

# FOCUS

JULY 2016 VOLUME 27, NO. 7 *Focusing on the people and initiatives that distinguish Christiana Care Health System*

Get the latest at  
[news.christianacare.org!](http://news.christianacare.org!)



## INSIDE

**5 ELITE STROKE CARE**  
Christiana Care earns prestigious national recognition for stroke care.

**14 CLEAN AND SAFE**  
The art and science of ensuring a hospital room that prevents infection and promotes comfort.

**34 TELEHEALTH FOR YOU**  
Christiana Care Care Now launches, providing new telehealth benefit for employees.



## Data done well

**Predictive analytics customizes care for improved outcomes**

STORY ON PAGE 2

## Data done well



*“Predictive analytics helps us target the patients who need the most care, and ensures that individuals get the right care when they need it. This new world of business intelligence converts data into useful information and puts it in the hands of the clinicians so they can improve care.”*

KEN SILVERSTEIN, M.D., MBA  
CHIEF CLINICAL OFFICER

So much data exists today that no one person — or even a room full of experts — could possibly manage it all.

Yet hidden within that wealth of data are important clues that can help health systems predict which individuals are most likely to need certain services, and then customize programs specifically aimed toward helping them reach their optimal health.

Christiana Care’s new Data Analysis and Strategy team, under the direction of Edward Ewen, M.D., director of Clinical Data and Analytics, is developing ways to collect, organize and analyze data flowing into the system from a multitude of sources.

Analyzed and used properly, the business intelligence that results from “predictive analytics” could lead to more effective diagnoses, customized treatment plans and improved, measurable outcomes.

“Predictive analytics helps us target the patients who need the most care and ensures that individuals get the right care when they need it,” said Christiana Care’s Chief Clinical Officer Ken Silverstein, M.D., MBA. “This new world of business intelligence converts data into useful information and puts it in the hands of the clinicians so they can improve care.”

This powerful capability becomes increasingly important as health systems like Christiana Care assume greater accountability for managing the health of large populations of individuals.

“We’re creating an uber-competency around data, one that allows us to translate ‘big data’ into something very precise based on who you are as a patient — your disease and your condition — where you are on that journey, and the social and economic conditions that we know have an impact on your outcome,” said Randall Gaboriault, MS, chief information officer and senior vice president of innovation and strategic development.

“We’re capturing the world around our patients and using data from the best-known science to identify patterns and help us reach the best measurable outcome for each specific individual,” he said. “This is precision health care.”

### One size no longer fits all

Terri Steinberg, M.D., MBA, Christiana Care’s chief medical information officer and vice president for population health informatics, said using predictive analytics is a bit like playing the iconic “Where’s Waldo?” game. At first glance, everyone in a population blends in with one another simply because of similarities in diagnosis. But when you study the picture carefully, patterns emerge that show which individuals are more likely to be at risk for complications due to other medical conditions, economic factors, cultural issues or even lifestyle challenges, such as being homeless or not having transportation. The conventional “one size fits all” approach to medicine no longer works for accountable care organizations.

“With predictive analytics, people who need more or different help bubble to the top,” Dr. Steinberg said. “Analytics help us find Waldo. They help us understand which people need to come to the attention of our care coordinators and be part of our new systems of care. We can then change the everyday life for a patient by becoming more efficient and effective, which in turn, controls the cost of care. It’s all about systems of care — sifting through large volumes of data about people and putting them in the system in the right place at the right time to address their needs.”

Take, for example, two people with diabetes. One is a 78-year old male; the other a 44 year-old female. Where “old-world medicine” dictated that all patients with diabetes were treated in a certain way, predictive analytics calls on providers to learn about other factors impacting the person’s health and lifestyle and use

CONTINUED

that data to customize interventions that are most likely to be effective. That may include the same therapeutic care for each patient, but delivered in very different ways. In-home visits may work best for the 78-year-old male, while e-visits or telehealth monitoring may better suit the 44-year-old female.

