

FOCUS

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Focusing on the people and initiatives that distinguish Christiana Care Health System

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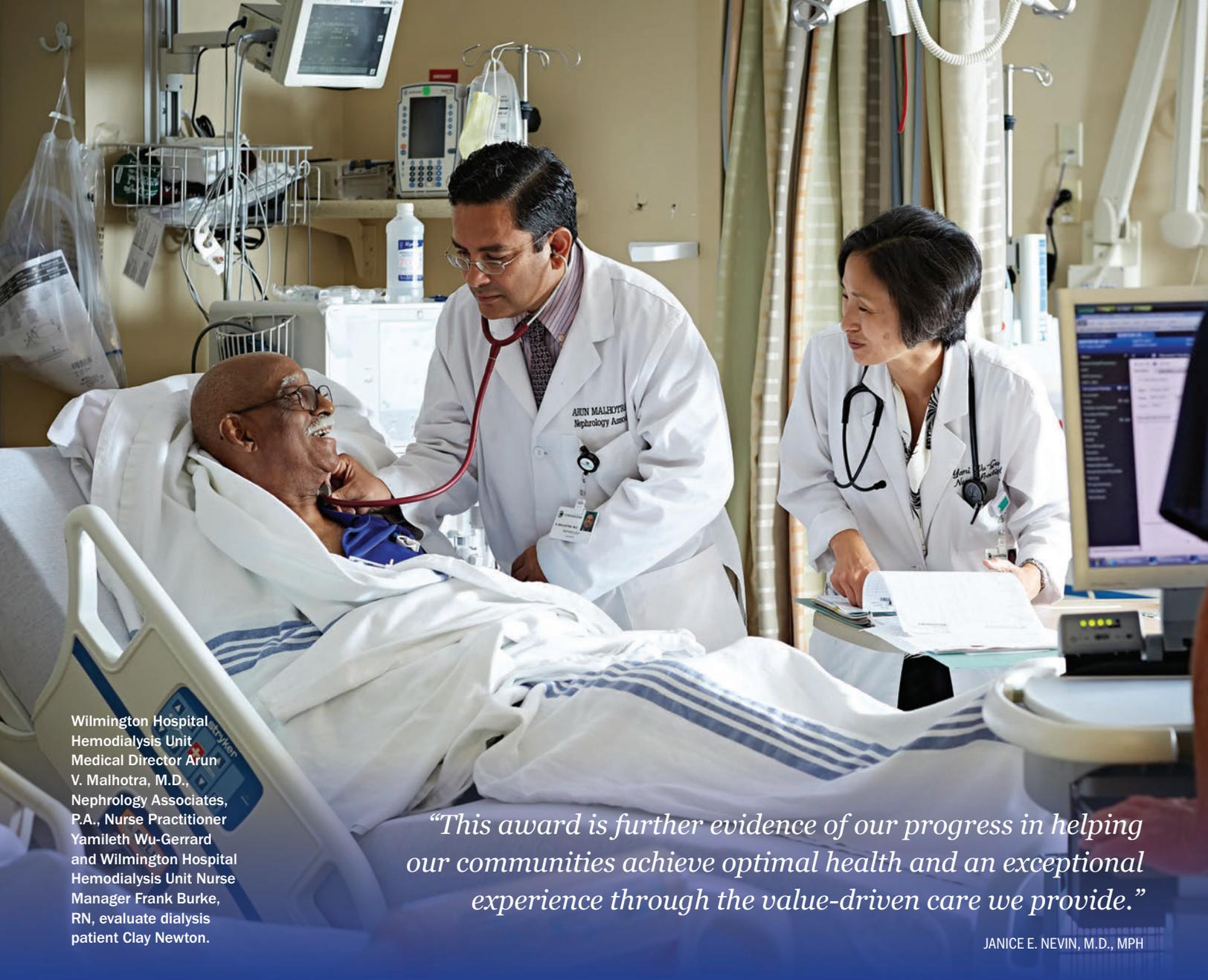
U.S. News & World Report: Christiana Care among nation's Best Hospitals

Christiana Care Health System has been recognized for excellence as the best hospital in Delaware and No. 3 among the 96 hospitals in the Philadelphia region by U.S. News & World Report. Christiana Care was named among the top 50 in the nation in four specialties: Nephrology, Pulmonology, Diabetes & Endocrinology, and Gastroenterology & Gastrointestinal Surgery.

U.S. News and World Report also ranked Christiana Care as a high-performing hospital in the specialties of Geriatrics, Gynecology, Urology, Orthopaedics, and Neurology & Neurosurgery.

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Photo: Section Co-Chief of Gastroenterology Nathan A. Merriman, M.D., MSCE, and Nurse Anesthetist Redemptor Atuma, CRNA, check on a post-operative patient in the Endoscopy Suite at Christiana Hospital.



Wilmington Hospital Hemodialysis Unit Medical Director Arun V. Malhotra, M.D., Nephrology Associates, P.A., Nurse Practitioner Yamileth Wu-Gerrard and Wilmington Hospital Hemodialysis Unit Nurse Manager Frank Burke, RN, evaluate dialysis patient Clay Newton.

“This award is further evidence of our progress in helping our communities achieve optimal health and an exceptional experience through the value-driven care we provide.”

JANICE E. NEVIN, M.D., MPH

Christiana Care among nation's Best Hospitals

Christiana Care was one of only 63 hospitals in the nation that earned a high-performing rating in all nine inpatient surgical procedures and chronic conditions that U.S. News evaluated: colon cancer surgery, lung cancer surgery, heart bypass surgery, aortic valve surgery, abdominal aortic aneurysm repair, hip replacement, knee replacement, heart failure and chronic obstructive pulmonary disease.

“This honor is a very special recognition that belongs to our extraordinary people who each day demonstrate an exceptional commitment to advancing The Christiana Care Way,” said Janice E. Nevin, M.D., MPH, Christiana Care president and CEO. “This award is further evidence of our progress in helping our communities achieve optimal health and an exceptional experience through the value-driven care we provide.”

A key mechanism of that improvement has been the implementation of a service line structure that has united clinical teams from across Christiana Care, standardizing care through the development of clinical pathways that address specific conditions or diseases.

“It starts by articulating our values in many ways, over and over again. The patient is at the center of everything that we do,” said Virginia Collier, M.D., MACP, physician leader of the Acute Medicine Service Line and chair of the Department of Medicine, which includes Nephrology, Pulmonology, Diabetes & Endocrinology and Gastroenterology. “The service line structure has allowed all of the clinical teams and leaders to really pull in the same direction.”

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Proactive pulmonary care

Over the last few years, Christiana Care's pulmonologists, now part of the Acute Medicine Service Line, have focused on improving care for patients with chronic obstructive pulmonary disease (COPD), the fourth most common diagnosis at Christiana Care. The Best Hospitals study ranked Christiana Care's pulmonology care at 45th nationwide.

The multidisciplinary COPD team includes a case manager who screens patients for exacerbating factors, allowing the team to craft proactive care rather than simply react to ailments as they arise.

The case manager also addresses common challenges to treatment, including smoking cessation, medication affordability, post-discharge appointments and the use of pulmonary rehabilitation.

"We know that pulmonary rehab is one of the few things that's been shown to decrease readmission and improve quality of life," said Albert A. Rizzo, M.D., FACP, FACCP, chief of Christiana Care's Pulmonary and Critical Care Medicine Section.

The team has made starting rehabilitation more convenient for patients by providing a therapist to perform an assessment while the patient is still in the hospital, said

Vinay Maheshwari, M.D., associate chair and associate physician operations leader of the Acute Medicine Service Line.

"Often, the challenge is getting patients started and in the door the first time," Dr. Maheshwari said.

In just one year, efforts to standardize COPD care have led to a 7 percentage point drop in the 30-day readmission rate.

The critical care team deserves much of the credit in the treatment of COPD, as many sufferers have serious comorbidities, including heart failure. The report's methodology, too, puts much of the emphasis on critical care, which at Christiana Care has benefited from a team-based model that includes dedicated medical intensivists and critical care assistants such as physician assistants, ICU nurses, COPD case managers, respiratory therapists, physical therapists and registered dietitians. This model of 24-hour

expert care allows for standardization, including twice-daily multidisciplinary rounds — an innovation that sustains treatment progress through the evening and night.

"This has got to be a 24-hour cycle," Dr. Maheshwari said.

The pulmonary team is also helping to turn the tide on lung cancer in Delaware by partnering with the state's Screening for Life Program, Dr. Rizzo said. Individuals at risk of lung cancer are referred to a nurse navigator who provides screening education. Scans are read by radiologists trained in low-dose CT lung cancer screening. The goal: Identify patients with early-stage cancer before they show symptoms, when the disease is most treatable.

Diabetes care recognized

Christiana Care's Best Hospitals ranking in Diabetes & Endocrinology reached 18th this year, up from 26th last year and 33rd in 2014.

The complexities involved in treating a far-reaching illness such as diabetes make it a useful case study in the benefits of a team approach. It was for this reason that Christiana Care's Primary Care and Community Medicine Service Line chose Type 2 diabetes as its clinical pathway, a detailed road map that lays out evidence-based methods to treat illness.

One recent innovation involves the training of a diabetes resource nurse who sees every diabetic patient on an inpatient unit, said James Lenhard, M.D., section chief of Endocrinology.

This nurse implements evidence-based practices, such as ensuring that patients are able to obtain their medicine and take it as directed. In 2015, Christiana Care presented research at the American Diabetes Association that showed that patients on inpatient units with diabetes resource nurses had reduced lengths of stay and decreased readmissions, compared with patients on similar units without such nurses.

Improving diabetes care has meant breaking down a host of processes to the granular level, said Omar Khan, M.D., MHS, FAAFP, physician leader for the Primary Care & Community Medicine Service Line. For example, the team identified a need to focus on ensuring that patients arrive at their doctor's appointment with a key piece of data that can help to guide treatment decisions — a measure of diabetes control called hemoglobin A1C.

"It sounds simple," Dr. Khan said, "but we needed to focus on the details while remaining attentive to the big picture."

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CHRISTIANA CARE AMONG NATION'S BEST HOSPITALS | CONTINUED

Kidney treatment benefits from collaboration

Christiana Care's nephrology care was ranked 42nd nationwide. Patients who receive dialysis at Christiana Care receive a high level of support, said Theodore F. Saad, M.D., chief of Nephrology.

"It's essential that patients and physicians have confidence that there's a high-quality institution to give the patient the best possible outcomes," Dr. Saad said. "That's something that Christiana Care has been paying a lot of attention to."

Lindsey Slater, M.D., medical director of the Christiana Hospital dialysis unit, said the kidney transplant program has thrived through this cooperation.

