnet designation from the American Nurses Credentialing Center (ANCC). YNHH first received Magnet designation in 2011, prior to the acquisition of the Hospital of Saint Raphael. This time, however, the re-designation survey included the Saint Raphael Campus. Magnet designation recognizes healthcare organizations for quality patient care, nursing excellence and innovations in professional nursing practice.

Bariatric and Gastrointestinal Surgery Unit In January, YNHH opened a 15-bed inpatient unit for bariatric and gastrointestinal surgery patients at the Saint Raphael Campus that was specially designed to meet the needs of bariatric patients and is a key component of the hospital's Bariatric Center. **Center for Living Donors** The YNHH Transplantation Center (YNHTC) announced the formation of a new Center for Living Donors at YNHH, which will provide long-term, follow-up care to the living donors of a kidney or liver to a transplant recipient. The YNHTC was part of the nation's first organ transplant between two HIV-positive patients. The YNHTC also celebrated a milestone when it performed its 1,000th living donor kidney transplant in May, 48 years after performing its first living donor kidney transplant in 1968.

Medical Breakthroughs YNHH was the first hospital in Connecticut to perform a new, less invasive procedure to help clear carotid arteries using the TransCarotid Artery Revascularization procedure, and was one of just two comprehensive stroke centers in the state to offer a new minimally invasive technology called stent receivers. YNHH also performed the nation's first thyroidectomy through the mouth, which avoids visible scarring in patients.

Northeast Medical Group

Northeast Medical Group (NEMG), established in 2010, is a system-wide, not-for-profit multispecialty medical group with 2,000 employees including approximately 850 clinicians in 46 different specialties. NEMG includes physicians and advanced practice clinicians and the hospital-employed physicians at Greenwich, Bridgeport, Yale New Haven, Westerly and Lawrence + Memorial hospitals.





2016 Northeast Medical Group Highlights

NEMG supported its physician practices through economies of scale, recruitment assistance, practice management, clinical quality tools and support for the delivery of integrated, high-quality care. Key highlights include:

Network Growth and Leadership In May, Prathibha Varkey, MBBS, MPH, joined NEMG as president and chief executive officer. NEMG made significant progress in its evolution as an integrated medical group during 2016, expanding its community practices with 15 physicians and 19 advanced practitioners, and focusing on operational improvements and patient experience improvements, as well as strengthening its financial position. At the close of the year, NEMG entered into an affiliation with Lawrence + Memorial Medical Group. Once complete, the affiliation will add 13 locations and close to 120 providers, expanding patient access to NEMG practice sites in Connecticut, Rhode Island and New York.

Quality Improvement and Financial Performance Continuous quality improvement was a major priority. The medical group achieved the pinnacle rating of Level 3 National Committee for Quality Assurance recognition for its patient-centered medical home (PCMH) sites and expanded from seven PCMH sites last year to an additional 23 sites this year. NEMG closed 2016 with strong financial results, including a net operating result that exceeded budget. Following a competitive process, NEMG was invited by the state to participate in a new pilot Medicaid shared savings program initiative.

Enhanced Patient Satisfaction and Access Ongoing service excellence efforts resulted in high patient satisfaction scores that put NEMG in the 91st percentile overall for Press Ganey. NEMG achieved a 96.5 percent likelihood among community physicians that they would recommend the medical group. To help patients maintain their plan of care, NEMG increased awareness of the patient medication renewal feature available through MyChart, and facilitated 4,965 applicable prescriptions. Recognizing that patients want the convenience of booking appointments with primary care physicians online, NEMG partnered with ZocDoc to provide online scheduling. Over 700 appointments with 47 different providers were booked online since the system launched in April.

Lawrence + Memorial Hospital

Lawrence + Memorial is a nonprofit, 308-bed general and acute care hospital providing patient care to medical, surgical, pediatric, psychiatric and obstetrical patients in southeastern Connecticut since 1912. The hospital is also an important healthcare provider for the residents of Fishers Island, New York, and Washington County, Rhode Island. Specialty areas include southeastern Connecticut's only Newborn Intensive Care Unit, a Wound and Hyperbaric Center and an acute inpatient rehabilitation unit. L+M offers cardiac acute, step-down and rehabilitation programs and is the only eastern Connecticut hospital





that performs emergency and elective angioplasty. The Lawrence + Memorial Cancer Center in Waterford, Connecticut, provides medical oncology services, gynecologic oncology and radiation oncology to area residents.

Westerly Hospital

Westerly Hospital is a 125-bed hospital that provides Washington (Rhode Island) and New London (Connecticut) county residents a wide array of medical, surgical, laboratory and rehabilitative services. With 130 primary and specialty physicians, Westerly Hospital serves the entire community with family-centered medical care. The Lawrence + Memorial Cancer Center provides local access to expert cancer care and treatment to southeastern Connecticut and the surrounding communities, including western Rhode Island and Fishers Island, New York.

Visiting Nurse Association of Southeastern Connecticut

The Visiting Nurse Association of Southeastern Connecticut (VNASC) is a nonprofit organization dedicated to optimizing people's health and well-being. Since 1909, the VNASC has cared for elderly patients who wish to remain in their homes for as long as they can, patients recovering from surgery or illness, new mothers, schoolchildren and the homeless. The VNASC consists of three major components – Home Health Care, School Health and Community Wellness. As of September 30, 2016

Budgeting helps the hospitals develop and monitor operating, cash and capital budgets.