“We need to architect our care delivery structures to reach people by disease state in a way that matches their own preference,” said Gaboriault. “This new world requires us to approach each person in a different way, helping them reach compliance with therapeutic care, engaging them and ensuring that they have the right access to the care they need.”

### Marrying science with the patient perspective

The real power of data analytics is the capacity to marry the algorithms that appear from the information collected on the patient with the ever-evolving proliferation of evidence-based science.

Data flags, trigger tools and early warning systems alert providers to changes in a patient’s blood pressure, heart rate or blood sugar levels and allow them to adjust the care plan in real-time. Data patterns drawn from such variables as economic factors, social needs or past medical history help them figure out which patients are at greatest risk for complications that might land them in the hospital, who is most likely to return for readmission within Medicare’s 30-day window after leaving the hospital, and who needs what kind of community-based social support to effectively manage their condition.

Armed with this information, care managers from Christiana Care’s Care Link program are now able to focus on those at greatest risk and provide customized care in a way that best suits each person’s needs. Predictive analytics

are equally valuable to providers within the hospital setting, for example guiding Emergency Department physicians in antibiotic stewardship or giving providers at the bedside the real-time knowledge they need to improve care.

Done well, predictive analytics takes many of the data points that until now providers have seen in isolation and finds new patterns in the data not immediately apparent to a human being.

“It isn’t magic; it’s science,” Gaboriault said. “You can’t throw data into a blender and get the answer. Predictive analytics are

only as good as the information going in. More data isn’t always better. We have to be able to act on it and affect outcomes.”

Technology could never replace the human provider in managing patient care. But harnessed effectively, data can help providers design customized, more effective interventions that reach people at the most treatable and lowest-cost point of the disease cycle, before needs become acute.

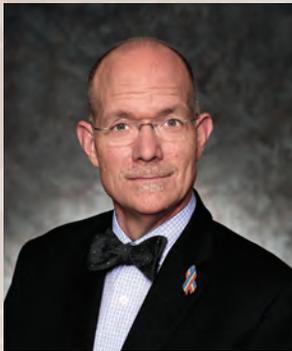
“Organizations that figure this out are the ones that are going to succeed in health care,” he said. ●



*“We’re capturing the world around our patients and using data from the best-known science to identify patterns and help us reach the best measurable outcome for each specific individual. This is precision health care.”*

## Taking Our Pulse

By Rev. Tim Rodden, MDiv, MA, BCC, FACHE, director of Pastoral Services



**B**y the time this article is published, the tragic events of Orlando will be a few weeks past. For some it might be a sad and somewhat distant memory. For others it will serve as an unpleasant reminder that we live in a broken world. And for still other people, it will have left lasting and deep emotional scars for a range of reasons.

The owner of Pulse, the nightclub where 49 young lives were extinguished on June 13, opened the club as a living tribute to her brother who died of AIDS in 1991— a heartbeat, a “pulse.” Hearing this brought back my own memories of walking alongside people living and people dying with AIDS in the 1980s.

There is heartache, tragedy and violence in our own back yards. We don’t have to go far to experience it. Rarely a day goes by that we don’t read about more gun violence in Wilmington and in other nearby places, even in our own neighborhoods. We feel vulnerable, and our neighbors feel vulnerable.

Tragedies, both far and near, cause us to stop and take stock. Questions flood our minds; emotions flood the core of our being. I know at times I want to hold out my outstretched hands and to scream “STOP! Just STOP!” Then I breathe; I walk to clear my mind, and I begin to dream and to envision another way.

We are privileged to work in an environment that strives every day to make a difference in the lives of individuals and families. The Christiana Care Way says: “We serve our neighbors as respectful, expert, caring, partners in their health.” Our guiding principle is service — service to our neighbors. In that service we are given opportunities to present a respectful welcome to our patients and visitors, as well as to our colleagues. This doesn’t mean we always agree and are of like mind, but it does mean that we value each person in spite of that which separates us.