"It's essential that patients and physicians have confidence that there's a high-quality institution to give the patient the best possible outcomes. That's something that Christiana Care has been paying a lot of attention to."

THEODORE F. SAAD, M.D.

"By working with surgeons we know personally, there is much better communication and management of the patient's care," she said.

Arun V. Malhotra, M.D., medical director of the hemodialysis unit at Wilmington Hospital, said he has been impressed by Christiana Care's commitment to collaboration, including staff support. "Being here has helped us raise the bar," he said. Moreover, Christiana Care's size has itself paid dividends, as the experience gained from a high volume of patients has enabled the team to fine-tune the complex care for patients with kidney failure.

The team's proximity to Wilmington Hospital's Emergency Department also allows it to quickly respond with the emergency team in evaluating and treating patients, he said.

Gastroenterology and GI Surgery continue to excel

Innovation in gastroenterology, ranked 45th in the Best Hospitals report, has been driven by efforts to build a culture of collaboration, said Nathan A. Merriman, M.D, MSCE, section co-chief of Gastroenterology, with Jared Hossack, M.D., MBA. To that end, Dr. Merriman has helped to create the Endoscopy Performance and Value Improvement Team, a multidisciplinary leadership group that discusses patient cases and general care processes.

"The endoscopy suite serves as a bridge in the continuum of care for patients," Dr. Merriman said, noting that the images and endoscopy reports recorded are very helpful to the surgeons.

Gerard J. Fulda, M.D., FACS, chair of the Department of Surgery and physician leader for the Surgical Services Service

Line — which includes Gastrointestinal Surgery and the Kidney Transplant Program that helped strengthen Christiana Care's high ranking in the specialty of nephrology — said surgeons are increasingly looking at the patient experience before and after the operation. Christiana Care surgeons use screening tools to prepare high-risk patients in order to decrease complications, while hospitalists track patients after surgery.

"We're trying to provide optimal care for a particular individual as opposed to treating everybody the same way, and the service line structure has been driving all of these improvements," Dr. Fulda said. "Instead of it being one or two things, we've built a pathway of expectations, and everyone is educated on that pathway — including the patient, who gets a consistent message and knows what to expect."

Dr. Fulda said that Christiana Care also has spearheaded the use of surgical robotics to remove cancers of the lower colon. Robotic surgery can enhance the surgeon's ability to access and see inside the body, while allowing smaller incisions and often resulting in less pain, less blood loss and less time in the hospital for patients.

Another surgical initiative has been organized around limiting blood transfusions, since the overuse of transfusions can harm patients' immune systems and make them more vulnerable to infections.

Goals of these efforts include decreasing complication rates, reducing lengths of stay and improving patient satisfaction, while using less health care resources, Dr. Fulda said.

"We've built a pathway of expectations, and everyone is educated on that pathway — including the patient, who gets a consistent message and knows what to expect."

GERARD J. FULDA, M.D., FACS

Benefits across the health system

A growing culture of collaboration throughout Christiana Care is helping to improve quality and patient safety across the board. The continued implementation of the service line model, put in place only last year, is expected to reap further benefits.

A key area of focus is reduction in preventable harm to patients, such as falls and hospital-acquired infections. Christiana Care's systemwide tracking of these and other metrics help to ensure the safety of all patients.

"We've been successful every year," Dr. Collier said. "We are going to continue to be successful until preventable harm goes to zero." ●

Your safety is our priority

By **Bruce T. Blackburn, CHPA**, Director of Public Safety



As health professionals, you spend your days and nights taking care of others. You are with people at their most vulnerable, painful and emotional moments — times when their behavior and reactions may not be reasoned, respectful or safe.

Your safety is the focus of the Workplace Violence Committee, an interdisciplinary group of clinical and administrative colleagues from throughout the health system. This dedicated committee has led and supported a number of initiatives to make the health system safer for you, our extraordinary colleagues, in the vital work you do to care for our neighbors.

We all deserve to be treated respectfully and want to offer a healing environment for our patients.

Training sessions are available for all staff on the warning signs of aggressive behavior and how to respond to these signals and de-escalate situations. To schedule Behavior Emergency Assistance Team (BEAT) training, go to the Education portal and register for a class. In addition, the National Institute for Occupational Safety and Health offers a workplace safety course for health professionals online at <https://www.cdc.gov/niosh/training/>.

To further support this effort, Christiana Care has initiated a Behavioral Health Rapid Response Team. Similar to the long-standing medical RRT, this team is staffed with specially trained behavioral health specialists and psychiatrists available around the clock to intervene with patients acting aggressively and to support the staff caring for that patient.

As increased security measures, Christiana Care is installing metal detectors in all three emergency departments. We have increased lighting outside all EDs. We have increased the number of areas that require employee badge access, and we have increased the number of security cameras throughout the health system.

New technology enables staff in specific areas to alert Public Safety to an emergency right from their workstation by executing a series of keystrokes on their computer keyboard.

All of these changes are designed to promote the safety and security of our staff.

We strongly encourage employees who experience threats or violence to immediately alert Public Safety at 911 or by calling 733-1247, and to fill out a Safety First Learning Report whenever there is an incident, no matter how small it may seem. To file a report, go to the portal under Safety First Reports and complete the form titled Employee Incident Reporting.

We also encourage you to consider the Care for the Caregiver program for staff who have experienced violence and may need ongoing support. Information is available in the Patient Safety section of the Quality & Safety intranet website.

Thank you for all you do to take care of others. A respectful, caring environment at Christiana Care starts with the safety and security of our Extraordinary People. ●

THE CHRISTIANA CARE WAY

We serve our neighbors as respectful, expert, caring partners in their health. We do this by creating innovative, effective, affordable systems of care that our neighbors value.



CHRISTIANA CARE
HEALTH SYSTEM

Westside Family Healthcare and Christiana Care Health System announce innovative partnership

New residency program increases access to care in underserved areas



Christiana Care family medicine residents Mukarram Razvi, D.O., LeeAnn Tanaka, D.O., and Victoria Shertel, D.O., care for patients at Westside Family Healthcare.

Christiana Care and Westside Wilmington Health Center leaders announced the establishment of a new family medicine residency training site that increases access to care and promotes continued support for underserved populations by medical providers in Delaware.

“This partnership helps advance Christiana Care’s commitment to identifying innovative ways to create value for our neighbors,” said Neil Jasani, M.D., MBA, FACEP, Christiana Care’s chief academic officer, chief learning officer and vice president of Medical Affairs, at a news conference in August. “This partnership enables our physician residents to pursue meaningful careers in underserved communities. It will result in better physician-to-patient ratios and more access to care for our neighbors in Wilmington for years to come.”

The Christiana Care Family Medicine Center at Westside Family Healthcare is an innovative, first-of-its-kind partnership in Delaware that enables Christiana Care residents to perform their clinical rotations at Westside Family Healthcare, the largest nonprofit federally qualified health center in Delaware. The facility is designated an official community-based primary care residency training site by the Accreditation Council for Graduate Medical Education. It represents the latest milestone in physician education for Christiana Care, which has been involved in graduate medical education for more than 100 years and is the largest teaching hospital affiliated with Sidney Kimmel Medical College at Thomas Jefferson University.

“This was a shared vision with Christiana Care, and it is really exciting to see it become a reality,” said Lolita A. Lopez, President and CEO of Westside Family Healthcare.

U.S. Sen. Chris Coons, who attended the event, praised Christiana Care for helping to create the partnership and thanked the residents for their commitment to the community. The News Journal, WHYY and WDDE (Delaware Public Media) covered the partnership announcement, which coincided with National Health Center Week, a national campaign that highlights the mission and accomplishments of community health centers such as Westside Family Healthcare. Community health centers collectively care for more than 25 million patients annually and save the health care system nearly \$24 billion.

“When you have three dedicated residents, I believe it will change the lives of patients,” Sen. Coons said. “Thank you to Christiana Care and Westside for your leadership.”

Each year, Christiana Care has about 300 residents in its allopathic and osteopathic residency and fellowship programs.

“Residency programs merging with federally qualified health centers is relatively new in family medicine training,” said Erin Kavanaugh, M.D., program director for Christiana Care’s Family Medicine Residency and co-program director for its Emergency Medicine/Family Medicine Residency. “There is an absolute wave of people who want to work in federally qualified health care centers. People are coming in passionate about helping the people who need the most help. For us to officially be able to say that we can offer you a spot in this community is great.”

The affiliation will help fuel Christiana Care’s effort to transform health care in the city of Wilmington, she said. More residents being trained to work with low-income patients will translate to more providers within the health system who can share their expertise with community health.

For about eight years, Christiana Care residents have rotated into Westside Wilmington Health Center, whose mission is to offer equal access to quality health care regardless of ability to pay. Now, three residents each year will be assigned there full-time, one from each class. Every year, one will graduate, leaving a spot for a new resident.

Christiana Care currently has 29 residents in its program. The others practice at the Family Medicine Center at Foulk Road and the Wilmington Health Center. Regardless of where they are assigned, the residents take classes together, and the faculty are betting on an even more fertile cross-pollination of ideas from their diverse experience.

“We’re feeding the pipeline of the workforce to community health centers to get residents interested in this type of work,” said Lindsay Ashkenase, M.D., site director for the Family Medicine Center Residency.

Physicians trained in community health centers are more than three times as likely to work in a health center and more than twice as likely to work in an underserved

area as those not trained at health centers, according to research from the U.S. Health Resources and Services Administration (HRSA), which is the primary federal agency charged with improving health and achieving health equity through access to quality services, a skilled health workforce and innovative programs. HRSA’s programs provide health care to people who are geographically isolated and economically or medically vulnerable.

“There is an absolute wave of people who want to work in federally qualified health care centers. People are coming in passionate about helping the people who need the most help.”

ERIN KAVANAUGH, M.D.



“We strive for healthy neighborhoods — to look outside of the hospital and see what is keeping people from being healthy,” Dr. Ashkenase said. “This is taking care of our neighbors and community. It’s the epitome of The Christiana Care Way, serving our neighbors as expert, caring partners in their health.”

The learning will go both ways, she said, as the partnership promotes a spirit of

education at Westside. “Having residents here who are learning now keeps the rest of us up-to-date on requirements and techniques.”

The senior resident of this fledgling class is LeeAnn Tanaka, D.O. A member of the National Health Service Corps, the Hawaii native said she went to medical school for family medicine. She has committed to remaining in underserved communities following graduation.

“I might stay here,” she said. “It’s really a great experience. We see way more pediatrics and women’s health issues than you would see at the other sites. And the support system is phenomenal.”

The residents’ patients run the gamut of life — from prenatal consultations and pediatric well visits to care for older adults. That variety is one aspect that drew Dr. Tanaka to the assignment.