Business Development provides planning and support for system and delivery network new ventures and coordinates system ambulatory and population healthbased strategies.

Center for Healthcare Solutions coordinates YNHHS emergency preparedness activities, provides emergency preparedness leadership and business continuity planning. Its Grants Resource Office helps identify and secure grants and provide project financial and management services.

Charge Capture/Price Master coordinates charge master reviews, charge capture and pricing strategies, and Medicaid and Medicare reimbursements.

Clinical Integration and Population Health manages and coordinates clinical integration efforts across YNHHS, including the management and development of care coordination services for patient populations in value-based contracts.

Corporate Compliance ensures a consistent approach toward ethical issues and values, compliance with external regulatory organizations and ethical employee behavior through the YNHHS Code of Conduct.

Corporate Facilities provides coordination and support to all delivery network campuses for the design, construction, renovation and operation of all system buildings, and is responsible for all off-site real estate functions including leasing and management of off-site locations.

Corporate Finance provides financial reporting, accounting, accounts payable, tax filing and payroll services for the Health Services Corporation and YNHHS hospitals.

Corporate Pharmacy Services coordinates pharmacy services across YNHHS, including operational and formulary standardization, clinical services and pharmacist practice model, procurement and contracting, and medication safety and quality improvements.

Corporate Supply Chain Management develops strategy and services related to non-labor contract management and negotiations, clinical value analysis, procurement operations, supply chain analytics, materials management/ logistics operations and leadership of the cost and value positioning non-labor initiative.

Data Analytics maintains an integrated clinical, financial and operational information system to help managers understand and evaluate resource utilization in a timely and accurate manner.

Financial Planning helps evaluate resource requests, allocates resources, monitors budgeted versus actual resources and implements corrective action plans.

Government Affairs and Community Relations monitors health legislation at state and federal levels, serves as liaison to elected officials and develops relationships with community agencies and stakeholders.

Human Resources provides human resource, employee relations, recruitment and human resource information to YNHHS members. Compensation and Benefits handles information, background and monitors the standardization of compensation and benefits programs. HR Information Services supports Lawson manager self-service, employee self-service, tuition reimbursement, the human resources database and human resources information technology.

Information Technology Services maintains the system's technology infrastructure, clinical and business applications, and provides support to serve the needs of patients, physicians and staff.

Institute for Excellence provides system-wide coaching, training and education programs in performance improvement, change management, leadership development, teambuilding and e-learning. The SYN:APSE simulation center provides simulationenhanced, experiential learning opportunities to YNHHS.

Internal Consulting Group provides project management, data research and analysis, and process management by delivering value, reducing costs, and improving quality and safety through human resources, labor, non-labor and clinical redesign activity.

Laboratory Medicine encompasses microbiology, chemistry, transfusion services, hematology, immunology, molecular diagnostics, virology and surgical pathology. The department also manages blood draw stations located throughout southern Connecticut.

Legal Services provides and coordinates legal and certain risk management services for YNHHS and its affiliates.

Managed Care develops managed care payer strategies, negotiates provider agreements with payers, and provides ongoing contract implementation and management support.

Marketing and Communications manages internal and external communications, including media relations, advertising, marketing and digital/social media properties, and oversees the YNHHS Physician Services and Referral Center.

Payroll coordinates the management of payroll functions for all system organizations.

Quality and Performance Management supports managers and clinical leaders in improving performance in both clinical and non-clinical areas, measures and monitors patient safety and clinical quality, and develops and maintains electronic dashboards and scorecards to monitor clinical, operating and financial measures. **Reimbursement** coordinates regulatory financial filings to state and federal agencies and governmental cost report reimbursement settlements, pursues government reimbursement appeals, and works with net revenue assumptions for compliance, budgeting and financial reporting.

Specialty Pharmacy Services fills medication prescriptions for complex diseases or transplants and provides patients with services such as insurance authorization, medication management, disease-specific education, home delivery and financial counseling.

Strategic Planning and Community Health

Improvement manages the business and strategic planning process; identifies and assesses the impact of market and industry changes and emerging trends; supports all service lines; provides external market data, analysis and mapping; conducts community health needs assessments and leads community health improvement coalitions. It oversees the Certificate of Need process for YNHHS and completes national surveys on behalf of Health Services Corporation and the delivery networks.

System Business Office handles patient billing and account follow-up, patient admitting and registration, financial assistance administration, collection and account recovery, accounts receivable, medical records and coding, credit balances and partial pay account.

Treasury provides investment, debt, banking and insurance advice to the system organizations.

Workers Compensation coordinates a network of workers compensation specialists accessible to employees of the system organizations.

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VISION

Yale New Haven Health enhances the lives of the people we serve by providing access to high-value, patient-centered care in collaboration with those who share our values.

MISSION

Yale New Haven Health is committed to innovation and excellence in patient care, teaching, research and service to our communities.

VALUES

PATIENT-CENTERED – Putting patients and families first **RESPECT – Valuing all people** COMPASSION – Being empathetic INTEGRITY – Doing the right thing ACCOUNTABILITY – Being responsible and taking action

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