All of us strive to demonstrate care and concern for those we encounter each day. I’m shown tremendous care, tremendous respect and treated as such by those I encounter who differ with me on the nature of my identification as a gay man. It’s OK to hold personal beliefs that differ from my own on this and other matters. No legitimate faith tradition or deeply held philosophical underpinning espouses hate or lack of respect.

Our work is to strive deeply to recognize that which serves to connect us, that which moves us toward and not away from each other. It’s not easily done. It’s work, but it’s worthy and valued work.

Just days after the devastating loss of human life at Pulse in Orlando, this song was penned and recorded that serves to remind us of our task at hand. You can find it on YouTube at <https://youtu.be/UrIvIEa2K48>.

### Pulse

*(Eli Lieb and Branden Skeie)*

So you say this is human.

Your heartbeat versus mine.

I’m in chains cause I’m choosing,

Showing love or living life.

I shouldn’t have to leave where I stand.

I shouldn’t have to change who I am

To count as a human

Feel my pulse with your hand on my heart.

You know that it beats just as hard as yours.

Feel my pulse.

Feel my pulse; can’t you see that I’m scarred?

I’m just the same as you are,

So just feel my pulse.

I wish I could reach them,

Strip away what separates.

It’s the same air we’re breathing,

The same tears run down our face.

So I don’t have to leave where I stand,

And I don’t have to change who I am,

To count as a human. ●



Enhancing care for inpatients and getting care to patients in the Emergency Department faster have resulted in two honors: the American Heart Association/American Stroke Association's Get With The Guidelines-Stroke Gold Plus Achievement Award with Target: Stroke Honor Roll Elite Plus.

## Christiana Care earns prestigious stroke care recognition

Joins elite group known for commitment and success implementing higher standard of stroke care

**C**hristiana Hospital joins an elite group of hospitals recognized for commitment and success in implementing a higher standard of stroke care by ensuring that stroke patients receive treatment according to nationally accepted standards and guidelines, based on research and the latest scientific evidence.

Enhancing care for inpatients and getting care to patients in the Emergency Department faster have resulted in two honors: the American Heart Association/American Stroke Association's Get With The Guidelines Stroke Gold Plus Achievement Award with Target: Stroke Honor Roll Elite Plus.

"These awards recognize that Christiana Care provides excellent stroke care in

three important areas: the Emergency Department, during the hospital stay and on discharge from the hospital," said Jonathan Raser-Schramm, M.D., Ph.D., stroke program medical director. "In particular, we have exceeded the most stringent national standards in our ability to rapidly treat stroke symptoms.

"Our Gold Plus award recognizes our excellence in following national guidelines in stroke assessment and treatment after admission to the hospital, and in providing patients the best chances at recovery and preventing further strokes on discharge from the hospital."

On average, patients at Christiana Care diagnosed with ischemic stroke are treated with the clot-busting agent tPA with a

door-to-needle time of 35 minutes, well below the national target of 45 minutes.

"Achieving Target Stroke Honor Roll Elite Plus is an accomplishment we are very grateful to receive, because for every minute sooner IV tPA is given, the chance of brain recovery goes up," said Mary Ciechanowski, MSN, APRN-BC, CCRN, stroke program coordinator.

The initiative to get tPA to patients faster involved a comprehensive plan that includes using technology to connect stroke specialists remotely instead of waiting for them to arrive at the hospital, expedited CT scans, designated timers and reviews to analyze cases that did not proceed as quickly as expected.

CONTINUED ON PAGE 6

## Helen F. Graham Cancer Center & Research Institute again earns full accreditation from ACS Commission on Cancer

The Helen F. Graham Cancer Center & Research Institute received three-year reaccreditation from the Commission on Cancer of the American College of Surgeons in May. The cancer program at Christiana Care has received Commission on Cancer accreditation since 1951.

To earn voluntary accreditation, a cancer program must meet or exceed 34 Commission on Cancer quality-care standards, be evaluated every three years through a survey process and maintain levels of excellence in the delivery of comprehensive, multidisciplinary patient-centered care.