“It’s easier to see that breadth of patients as opposed to in a private practice,” she said.

The partnership has been years in the making, said Dr. Kavanaugh, attributing the seed of the idea to her predecessor, Lisa Maxwell, M.D. Gradually, the residency program has added faculty from Westside. This year, Westside received a grant enabling it to renovate its facility and add exam rooms.

“We finally had the faculty to support this. We got the accreditation. We were ready,” Dr. Kavanaugh said.

Jamie Gellock, D.O., MPH, graduated from Christiana Care’s residency program last year and now practices at Westside.

“When I accepted employment here, I knew this program would be developed,” Dr. Gellock said. “Westside has a very unique population. There’s very high poverty. We can attempt to expose the residents to education they wouldn’t necessarily get at other outpatient office sites. They’re going to see a wide range of patients. When they graduate, hopefully they’ll feel confident to do anything.” ●



Ebola preparedness boosts overall readiness against pathogenic infectious disease

As a steady snow fell on April 9, a woman who had recently traveled to West Africa arrived at the Middletown Emergency Department with fever, nausea, vomiting and diarrhea.

All are symptoms of the Ebola virus.

Triage Nurse Linda Biggs, R.N., recognized a potentially life-threatening situation. She asked the patient to return outside and use a private, protected entrance to a decontamination room so she would not infect other patients and Emergency Department staff.

Quickly, attending physician Gordon Reed, M.D., donned personal protective equipment to examine the patient, and a leader of the Ebola Response Team — Chris Rogan, M.D., chair of the Emergency Management Committee — drove to the Middletown Emergency Department, as did Erin E. Watson, M.D., FACEP, medical director of the Middletown Emergency Department, and other staff.

“I was concerned when I first learned from texts and phone calls that we might have a patient with Ebola,” said Dr. Watson. “But Chris Rogan is an expert in this area, and our staff trained for this scenario. There was no hysteria, only professionals working in a great atmosphere of cooperation.”

Marci Drees, M.D., MS, FACP, DTMH, infection prevention officer and hospital epidemiologist, who also plays a leading role on the Ebola Response Team, said Liberia had recently reported new Ebola cases, and the risk in Middletown was real. “The patient had very specific symptoms, so we needed to rule out Ebola before we could feel safe doing everything else we could for her,” Dr. Drees said.

Since the U.S. Ebola alert of 2014, this was the first time protocols established to deal with the highly

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“Since the U.S. ebola alert of 2014 ... the Ebola Response Team and subgroups within the Emergency Management Committee have devoted considerable resources and planning to be ready.”

KEN SILVERSTEIN, M.D., MBA

infectious threat were implemented by Christiana Care, though the Ebola Response Team and subgroups within the Emergency Management Committee have devoted considerable resources and planning to be ready, said Ken Silverstein, M.D., MBA, chief clinical officer. As a result of these steps, Christiana Care will be designated the official Ebola Assessment Center for the state of Delaware.

“From the beginning the Emergency Management Committee has focused on how to assess the Ebola threat and develop a program to protect patients, staff and the wider community,” said Dr. Rogan, who expressed gratitude to committee members who worked on the Ebola Preparedness Plan, including Emergency Management Committee Vice Chair Kathryn Groner, M.D., and hospitalist Erin M. Meyer, D.O., FAWM, FAAP, FACP, SFHM.

The Ebola Response Team includes members from Infection Prevention, the Emergency Department, Emergency Management, Infectious Disease, Obstetrics, Nursing, Laboratory, Security, Environmental Services, Pharmacy, External Affairs, Interpretive Services and Purchasing.

An early team priority was to set up a special isolation unit for patients with emerging pathogens in a restricted area at Wilmington Hospital. The unit is a self-contained treatment area and command center with computer-supported oversight of two patient rooms, an on-site laboratory, radiology services, and designated areas for donning and removing personal protective equipment.

Here, nurses, doctors and other staff train in the proper use of personal protective equipment — yellow suits and white hoods made of a special protective material. In simulations, staff members learn to use precise, careful motions to prevent exposure in navigating the special isolation unit.

“A person with Ebola can lose fluids rapidly from vomiting and diarrhea. The risk of disease exposure to these fluids is high,” said Kathleen Wroten, MSN, RN, CIC, director of Infection Prevention. “This is why we have to protect ourselves by wearing special suits, three sets of gloves and special respiratory protection equipment.”

Despite an air-purifying respirator that provides some cooling to the upper body, the protective suits can become quite warm. Staff try to limit work in the suits to three hours at a time.

One safety communication aid is “Robby,” a robotic iPad that stands belt-high on two wheels and is capable of roaming the “hot zone” of a patient’s room. “This gives the command center a look inside a room and is an added measure of precaution, showing how the nurses are doing and ensuring that they are not becoming soiled with contaminants,” Wroten said.

On the morning of April 9, Dr. Drees had a central role in activating the Ebola plan. This entailed conference calls involving Delaware Division of Public Health (DPH), the Centers for Disease Control and Prevention (CDC) and scores of Christiana Care staff.

The DPH is charged with planning and coordinating management of any Ebola or any high-consequence infectious-related response in Delaware. DPH has worked with Christiana Care and other partners to develop a statewide plan to care for such patients in the event of a case or larger outbreak. This includes patient transportation, sample testing, communications, fatality response and larger community response in the event of an actual emergency.

Once the plan was activated, a cadre of Ebola Response Team members arrived at the special isolation unit, including infection preventionists Lorraine Adkins, BSN, RN, CIC, Nora Protokowicz, MSN, RN, NE-BC, CIC, and Paula Fasano, MSN, RN. They ensured all equipment was in place and coordinated the patient transport team in moving the patient on a stretcher topped with a special isolation containment unit.

“There was no hysteria, only professionals working in a great atmosphere of cooperation.”

ERIN E. WATSON, M.D., FACEP

Critical care nurse Kathy Crawford, MSN, RN, CCRN, served as nurse staffing coordinator on the special isolation unit, making sure there were enough trained nurses to care for the patient, as well as replacement nurses to fill in for those pulled from hospital shifts. She also monitored clinical staff in the correct use of personal protective equipment.

The first team of nurses who attended to the patient — Kate Armstrong, BSN, RN, CCRN, and Ashley Gallagher, BSN, RN, CCRN, FNP-C — arrived before 1 p.m. and had their vital signs checked to ensure they were well enough to proceed.

Gallagher’s adrenalin was pumping as she washed up, took off her jewelry and put her hair up so she could wear a protective mask. She and Armstrong reviewed the procedure for how to gown. They were carefully walked through the process of getting dressed in their personal protective equipment.

“Others watched to make sure there were no tears and rips,” Gallagher said.

By early afternoon the ambulance transport arrived at Wilmington Hospital from Middletown, and the transport team moved the patient safely to her room according to procedure. Armstrong and Gallagher had a decision to make.

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EBOLA RESPONSE TEAM TESTED | CONTINUED

“In attending to a patient, one nurse can sit outside the room and the other can go in, or you both can go in,” said Gallagher. “Kate and I felt strongly about us both going in. I knew there would always be someone there to help.”

Once inside, they moved deliberately. Gallagher felt her awareness sharpen as she ran through protocols she had rehearsed and drew the first blood sample. Watching from a monitor at the command center was a group of team members.

“We kept a close eye on the nurses,” said Protokowicz, who served as the site manager. “This was a situation where a great deal of talent, knowledge and experience came together to protect our health care workers and the community.”

“As frontline providers, we now have a global view of health and know that the best way to be ready to offer the highest quality care is to have our protocols in place.”

MARCI DREES, M.D., MS, FACP, DTMH



With so many precautions, Gallagher felt safe.

“I had done this before in simulations and knew that if anything should happen there were checklists, people and other safety measures in place so there would be a positive result,” she said.

Other nurses who volunteered to be part of the Ebola Response Team and were present that day included Theresa Deamond, BSN, RN, Charles Evans, BSN, RN, Linda Roderick, BSN, RN, CCRN-CMC, Lew Klensch, BSN, RN, CCRN, and Desiree T. Hodges, MSN, RN, CCRN.

An early focus of nursing efforts was to soothe the patient’s nausea.

While the likelihood of Ebola was extremely small, blood testing was recommended out of caution. A blood sample was sent via state transport to the DPH lab in Smyrna to test for Ebola. By 11 p.m., they learned that the patient tested positive for malaria, not Ebola, and isolation was discontinued. The patient was transferred to another room within Wilmington Hospital.

“It was incredibly impressive to see all the team members snap into action and to see the patient brought by a transport team to Wilmington Hospital on that snowy spring Saturday,” said Mike Eppehimer, MHSA, FACHE, senior vice president, service line operations. “Once at Wilmington, the patient continued to receive an accomplished level of care that began in Middletown.”

Dr. Drees said everything worked well, thanks to numerous simulations and drills held over the past two years. These involved the DPH, Dover Air Force Base, the CDC and numerous staff from Christiana Care. Had the patient tested positive for Ebola, she would have remained on the special isolation unit for no more than 96 hours, before being transported to Johns Hopkins Hospital in Baltimore, a regional treatment center for Ebola.

Throughout the episode, Christiana Care employees demonstrated the ability to efficiently manage a serious threat of Ebola in consultation with the Division of Public Health and the CDC.

“This is what we are trained and prepared to do in serving our neighbors as expert, caring partners in their health,” said Janice E. Nevin, M.D., MPH, president and CEO, in a thank-you message to the staff. “I especially want to thank the staff at the Middletown Emergency Department, the transport team and those at the Wilmington Campus for their efforts in providing expert, compassionate care.”

Those sentiments were echoed by Karyl Rattay, M.D., MS, director of the DPH. “DPH is grateful to Christiana Care for their management of this situation and patient,” Dr. Rattay said. “From the initial call on Saturday morning to the negative blood test on Saturday night, Christiana Care staff worked in strong partnership with DPH. Management of any potential emergency health situation depends entirely on the plans and players involved. Christiana Care rose to that challenge and deserves enormous credit for their work to protect the patient, their staff and the public.”

While Ebola is unique in some aspects, it is similar in many ways to a wide variety of infectious diseases. Ebola preparations have helped Christiana Care to raise its overall level of preparedness for diseases such as Middle East respiratory syndrome (MERS), the Zika virus and other pathogenic infections.

“A lot of what we learned from Ebola can be applied to other emerging diseases,” said Dr. Drees. “For instance, Zika is an infection that seems to have to come out of nowhere, even though it had been isolated in the 1940s. As frontline providers, we now have a global view of health and know that the best way to be ready to offer the highest quality care is to have our protocols in place.” ●



Neuroradiologist Kert F. Anzilotti, M.D., is ready to read an incoming stroke patient's CT scan to see whether the stroke is ischemic or hemorrhagic — a crucial first step in determining treatment.

Continuous improvement in stroke care vaults Christiana Care into top echelon of programs nationwide

Recent awards demonstrate advances in treatment speed, use of best practices

With a landmark Joint Commission certification and top marks from the American Heart Association (AHA) Christiana Care Health System is earning national recognition in stroke care.

These honors, though, are but a reflection of the way patients and their families measure Christiana Care's dedication to stroke care: in lives saved and disability averted. No matter your criterion, the conclusion is the same. Christiana Care has attained the highest echelon of stroke care.

By methodically deconstructing the myriad processes involved in treating ischemic stroke, Christiana Care's stroke team has stripped out non-essential steps. This laser focus has allowed Christiana Care to shave precious minutes off the time before stroke treatment is administered, an accomplishment that saves lives and reduces the long-term disability for hundreds of patients who seek treatment here.

Moreover, this focus enabled Christiana Hospital to exceed the guidelines set forth by the American Health Association in the swift treatment of ischemic stroke, which accounts for 87 percent of all strokes. This form of stroke involves an obstruction of a blood vessel supplying oxygen to the brain and is differentiated from a hemorrhagic stroke, wherein a blood vessel ruptures in the brain. Together, both forms of stroke translate into the country's fifth leading cause of death and its leading cause of preventable disability.

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2,000
stroke cases are
seen at Christiana
Care each year,
ranking in the top
10 nationwide in
patient volume.



Valerie Dechant, M.D., associate service line leader and medical director of Neuro Critical Care, takes a hands-on approach to patient care while teaching staff at Christiana Hospital.

CONTINUOUS IMPROVEMENT IN STROKE CARE | CONTINUED

Christiana Care treats almost 2,000 strokes a year, putting it in the top 10 nationwide in patient volume.

Jonathan Raser-Schramm, M.D., Ph.D., medical director of the Christiana Care Stroke Program, credits this success to “an amazing team that works together to provide excellent care to our stroke patients.”

The next major goal is to collaborate with physicians and hospitals across the state to improve stroke care for all Delawareans — whether or not the patient is served by Christiana Care.

Saving lives by saving time

A key Christiana Care objective in recent years has been the reduction of the time that elapses between entry to the emergency department and administration of a clot-dissolving drug called tissue plasminogen activator, or tPA — referred to as “door-to-needle time.” The national target is an average of 45 minutes. Christiana Care has whittled the time down to 35 minutes on average.

Because stroke treatment is about saving brain cells — which don’t regenerate once they die — fast treatment is crucial. During a major stroke, 1.9 million neurons die every minute. In addition, for every 15 minutes faster tPA is administered,

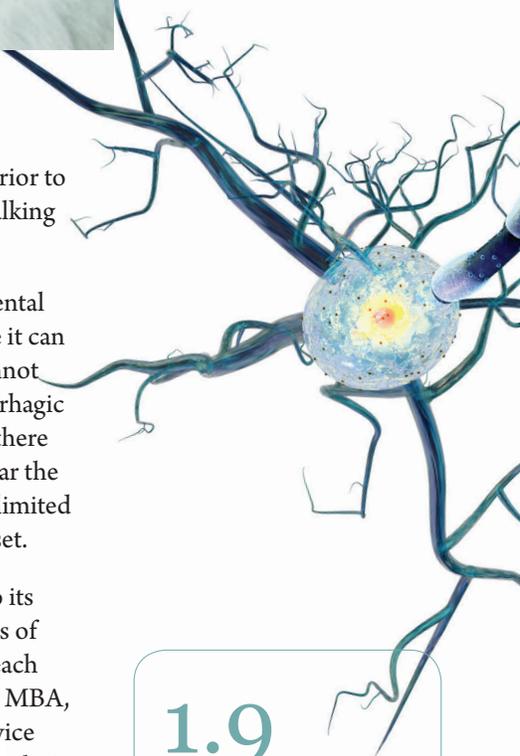
there is a 4 percent decrease in mortality prior to discharge and 4 percent greater odds of walking independently at discharge.

Though fast administration of tPA is elemental in stroke care, a CT scan is required before it can be used. That’s partly because the drug cannot be administered in someone with a hemorrhagic stroke. And if too much time has elapsed, there may not be enough healthy brain tissue near the stroke to salvage, so effective use of tPA is limited to four and a half hours after symptom onset.

Break apart acute ischemic stroke care into its constituent processes and you’ll find scores of individual staff performing their tasks — each with a time cost, said Kert Anzilotti, M.D., MBA, physician leader in the Neurosciences Service Line and chair of Radiology. A workflow analysis by Christiana Care revealed tasks that could be safely performed later, after the acute phase of treatment was over.

For example, detailed Emergency Department registration didn’t need to be done at admission, when brain cells are dying with each passing second. The paperwork could wait. And behind essential tasks were ways to save time. Simply moving the IV kit out of a storage area beforehand saves a minute.

CONTINUED



1.9 million
neurons die every
minute during a
major stroke.

35 minutes
is Christiana Care's average time from emergency room to administration of clot-busting drugs — beating the national target by 10 minutes.

These iterative improvements and many others have dropped the average door-to-needle time at Christiana Hospital from about 90 minutes in 2012 to about 35 minutes today.

How a patient experiences care

What does a stroke look like from the patient's perspective? Imagine the case of a Newark woman whose husband calls 911 after noticing his wife can't speak clearly and has weakness in one arm. (Other stroke symptoms include confusion, loss of balance, one-sided numbness, visual changes and facial drooping.)

First, the emergency responders, suspecting a stroke, conduct more screening questions and ascertain what medications the patient is taking. En route to the Emergency Department, the responders call Christiana Hospital on a special medic line and report the patient's symptoms. Together, the team decides to call a pre-hospital stroke alert, which includes the patient's estimated time of arrival at the hospital.

At the hospital, this alert triggers an overhead announcement and a page to the stroke team. The alert also informs radiology technologists to free up a CT scanner.

When the patient arrives, she is evaluated to ensure she's stable enough to proceed to imaging. A limited number of tests are performed at this point, including a neurological examination to help determine the severity of the stroke.

Next, a non-contrast head CT and a CT angiogram of the head and neck are obtained.

A neuroradiologist will interpret dozens of images as they first appear on the screen. The analysis finds no intracranial bleeding, and intravenous tPA administration begins immediately, while the patient is still on the CT scanner table.

Meanwhile, a parallel investigation is determining whether mechanical thrombectomy is appropriate. In this case, the team decides to go forward with the procedure, and a stent is threaded into the affected intracranial artery. As the stent reaches the clot, it expands and becomes enmeshed with the clot so that when the stent is removed the clot also is removed.

The patient is then taken to the Lanny Edelsohn, M.D., Neuro Critical Care Unit at Christiana Hospital, where she is closely monitored and discharged the next day. Her treatment has spared her the life-altering consequences so often seen in major strokes. She receives a personalized evaluation resulting in medication, lifestyle and rehabilitative therapy recommendations, and she will return to the Stroke Clinic for longitudinal care by a stroke specialist.

Mary Ciechanowski, MSN, APRN, ACNS-BC, CCRN, is an advanced practice nurse with Christiana Care's stroke program who has worked in neurosciences for 28 years. She said the last decade has brought steady improvements in stroke care. One of the team's guiding principles is to think about patients as if they were members of their own family.

CONTINUED



Barbara J. Albani, M.D., and Gregg H. Zoarski, M.D., perform a neurointerventional surgery procedure.

CONTINUOUS IMPROVEMENT IN STROKE CARE | CONTINUED

“We all feel if we or our families were the patients, we would want the best care possible,” Ciechanowski said.

In 2006, the formation of a stroke unit began the process of enabling nurses and physicians to become experts in stroke care. Another focus at that time was increasing the use of tPA, which is still the AHA’s “gold standard” for treating ischemic stroke. Then, in 2007, Christiana Care hired its first neurointerventionalist, Barbara Albani, M.D., who is now Neurointerventional Surgery’s medical director. Neurointerventional procedures expanded urgent stroke treatment options for the Delaware community.

Meanwhile, Christiana Care noticed a gap in comprehensive stroke centers in the region: there were such facilities in Philadelphia and Baltimore but none in Delaware. After about two years of preparation for reviewers from The Joint Commission, Christiana Hospital achieved certification as a comprehensive stroke center in 2014. It was recertified this year. This comprehensive designation allows Christiana Care to participate in medical studies and offer the newest diagnostic and treatment options to patients. Clinical trials are now under way to evaluate the use of tPA in mild strokes and evaluate endovascular therapy more than six hours after the onset of symptoms.

This year, Christiana Hospital received a pair of recognitions from the American Heart Association: the Get With The Guidelines Stroke Gold Plus Quality Award and the Target: Stroke Honor Roll Elite Plus. Both are tiered awards — Get With The Guidelines has four levels and Target:Stroke has three — and Christiana Care received the highest designation in each case.

Get With The Guidelines Stroke recognized Christiana Care for adherence to a set of best practices in stroke care, and Target: Stroke was largely a recognition of reductions in door-to-needle times.

Wilmington Hospital was first certified as a primary stroke center in 2009 and has recertified biannually since. This designation, one level



American Heart Association
American Stroke Association
CERTIFICATION
Meets standards for
Comprehensive Stroke Center

Christiana Care has been recognized with the AHA Get With The Guidelines Stroke Gold Plus Quality Award and the Target: Stroke Honor Roll Elite Plus Award.



below comprehensive, means the hospital has met Joint Commission standards in 14 areas, including treatment capabilities, staff education and performance measures.

In raising standards at Wilmington Hospital, specialists at Christiana Hospital have been using video conferencing with emergency medicine physicians to help make diagnoses and find the right treatment. Their tools? An iPad secured to an IV pole.

“I love the low-cost, gritty solution,” Dr. Anzilotti said. “They’re not there, but it’s like they’re there.”

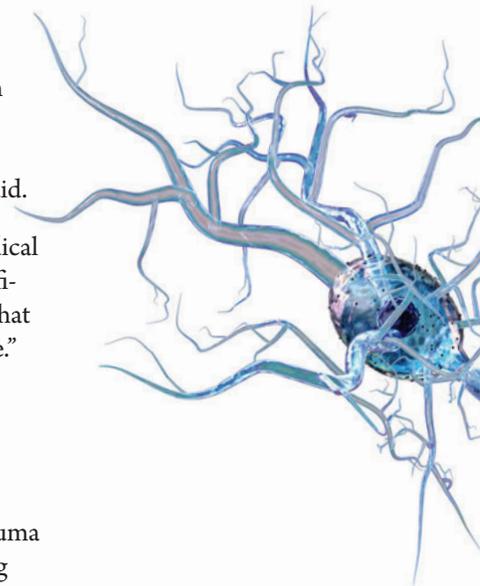
Douglas Huisenga, MPT, ATC, manager of the Neurosciences Program, said any one of these awards or certifications would have been noteworthy by itself. The fact that Christiana Care fit all of these accomplishments into one year is a striking validation of their work, he said.