“The dedication of our physicians and staff to consistently meet and surpass

the standards for accreditation by the Commission on Cancer speaks volumes to our patients who expect high-quality cancer care and services close to their own communities,” said Nicholas J. Petrelli, M.D., Bank of America endowed medical director of the Helen F. Graham Cancer Center & Research Institute. “Our goal is to continue to meet and exceed those expectations in every aspect of our cancer program.”

In its performance report, the Graham Cancer Center received Commission on Cancer commendation ratings (highest possible) in six areas, including praise for “an especially high rate of clinical trials.” Patient enrollment rates into clinical trials at the Graham Cancer Center are at 20 percent, five times the national average.

The report also commended the Graham Cancer Center for excellence in oncology nursing, “at the forefront of patient navigation with 19 nurse navigators on board.” Nurse navigators are key to helping break down barriers to care in our communities and in facilitating timely access to clinical services and resources for patients, families and caregivers.

The report also highlighted the quality of cancer registrar education at the Graham Cancer Center.

As a Commission on Cancer accredited facility, the Graham Cancer Center maintains a cancer registry and contributes data to the National Cancer Data Base, the largest clinical disease registry in the world. Certified, well-trained cancer

CONTINUED PAGE 7

## HEART & VASCULAR HEALTH

### CHRISTIANA CARE RECEIVES PRESTIGIOUS STROKE CARE RECOGNITION | CONTINUED

Melissa Bollinger, MBA, BSN, RN, administrative director, Neurosciences, said the achievement is a group effort, including colleagues in Radiology and the ED, in addition to the stroke team.

“Numerous studies have shown that adherence to the guidelines improves outcomes,” Bollinger said. “When we participate in these programs, patients benefit.”

To receive the Gold Plus Quality Achievement Award, hospitals must achieve 85 percent or higher adherence to all Get With The Guidelines Stroke achievement indicators for two or more consecutive 12-month periods and achieve 75 percent or higher compliance with five of eight Get With The Guidelines Stroke quality measures.

To qualify for the Target: Stroke Honor Roll Elite Plus, hospitals must meet quality measures developed to reduce the time between the patient’s arrival at the hospital and treatment with tPA.

If given intravenously in the first three hours after the start of stroke symptoms, tPA has been shown to significantly reduce the effects of stroke and lessen the chance of permanent disability.

Christiana Care has made significant strides in becoming a nationally recognized stroke center, said Kert Anzilotti, M.D., MBA, Neurosciences Service Line physician leader.

“With our Lanny Edelson, M.D., Neuro Critical Care Unit and the creation of the Neurosciences Service Line, we were able to advance even further in acute stroke care,” Dr. Anzilotti said. “Our commitment to comprehensive stroke care also has allowed us to attract some of the top specialists in the nation, including stroke neurologists, neurosurgeons, neurocritical care specialists and interventional neuroradiologists.” ●





Leaders of the Helen F. Graham Cancer Center & Research Institute celebrate a successful reaccreditation by the ACS Commission on Cancer.



## HELEN F. GRAHAM CANCER CENTER & RESEARCH INSTITUTE EARNS ACCREDITATION | CONTINUED

registrars are essential to maintaining the level of quality in registry data necessary to accurately assess treatment outcomes and patient survival.

Other areas singled out for commendation include public reporting of outcomes and promoting evidence-based care through participation in the Commission's Rapid Quality Reporting System.

Receiving care at a Commission on Cancer accredited cancer program ensures patients receive:

- Quality care close to home.
- Comprehensive care, including prevention, early diagnosis and a full range of state-of-the-art services and equipment.
- A multidisciplinary, team approach to coordinate the best cancer-treatment options available and improve patient care.
- Access to cancer-related information and education, and to patient-centered services such as navigation and psychosocial distress screening.
- Options for genetic assessment and counseling, and palliative care services.
- Ongoing monitoring and improvement of care and assessment of treatment planning based on evidence-based national treatment guidelines, and opportunities for clinical trials and new treatment options.
- Follow-up care at the completion of treatment, including rehabilitation and a survivorship care plan.
- A cancer registry that collects data on cancer type, stage and treatment results and offers lifelong patient follow-up. ●