Dr. Raser-Schramm, the stroke program’s medical director, said the central requirement for certification as a Comprehensive Stroke Center is “that dedication to continuous improvement in care.”

Empowered nurses

Kaci Rainey, MSN, RN, CEN, an emergency department nurse for nine years, had an idea about how to save time in stroke care. As a trauma nurse, Rainey recalls a CT technician receiving verbal orders from a physician for CT imaging during the trauma alert process. But the stroke process required an emergency department physician to put an order in, which could cause delays, so she suggested moving to verbal orders for CT imaging for stroke patients.

CONTINUED





A culture of innovation and dedication to continuous improvement has enabled Christiana Care to achieve elite status in stroke care.

Rainey gives much of the credit to Ciechanowski, the advanced practice nurse. “Her willingness to listen to what I had to say was transformative,” Rainey said. “Ideas can’t go anywhere without someone to listen.”

Rainey had still more ideas, including one about how to treat stroke patients once they’ve re-entered the Emergency Department after their initial treatment (with tPA, for example). These patients require neurological testing every 15 minutes, which makes it difficult for nurses to give other patients the attention they deserve. Furthermore, her literature review found that moving patients more quickly out of the Emergency Department has been associated with decreased mortality.

In collaboration with other team members, Rainey helped develop a process whereby a nurse in the Neuro Critical Care Unit is automatically notified after a stroke treatment is administered. If a bed is available, the critical care unit nurse comes to the Emergency Department. These critical care nurses have also picked up the skills to transport patients, freeing up yet more time for ED nurses.

This process, implemented in August 2014, has resulted in a 78 percent decrease to stroke patients’ length of stay in the Emergency Department.

Her work off the floor is made possible by Christiana Care’s decision to allow nurses time off their regular duties to work on projects.

“They show us they value nurses,” Rainey said.

A strong chain

As a way to recognize employees who recognize stroke, Dr. Albani awards clock-shaped pins — a nod to stroke’s time-sensitive treatment — to employees who notice a patient’s stroke symptoms.

“Stroke work is a team sport,” she said. “You need every link to be strong.”

Christiana Care’s stroke program is made up of dozens of such links, each working to serve neighbors with swift, effective treatment that helps stroke victims return to health and normalcy. ●



*“Stroke work is a team sport.
You need every link to be strong.”*

BARBARA ALBANI, M.D.



Mended Hearts local chapter president Michael Zulinski Sr. gets an update on a patient from Rachel V. Piane, BSN, RN.

Mended Hearts volunteers help heart patients and families

Trained and knowledgeable volunteers who have experienced their own major heart procedures

On a recent Friday at 8 a.m., Michael Zulinski Sr. took his place at the help desk in Christiana Care's cardiac and vascular waiting area, where he volunteers with Chapter 198 of the Mended Hearts of Delaware, a support group for heart patients and their families. Wearing his signature blue coat with a red Mended Hearts patch, he reports for duty each Friday to check on patients who are having open-heart surgery or moving from intensive care to the adjacent stepdown unit.

Zulinski underwent his own triple bypass surgery in 2011 and was given such strong support by Mended Hearts that he decided to become a volunteer. He is now president of Chapter 198. When he volunteers, he speaks with families in the waiting area, helping them understand where their loved one is in the surgery-recovery process. In addition, the 67-year-old Richardson Park resident can answer questions from a personal perspective about what his own rehabilitation was like.

"I enjoy talking to people and putting them at ease, though I am careful not to offer medical advice," said Zulinski, a friendly Navy veteran and former parole officer. "If families are interested, I share how I may have seemed fragile when I was in the stepdown unit talking with my kids. But every day I would take a short walk and try to increase it. At the end of two weeks I was feeling much better and walking my dog."

This month, Mended Hearts Chapter 198 celebrates its 30th anniversary, having helped and encouraged more than 25,000 Christiana Care heart patients and their families. The volunteers, who have had their own life-changing open-heart surgery, reach out to nearly 800 patients and families a year. The chapter has 55 members with 17 actively volunteering.

Originally Mended Hearts only assisted patients and families undergoing open-heart surgery, but today the volunteers also assist those having a cardiac catheterization or a stent placed in an artery as part of a percutaneous coronary intervention.

CONTINUED

Mended Heart volunteers have earned the praise and appreciation of Timothy Gardner, M.D., medical director of the Center for Heart & Vascular Health and executive director of the Value Institute. He appreciates the volunteers' partnership with the medical team to help reduce anxiety for families whose loved ones are in surgery.

When visiting patients in the stepdown unit, Mended Hearts volunteers answer questions, share their own experiences and provide patients with a comprehensive "HeartGuide." They invite patients to support group meetings that are held at 7 p.m. on the second Monday of each month in Room 1303 of the Christiana Care cafeteria. Often, volunteers also call patients weeks after they've returned home to ask about their recovery.

"Mended Hearts is a great success story," said Dr. Gardner. "Imagine you are a member of a family that suddenly finds your father or mother is in need of surgery that carries a risk of mortality, and you don't know what to expect. Meeting someone who can offer perspective on what it was like for them to handle the stresses of a hospital and what it took to go through rehabilitation and resume normal living is incredibly helpful. This is a volunteer peer organization that provides excellent patient and family support."

In addition, volunteers express strong appreciation for the professionalism of doctors, nurses and other medical staff at Christiana Care. "This is one of the top hospitals in the country for these types of procedures, and we are very lucky to have them as part of our community," said Diane Margolin, a chapter officer who trains Mended Heart volunteers.

The chapter is part of a national organization that is affiliated with the American Heart Association. Mended Hearts has more than 300 community-based chapters, serving nearly 215,000 patients and caregivers annually. Chapter 198 volunteers often become active out of appreciation for how much support their family received from Mended Hearts during their open-heart surgery.

Mended Hearts volunteers are part of a large cohort of community residents who give of their time in a multitude of ways. During the last fiscal year, 1,379 volunteers donated 78,901 hours to Christiana Care.

"The Mended Hearts program is a great way for our families who are experiencing something unexpected to have support on an individual basis as they go through an anxious and fearful time," said Margarita Rodriguez-Duffy, MSW, CAVS, director of Visitor and Volunteer Services.

Mended Hearts Chapter 198 has helped and encouraged more than 25,000 Christiana Care patients and their families.

In fact, Rodriguez-Duffy benefited from the group's comforting support when her father went through open-heart surgery. Just knowing what to expect as the day progressed was very important, she said.

Volunteers share their experiences with Christiana Care's cardiac rehabilitation program, which helps patients exercise safely while gradually increasing intensity, with a goal toward improving overall strength and flexibility. Kersey Vakharia, vice president of Chapter 198, likens the program to outpatient training run by medical experts who provide close and caring supervision.

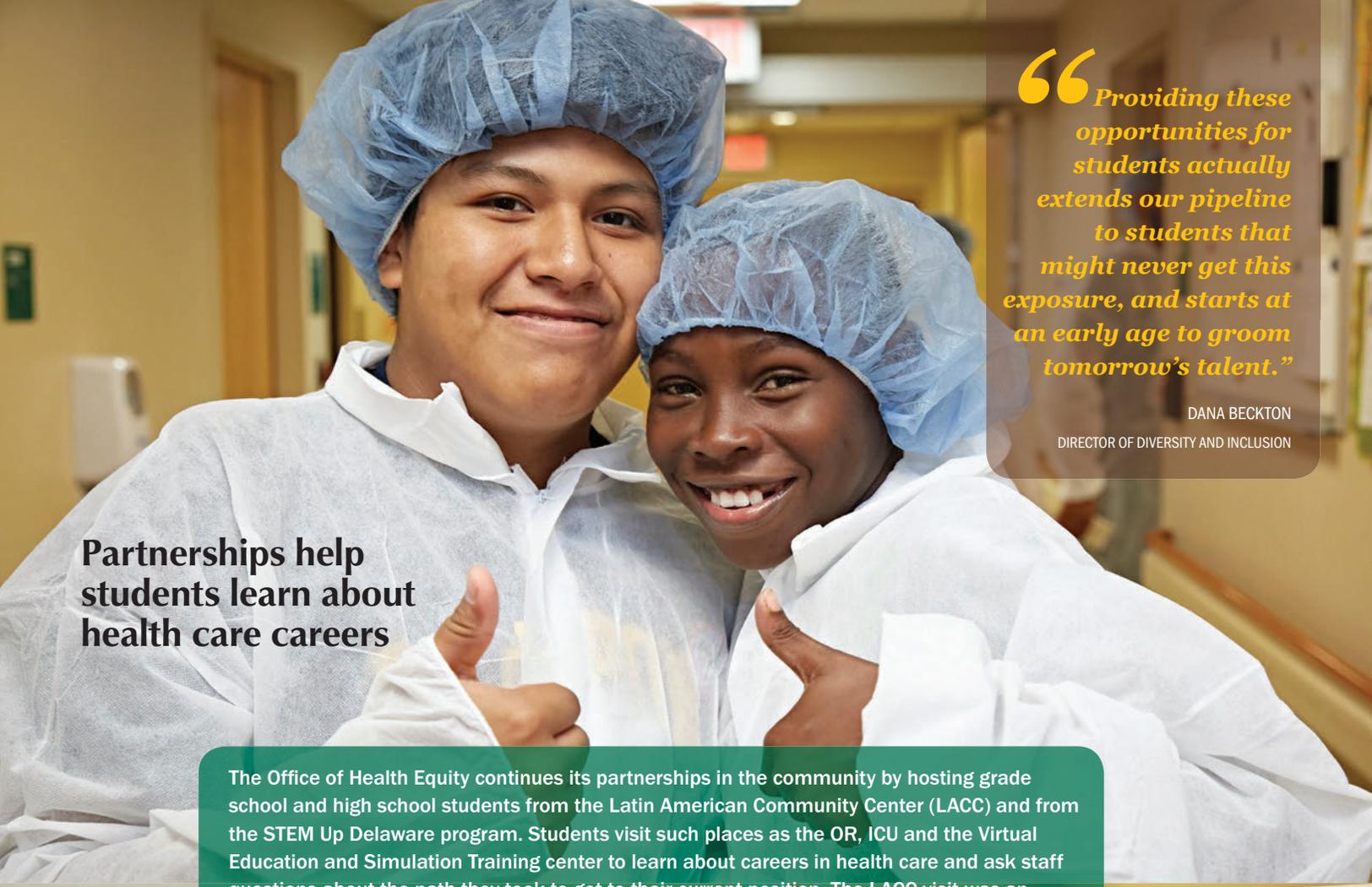
"This was one of the best things I learned about from Mended Hearts," said Vakharia, who had four bypasses in 1994. "Cardiac rehab got me back on my feet faster than if I had tried to undertake rehab on my own."

When sharing such insights, Mended Hearts volunteers say it's rewarding to see the relief on the worried faces of patients and families seeking signs of hope.

"I laughingly say that we work for hugs," said Margolin. "What's so wonderful is that by the time we've finished talking with a family, we've made new friends." ●

Kersey Vakharia, vice president of Mended Hearts Chapter 198, describes how rewarding he finds his volunteer work at Christiana Hospital.





Partnerships help students learn about health care careers

The Office of Health Equity continues its partnerships in the community by hosting grade school and high school students from the Latin American Community Center (LACC) and from the STEM Up Delaware program. Students visit such places as the OR, ICU and the Virtual Education and Simulation Training center to learn about careers in health care and ask staff questions about the path they took to get to their current position. The LACC visit was an extension of the partnership Christiana Care has with the United Way/SPARC program. STEM Up Delaware is a grant-funded program that inspires high school minority students to go into the science, technology, engineering and math fields.

“Providing these opportunities for students actually extends our pipeline to students that might never get this exposure, and starts at an early age to groom tomorrow’s talent.”

DANA BECKTON
DIRECTOR OF DIVERSITY AND INCLUSION



Students from the Latin American Community Center and STEM UP Delaware! visit the the Virtual Education and Simulation Training center.



Elizabeth Callender-Johnson appointed vice president of operations for The Medical Group

Elizabeth “Becky” Callender-Johnson, MBA, HSA, has been named vice president of operations for The Medical Group of Christiana Care. In her role, Callender-Johnson provides business leadership and operational management of The Medical Group’s primary care, women’s and community medicine practices and Christiana Care’s Primary Care and Community Medicine Service Line.

Callender-Johnson joins Christiana Care from Drexel University College of Medicine, where she served as director of operations. She brings a record of success in transforming high-volume, patient-focused operations in academic medical settings.

Callender-Johnson earned her MBA with a concentration in health service administration from Howard University School of Business in Washington, D.C. She is a certified Lean Six Sigma Yellow Belt in health care. ●

Melanie Chichester represents Christiana Care in National Magnet Nurse of the Year awards program

A career-long thirst for new knowledge to improve care has earned Christiana Care’s nomination for the American Nurses Credentialing Center’s (ANCC) 2016 National Magnet Nurse of the Year® award for Melanie Chichester, BSN, RNIII, RNC-OB, CPLC. If selected by ANCC, Chichester will be further recognized at the national Magnet conference in October as a global role model for clinical nurses representing the more than 400 Magnet-designated hospitals worldwide. Christiana Care is a twice-designated Magnet health system.

Chichester’s curriculum vitae mirrors Magnet’s emphasis for New Knowledge, Innovations and Improvements, the category for which she is nominated. A high-risk antepartum labor and delivery RN III, she has widely published and presented her own career-spanning research on multicultural issues in perinatal loss and shares that knowledge locally in facilitating Christiana Care’s Loving Arms Support Group.

Chichester’s research recognizes that “understanding culture plays a major role in the way a woman perceives and prepares for her birthing experience,” wrote



Elizabeth Igboechi, MSN, FNP, RNC-OB, NEA-BC, perinatal clinical operations director in Women and Children’s Services, in her nomination.

Chichester chairs several national and regional professional research-based organizations, is one of three nurses on Christiana Care’s Institutional Review Board, has served on several shared governance councils and is a research mentor to both nurses and physicians.

In her nomination of Chichester, Sharon Anderson, MS, BSN, RN, FACHE, chief

Leaders and colleagues present Melanie Chichester with her nomination for the ANCC National Magnet Nurse of the Year Award.

population health officer, senior vice president of Quality & Patient Safety and interim chief nursing officer, wrote, “Melanie demonstrates how nurses deliver clinical knowledge and influence meticulous inquiry to create practice changes leading to improvements in safe, effective and value-based care.” ●

iLEAD appointments help advance learning strategy for transition to population-health based care

Several appointments were announced recently by Neil Jasani, M.D., MBA, FACEP, chief learning officer of Christiana Care's Learning Institute, chief academic officer and vice president of Medical Affairs.

"The appointments within the Institute for Learning, Leadership and Development are integral to advancement of Christiana Care's learning strategy and positioning for a transition to population health based care," Dr. Jasani said. Highlights of the moves included:



Lisa Maxwell, M.D., was named associate chief learning officer and designated institutional officer. Dr. Maxwell supports the chief learning officer at a system level and will focus on undergraduate and graduate medical education. She worked most recently as the program director in Family Medicine, co-program director for the Emergency Medicine-

Family Medicine programs and as director for undergraduate medical education. She also oversaw Christiana Care's Sidney Kimmel Medical College branch campus and undergraduate medical education efforts.



Elizabeth Blaylock, MPPM, was appointed vice president, strategic learning and development. Blaylock, who holds a master's degree in public policy and management, oversees strategic learning and development needs of the system and assists with designing and implementing solutions to improve our organizational

performance. She will lead the development and delivery of effective educational and development programming that prepares our extraordinary people to meet our strategic goals.



Kristi Pintar, Ed.D., was named vice president, organizational change and development. She oversees professional development and change management in the system, champions the need for continuous improvement, learning and transformation, and facilitates the development of systems and processes of collaboration and communication necessary to accelerate organizational learning for the spread of evidence-based best practices.



Vaughn Wright, Ed.D., was promoted to vice president, Academic Affairs, and assistant designated institutional officer. She will oversee graduate medical education, allied health programs and the medical libraries. She most recently served as director of graduate medical education. ●

John S. Emberger named director of Respiratory Care



John S. Emberger, BS, RRT-AACS, FAARC, CPHQ, has been named director of Respiratory Care. Nationally recognized as a leader in his field, Emberger oversees respiratory care clinical practice, education and research at Christiana Care's two hospitals and Middletown Emergency Department.

Emberger has dedicated his career to advances in respiratory care, implementing new evidence-based practices, incorporating new devices and advancing electronic clinical documentation. He leads performance improvements, data analysis and research.

Emberger joined Christiana Care in 1997 from Thomas Jefferson University Hospital. At Christiana Care, he has served as critical care coordinator, clinical manager and most recently as performance improvement program manager in the Acute Medicine Service Line.

CONTINUED

JOHN S. EMBERGER | CONTINUED

Emberger earned his bachelor's degree in pre-med biology and completed the respiratory therapy program in 1993 at Millersville University in Pennsylvania. He achieved a Lean Six Sigma Black Belt in 2015. He is a fellow in the American Association for Respiratory Care and a member of the Delaware Society for Respiratory Care.

Emberger presents nationally and has published more than 100 articles and abstracts with special emphasis on critical care, acute respiratory distress syndrome, chronic obstructive pulmonary disease, asthma and mechanical ventilation. ●

Jennifer Painter appointed director of Nursing Professional Development and Education



Jennifer Painter, MSN, APRN, CNS, RN-BC, OCN, AOCNS, has been appointed director for Nursing Professional Development and Education. Painter has been a nurse for 17 years, with 14 years as a member of Christiana Care.

Painter served as a staff education specialist, nursing school coordinator and faculty liaison with the Nursing Professional Development and

Education Department for the last four years. During that time, some of her additional responsibilities have included the facilitation of nursing pre-pay BSN, MSN and DNP programs, the BSN strategic plan for the system, and the coordination, revision and successes of the student nurse extern program.

She began as a staff LPN and then RN on 6C (Hematology/Oncology). She later joined the Cancer Research team at the Helen F. Graham Cancer Center & Research Institute and then Nursing Development & Education in 2012. She was responsible for Christiana Care's nursing school affiliations, relationships and processes with 30 nursing schools.

She has presented locally, nationally and internationally on nursing professional development. She was a finalist for the 2015 Excellence in Nursing Practice award for the state of Delaware in the Educator category, as well as a finalist for the Delaware Today Top Nurse award in 2016.

She currently is completing her certification as a Juran Lean Six Sigma Green Belt and Black Belt and is enrolled in the DNP program at Wilmington University. ●

Stephanie Rogers appointed nurse manager of Parent Education, Lactation and Outpatient programs



Stephanie Rogers, MSN, RN, has been appointed nurse manager of Parent Education, Lactation and Outpatient Programs.

Rogers' promotion is a part of ongoing efforts to integrate Women and Children's Services and to focus more work on the disparities of health care delivery.

Rogers also manages the Delaware Healthy Mothers Healthy Babies program at Christiana Care, the WIC Breastfeeding Peer Counselors and some related research.

Her 16 years' experience at Christiana Care includes leading preventive services such as perinatal case management and education, facilitating sexuality education programs for adults with disabilities and incarcerated adolescents, and serving as a patient advocate for several HIV/AIDS service organizations.

Her background in public health programs has helped to obtain substantial grant funding to develop programs with a focus on health equity and improving access to care for vulnerable and underserved populations. She has extensive background in leading multidisciplinary teams including nurses, social workers, behavioral health providers, dietitians and community peer counselors.

Rogers received her bachelor's degree in community health education from Temple University, and her bachelor's degree in nursing and master's degree in health services administration from the University of Delaware. Her depth of knowledge in community health and health education facilitates the growth of the Women's and Children's Service Line dedicated to increasing value for patients and their families. ●

Publishing

Surekha Bhamidipati, M.D., Daniel Elliott, M.D., Ellen M. Justice, MLIS, Ene Belleh, MLIS, Seema Sonnad, Ph.D., and Edmondo J. Robinson, M.D., MBA. "Structure and Outcomes of Interdisciplinary Rounds in Hospitalized Medicine Patients: A Systematic Review and Suggested Taxonomy." *Journal of Hospital Medicine*. July 2016.

Muge Capan, Ph.D., Stephen Hoover, MS, Eric V. Jackson, Jr., M.D., MBA, David Paul, M.D., Robert Locke, D.O., MPH. "Time Series Analysis for Forecasting Hospital Census: Application to the Neonatal Intensive Care Unit." *Applied Clinical Informatics*. May 2016.

Joshua Davis, Ellen Justice, MLIS, AHIP, Mark D. Cipolle, M.D., Ph.D., Cathy L. Bailey, Joan M. Pirrung, MSN, APRN, ACNS- BC, Erin M. Meyer, D.O., Edmondo J. Robinson, MD, MBA, and Glen H. Tinkoff, M.D. "Embedding a Trauma Hospitalist in the Trauma Service Reduces Mortality and 30-Day Trauma-Related Readmissions." *The Journal of Trauma and Acute Care Surgery*. July 2016.

Diana Dickson-Witmer M.D., et al. "Dense Breasts: What Do Our Patients Need to Be Told and Why?" *Annals of Surgical Oncology*. Online First - July, 2016.

Stacie Riley Holdinsky, John Donnelly, M.D., Heather Ragozine-Bush, M.D., et al. "Bedside Shift-to-Shift Handoffs: A Systematic Review of the Literature." *Journal of Nursing Care Quality*. Jan.-March 2016.

Susan Mascioli, MS, BSN, RN, NEA-BC, CPHQ, Christine B. Carrico, MSN, RN, CPHQ.

"Spotlight on the 2016 Joint Commission National Patient Safety Goals for Hospitals." *Nursing2016*. May 2016.

Joan Pirrung, MSN, APRN, ACNS-BC, in the *Journal of Trauma Nursing*. July-August, 2016:

- "A Key to Success: Building an Internal Trauma Education Program."
- "You Are a Member of the Premiere Trauma Nursing Organization." President's Message.

Sudkhakar Satti, M.D., Thinesh Sivapatham, M.D., Jennifer Chen, et al. "Mechanical Thrombectomy for Pediatric Acute Ischemic Stroke: Review of the Literature." *Journal of Neurointerventional Neurology*. July 2016.

Anthony Sciscione, D.O., and Matthew K. Hoffman, M.D., MPH. "Duration of Oxytocin and Rupture of the Membranes Before Diagnosing a Failed Induction of Labor." *Obstetrics & Gynecology*. August 2016.

Pan Wu, Ph.D., et al. "Variable Selection for Distribution-Free Models for Longitudinal Zero-Inflated Count Responses." *Statistics in Medicine*. July 2016.

Pan Wu, Ph.D., et al. "Rank-Preserving Regression: A More Robust Rank Regression Model Against Outliers." *Statistics in Medicine*. August 2016.

Presentations

Raymond V. Feehery Jr., DPM, MS. "Plantar Fasciitis – Over Easy vs Die Hard." 2016 APMA Annual Scientific National Meeting. July 2016. Philadelphia.

Ellen M. Justice, MLIS, Leanne Holveck and Joan DeFatorre, Ph.D. "From the Inside Out: Writing as Healing Program Uses Research-based Reflective Writing Techniques to Reduce Stress and Improve Quality of Life." Poster presented by E. Justice at Medical Library Association annual meeting in Toronto, Canada. May 2016.

Robert Witt, M.D. At the 9th International meeting of the American Head & Neck Society in Seattle, Washington Jul 16-19.

- "Thyroid Nodule Molecular Testing-Assays and Decision Making."
- "Genomics and Genetics in Evaluation of Thyroid Nodules."
- "A Deep Look at the Location of Warthin's Tumor of the Parotid Gland."

Linsey D. O'Donnell, D.O., Kristen Isaac, MPH, Ina Li, M.D. "Piloting the Care Management and Palliative Care Program (CMAP)." American Geriatrics Society annual scientific meeting, Long Beach, California. May 2016.

Appointments

The Professional Advancement Council congratulates **Renee Odders** from 6A on her promotion to RN III.

Awards

The 2016 WISH (We Improve Senior Health) Champions of the Year are **Kathy Smith, BSN, RN** and **Carolyn Smith, ADN, RN-BC**. Kathy Smith is the WISH Champion for the Christiana Hospital Emergency Department. Carolyn Smith is the WISH Champion for 4E. They both have more than 30 years of experience working with the elder patients. ●



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Say 'yes' to reducing your stress

Sometimes it seems as if stress is all around us. We are busy at work. Family members demand our attention. There are bills to be paid, e-mails to respond to, chores around the house.

Stress isn't just an emotion. It exacts a physical toll, contributing to cardiovascular disease. Stress also can make us more susceptible to skin problems and infections.

Yet there are many ways in which we can reduce our level of stress. We are not powerless in the face of stress.

Because each individual reacts differently to stress there is no single solution. By exploring various stress-management techniques, you can identify what works for you to reduce stress and, in turn, the harmful effects on your body.

One of the most effective tools in reducing stress is regular exercise. People who exercise 30 minutes or more a day benefit the most. Hitting the gym is great but there are lots of ways to incorporate physical activity into our daily lives, such as taking the stairs, parking farther away from work and shopping, and doing stretches every few hours on the job.

Keeping a diary helps, too. Make a note of situations you find stressful. Soon, a pattern will emerge. Then you can find ways to either avoid those scenarios or develop different strategies for coping with them.

Here are a few tips:

- **Just say no:** Set healthy boundaries. Taking on a bigger load than you can handle is stressful. Learn the difference between “I should” and “I must” — and say no to things you really don't have to do.
- **Avoid people who create stress:** Minimize your exposure to relatives and acquaintances who stress you out.
- **Control your environment:** If driving in heavy traffic sends your blood pressure soaring, take the road less traveled. If you dread shopping, make your purchases online. If you can't keep up with your house, hire someone to do repairs.

Some stressors, such as a fender bender or a rough patch in the economy, are beyond our control. Look for the silver linings in these clouds, such as listening to music while you wait for traffic to clear or revising your budget to reduce your financial pressure.

When our own bad decisions create stress, we can reflect on them, learn from our mistakes and resolve to do better next time. ●

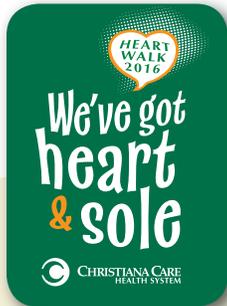
Want to learn more?

Learn about tools and exercises for stress reduction on the employee Wellness: Caring for Yourself website. That includes myStrength, a confidential, innovative mental wellness portal available 24/7 to employees and spouses who are experiencing stress, anxiety, mild or moderate depression and other mental health issues. You will find a wide variety of resources in your Stress Tool Kit. For help with depression in the workplace, go to *The Right Direction*.

myStrength

The health club for your mind™

September



The American Heart Association's 25th Annual Heart Walk

Sept. 11, 9 a.m.

Wilmington Riverfront

The annual Heart Walk promotes awareness about heart disease and stroke while raising funds to fight the diseases. Register a walking

team at <http://www.heart.org/wilmingtonwalk>. Individuals can join a Christiana Care team or start a new one. Register to receive one of 1,000 Christiana Care Heart Walk T-shirts reserved for employees and their team members.

Breast Center Open House

Sept. 21, 4:30 – 8 p.m.

Breast Center at the Helen F. Graham Cancer Center & Research Institute

Tour the Breast Center and meet surgeons, radiologists and technologists. Call 302-623-4206 for more information.

2016 Cancer Symposium

Sept. 22, 6 – 8:30 p.m.

John H. Ammon Medical Education Center

The Helen F. Graham Cancer Center & Research Institute presents this year's symposium and dinner program "Latest Advances in Lung Cancer Screening" for health care professionals to share the results and discuss shared-decision-making modules for lung screenings. A panel discussion will follow. Posters on research under way at the Center for Translational Cancer Research will be on display. Seating is limited. Register today: <https://cchs.cloud-cme.com/cancer2016>.

Dr. Margaret I. Handy Memorial Lectureship

Sept. 23, 7:30 a.m. – 3 p.m.

John H. Ammon Medical Education Center

This dynamic series provides insight into cutting-edge topics in neonatal and perinatal medicine. Register at <https://cchs.cloud-cme.com>. Participants may submit a poster on topics related to neonatal clinical research, quality improvement, education or other initiatives.

Find these events and more online at <https://events.christianacare.org>.



October

Every Woman Matters: A Breast Health & Wellness Conference

Oct. 1, 8 a.m. – 3 p.m.

John H. Ammon Medical Education Center

Every Woman Matters is a breast health and wellness conference for all women, including breast cancer survivors, who would like to learn more about breast health, genetics, nutrition, breast cancer screenings, treatment and survivorship. The free conference includes continental breakfast and lunch. Register at 302-623-2273 or <http://events.christianacare.org/every-woman-matters>.

A Peek Inside the OR

Oct. 2, 11 a.m. – 2 p.m.

Christiana SurgiCenter

This open house gives Christiana Care employees and their children the opportunity to explore a real operating room with hands-on activities and fun contests.

Kidney Transplant Symposium for Nurses & Dialysis Technicians

Oct. 4, 8 a.m. – 3:30 p.m.

John H. Ammon Medical Education Center

This symposium for nurses and dialysis technicians provides education about the kidney transplant selection process for candidates and donors. Registration is \$25. Register at <https://events.christianacare.org/event/kidneysymposium2016/>

Bariatric Summit: Cradle to Cure

Oct. 7, 8 a.m. – 4 p.m.

John H. Ammon Medical Education Center

Presented by Christiana Care and Nemours/Alfred I. duPont Hospital for Children. Pre-registration is required at <https://cchs.cloud-cme.com>.

CONTINUED

23rd Annual E.G. Scott Microbiology Symposium

Oct. 11, 7 a.m. – 4 p.m.

John H. Ammon Medical Education Center

Pre-registration requested by Oct. 3. Registration Fee: \$60. Send checks to: Erica Wilson, Dept. of Pathology and Lab Medicine, room L125, 4755 Ogletown-Stanton Road, Newark, DE 19718. For more information call Erica Wilson: 302-733-3730.

An Evening of Hope

Oct. 19, 6 – 8:30 p.m.

Wilmington Country Club, 4825 Kennet Pike, Wilmington

Join The Friends of the Helen F. Graham Cancer Center & Research Institute in supporting the Gene Editing Institute at the Center for Translational Cancer Research. World-renowned molecular biologist and gene editing pioneer Eric Kmiec, Ph.D., will talk about the tools he and other researchers are developing to treat the root causes of cancer. Register at <https://events.christianacare.org>.

15th Annual John Scholz Stroke Education Conference

Oct. 15, 8 a.m. – 1 p.m.

John H. Ammon Medical Education Center

Presented by the Delaware Academy of Medicine. Tentatively scheduled breakout sessions include lectures on such topics as triaging out-of-hospital stroke patients, lipids, sleep apnea, depression and fatigue, PT and OT, speech therapy, treating carotid stenosis, diabetes and stroke, medication compliance, atrial fibrillation, driving after stroke, and stroke in women. Register at <http://www.delamed.org/stroke>.

Save the date!

3rd Annual Heart & Vascular Interventional Services Conference

Saturday, Nov. 12, 2016

John H. Ammon Medical Education Center

Perioperative Perspective: Latest trends and practices

Saturday, Feb. 25, 2017, 7 a.m. – 3:15 p.m.

John H. Ammon Medical Education Center

The Perioperative Professional Nurse Council invites you to attend this 9th annual conference for nursing professionals, student nurses and surgical technicians, with national speakers and educational breakout sessions.

Diabetes Prevention Program tackles prediabetes

To improve health and wellness, Christiana Care is offering a Diabetes Prevention Program at no cost to employees and spouses covered by our medical benefits plan. All employees participating in Christiana Care's medical benefits program were sent a letter about the program.

3,600

Number of Christiana Care employees and spouses whose biometric screening classify them as prediabetic.

Based on systemwide, aggregate results of our most recent biometric screening, more than 3,600 employees/spouses are classified as prediabetic. Those who are prediabetic have an A1C result in

the range of 5.7 to 6.4. If you completed the most recent biometric screening, you can check your A1C score on the Wellness website. There is a prediabetes risk assessment on the site to help you determine your risk factors for the disease. If your or your spouse's A1C result falls within the range indicated above, please consider participating in the Diabetes Prevention Program.

Without intervention, 15 to 30 percent of people with prediabetes will develop Type 2 diabetes within five years. However, if someone has prediabetes, getting Type 2 diabetes doesn't have to be a sure thing. In fact, prediabetes can be reversed. That's why we are offering this Diabetes Prevention Program. The program, from the Centers for Disease Control and Prevention, is structured specifically to prevent Type 2 diabetes.

While the program requires time and commitment, it is well worth the effort. Research by the National Institutes of Health has found that people with prediabetes who take part in a structured lifestyle change program like this one can greatly reduce their risk of developing Type 2 diabetes.

Facilitators are Christiana Care's registered dietitians who are trained as lifestyle coaches. During the first four months of the year-long program, participants meet with a lifestyle coach in a group setting each week and then every other week for two months. During months 7-12, maintenance and support group meetings occur once a month. The group meetings last an hour. ●

For more information or to register, call 302-661-3050. Classes begin in September and October at Christiana and Wilmington hospitals.

Praxbind: The new antidote for Dabigatran

By Alexis Gross, Pharm.D.

Dabigatran (Pradaxa) is a direct thrombin inhibitor indicated to reduce the risk of stroke in patients with non-valvular atrial fibrillation, as well as to treat and prevent deep vein thrombosis and pulmonary embolism.¹ Dabigatran was FDA approved in 2010, being the first novel anticoagulant on the market to not require extensive monitoring. However, concern with the lack of a reversal agent has led to some hesitation in its prescribing.

In October 2015, the FDA granted accelerated approval to idarucizumab (Praxbind). It is a humanized monoclonal antibody fragment indicated in patients treated with dabigatran when reversal of its anticoagulant effect is needed for emergency surgery/urgent procedures, and life-threatening or uncontrolled bleeding. It was added to the Christiana Care formulary in February 2016, and its prescribing is restricted to board-eligible or board-certified hematologists, cardiologists, anesthesiologists

and critical care attending physicians. The Blood Bank Medical Director or designee should be contacted for emergent hematology approval. Table 1 demonstrates important information about this novel drug.

The Reversal Effects of Idarucizumab on Active Dabigatran (RE-VERSE AD) is the landmark clinical trial that allowed this agent to receive expedited FDA approval. It is still ongoing, but an interim analysis was performed for 90 patients in whom data was available. Table 2 highlights the take-home points of the study. It is important to note that CCHS does not regularly measure diluted thrombin time (dTT) or Ecarin clotting time (ECT), the two tests that were part of the primary objective. These are both methods utilized to quantify the amount of dabigatran in the plasma and measure its activity.³ ●

TABLE 1 ²	
Mechanism of Action	Binds to dabigatran and its metabolites, neutralizing their anticoagulant effect
Dose	5 g IV x 1. Provided as two separate vials, each containing 2.5 g/50 mL Can administer additional 5 g if reappearance of bleeding with elevated coagulation parameters
Administration	Two consecutive infusions or Bolus injection by injecting both vials consecutively via syringe
Warnings	<ul style="list-style-type: none"> Immunogenicity: anti-idarucizumab antibodies with low titers were observed in 4% (9/224) of subjects treated with idarucizumab, lowering the efficacy of its reversal Re-elevation of coagulation parameters (aPTT, ecarin clotting time) → thromboembolic risk Consider time of last dose and half-life of dabigatran (12-17 hours with normal renal function, longer in elderly and renal impairment)¹
Adverse Effects	Headache, hypokalemia, confusion, constipation, fever, pneumonia, thrombus
Dose Adjustments	None, but has not been studied in hepatic impairment nor severe renal impairment (CrCl < 30 mL/min)

References:

1. Pradaxa [package insert]. Ridgefield, CT: Boehringer Ingelheim Pharmaceuticals, Inc.; November 2015.
2. Praxbind [package insert]. Ridgefield, CT: Boehringer Ingelheim Pharmaceuticals, Inc.; October 2015.
3. Gosselin R, Hawes E, Moll S et al. Performance of various laboratory assays in the measurement of dabigatran in patients receiving therapeutic doses. *Am J Clin Pathol.* 2014;141(2): 262-67.
4. Pollack CV, Reilly PA, Eikelboom J et al. Idarucizumab for dabigatran reversal. *N Engl J Med.* 2015;373(6): 511-20.

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CHRISTIANA CARE COMPLIANCE HOTLINE

Christiana Care’s Compliance Hotline can be used to report a violation of any regulation, law or legal requirement as it relates to billing or documentation, 24 hours a day, 7 days a week. Callers may remain anonymous. The toll-free number is: 877-REPORT-0 (877-737-6780).

✓ *To learn more about Corporate Compliance, review the Corporate Compliance Policy online or contact Christine Babenko at 302-623-4693.*

TABLE 2⁴

Design	Phase III, prospective, international, cohort study	
Patient Population	Group A: Overt, uncontrollable, or life-threatening bleeding that requires a reversal agent (n=51)	Group B: Requires surgery or other invasive procedure that could not be delayed for at least 8 hours (n=39)
	Median age of 76.5, 87% had CrCl > 30 mL/min, 96% on dabigatran for atrial fibrillation 35% had intracranial bleed, 39% had gastrointestinal bleed	
Outcomes	Primary: • Maximum percent reversal of anticoagulation effect of dabigatran (dTT or ECT) up to 4 hours after last infusion	Secondary: • Group A: time to cessation of bleeding • Group B: occurrence of major bleeding intraoperatively and up to 24 hours post-surgery
Intervention	5 g of IV idarucizumab, administered as two 50-mL bolus infusions, each containing 2.5 g, no more than 15 minutes apart	
Results	<ul style="list-style-type: none"> • Normalized test results (complete reversal) in 88-98% of patients within minutes • Reversal of apparent bleeding evident immediately after administration • Concentrations of unbound dabigatran remained < 20 ng/mL at 24 hr in 79% of patients • Group A: hemostasis restored at median of 11.4 hours • Group B: normal intraoperative hemostasis in 33/36 (91.7%) 	
Conclusion	Idarucizumab rapidly and completely reversed the anticoagulant effect of dabigatran with no safety concerns among the 90 patients studied	

Best practice review

EMERGENCY USE OXYGEN CYLINDERS

Q. WHY WERE SINGLE-EMERGENCY-USE OXYGEN CYLINDER HOLDERS INSTALLED?

- A. The Joint Commission requires full cylinders in storage are to be segregated from cylinders in storage that are not full in accordance with NFPA 99. Full cylinders are those that, to the best of the organization's knowledge, have had no product consumed and are available for an emergent need. Proper labeling helps avoid confusion and delay when retrieving a cylinder during an emergency.

Q. WHERE WILL OTHER OXYGEN CYLINDERS BE STORED?

- A.
- The oxygen storage racks in the clean utility rooms will now be labeled "In Use." Oxygen cylinders with 1,000 psi or greater may be stored in these racks.
 - Store empty oxygen cylinders (those with less than 1,000 psi) in the soiled utility rooms in the racks labeled "Empty."
 - Units/departments that have a flammable storage cabinet can continue to store in-use and empty cylinders within the same cabinet as long as they are separated and clearly labeled which section of the cabinet is for in-use cylinders and which is for empty cylinders.

Q. HOW WILL THE EMERGENCY-USE OXYGEN CYLINDER BE REPLACED AFTER USE?

- A. When it is necessary to use the emergency-use cylinder, notify Patient Escort immediately after use to have the cylinder replaced. Do not return it to the emergency-use rack.

Q. WHO IS RESPONSIBLE FOR CHECKING THE EMERGENCY-USE CYLINDER?

- A. Each department/unit is responsible for ensuring that the emergency-use cylinder is present.

Q. WILL SINGLE OXYGEN CYLINDER HOLDERS BE INSTALLED IN THE OUTPATIENT FACILITIES?

- A. In outpatient facilities where minimal quantities of oxygen are stored, label the cylinder with a tag indicating whether the cylinder is full (maximum psi), in use (≥ 1000 psi) or empty (< 1000 psi). ●

REMINDER: Oxygen cylinders must be secured at all times in a designated oxygen cylinder rack, stand, cabinet or secured with chains or sturdy straps to prevent falling or rupture.

Compressed Gases Policy: <<http://depts/policies/WebPolicies/Docs/CompressedGases.htm>>

If you have questions about this Best Practice Review, please contact the Content Expert Bob Mulrooney, 733-3994
Safety Hotline: dial 7233 (SAFE) from within CH or WH Hospitals; Outside – dial 623-7233 (SAFE)

Website: Best Practice Reviews



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Christiana Care is a private, not-for-profit regional health care system that relies in part on the generosity of individuals, foundations and corporations to fulfill its mission. To learn more about our mission, please visit christianacare.org/donors.

Awards from Truven Health Analytics affirm high performance and lasting improvement

Christiana Care is the greater Philadelphia region’s only hospital to make this year’s Truven Health Analytics list of 100 Top Hospitals in the U.S. and is the only major teaching hospital in the nation to win the Everest Award consecutively in both 2015 and 2016. The Everest Award singles out health systems demonstrating the highest performance and fastest long-term improvement over five years, exceeding benchmarks for quality, safety and efficiency of hospital care.

“Earning these honors — particularly winning the Everest Award for two consecutive years — truly demonstrates the commitment of our extraordinary employees, leadership and volunteers to advancing The Christiana Care Way, our promise to the community we serve to be respectful, expert caring partners in their health,” said Janice E. Nevin, M.D., MPH, Christiana Care president and CEO. “The consistent, rapid gains in quality and safety recognized by a second consecutive Everest Award are the hallmark of a focused health care workforce that understands what patients and the community value. ●



Christiana Care President and CEO Janice E. Nevin, M.D., MPH, (right) and Senior Vice President, Quality and Patient Safety, and Chief Population Health Officer Sharon Anderson, RN, BSN, MS, FACHE (left) accept the 100 Top Hospitals and Everest awards from Jean Chenoweth, senior vice president of Truven Health Analytics.