*“The dedication of our physicians and staff to consistently meet and surpass the standards for accreditation by the Commission on Cancer speaks volumes to our patients who expect high-quality cancer care and services close to their own communities.”*

NICHOLAS J. PETRELLI, M.D.  
BANK OF AMERICA ENDOWED MEDICAL DIRECTOR  
OF THE HELEN F. GRAHAM CANCER CENTER &  
RESEARCH INSTITUTE



## Neonatal Intensive Care unit reunion celebrates life and good health

Among building blocks, hula hoops and foamy bubbles, hundreds of families celebrated a very special reunion on May 14 at Christiana Hospital.

Children who “graduated” from the Neonatal Intensive Care Unit (NICU) gathered at the John H. Ammon Medical Education Center to reconnect with staff who helped parents and their babies while they received specialized care after birth. The annual reunion celebrates the health of children who relied on Christiana Care’s NICU, the only Level III NICU at a high-risk delivering hospital in Delaware.

“Our NICU is a partnership,” said John Stefano, M.D., director of Neonatology. “With our babies and their families at the center of all we do, our goal is to work as a team to help our patients achieve optimal health and to provide a caring, supportive experience for their families during a very difficult time.” The NICU cares for an average of 1,200 babies a year.

Bonnie Chavez, BSN, RNC, assistant nurse manager, said planning the reunion with colleague Jacquie Eubanks, RN, is a special joy for her. “The NICU reunion reaffirms what we do every day,” Chavez said. “It is our privilege to care for these remarkable babies and nurture them to stronger, better health.” ●



NICU graduate Adrienne Little with Stephen Pearlman, M.D., MSHQS, Quality & Safety Officer, Women & Children’s Service Line.



*Infants, children, teens and their loved ones return each year to Christiana Hospital for an annual NICU reunion that celebrates lives set right.*



## Project SEARCH graduates 10; receives national accolades

Chris Coulston received his high school diploma on the same day he attended new employee orientation at Christiana Care Health System. He wasn't alone in finding employment — half of this year's Project SEARCH class already had landed jobs by graduation night on June 6.

"It was life-changing," Coulston said of the nine-month internship program, which provides hands-on work experience for people with cognitive disabilities after they have finished

high school. Their diplomas are held until they complete three 10-week rotations in various departments and receive classroom instruction.

"We now have the skills to live the lives we want," he told the crowd attending the commencement in the John H. Ammon Educational Center.

The next day, Coulston began his new job as a patient escort at Christiana Hospital, where he wheels patients to surgery, helps

CONTINUED



*"One of the biggest things I learned in Project SEARCH was to turn your biggest weakness into your biggest strength. My biggest weakness is that I'm in a wheelchair.*

*"But we all know that wheels are faster than legs."*

SAM SWIFT, PROJECT SEARCH GRADUATE



people navigate the halls to their appointments and accompanies those who are discharged.

Gov. Jack Markell, a supporter of Christiana Care's Project SEARCH program since its inception five years ago, delivered the keynote address.

"If I had to come in for surgery, Chris is exactly the kind of person I'd want to escort me because he would set me at ease," Markell said.

One thing that impressed Markell most about the 10 graduates, he said: their positive attitude. "Not only are you going to need to know how to do the job, but you have to have the right attitude," he said.

Janice E. Nevin, M.D., MPH, president and CEO of Christiana Care, said "there probably is no greater example of the Christiana Care Way than Project SEARCH." It's one example of how Christiana Care serves the community through innovative partnerships.

CONTINUED ON PAGE 13



## Christiana Care earns 2016 Leading Disability Employer Seal

Christiana Care Health System is one of only 27 organizations to earn the 2016 Leading Disability Employer Seal from the National Organization on Disability (NOD).



*"Our employees with disabilities are demonstrating every day that they are an exceptional part of our team at Christiana Care."*

NICOLE D'AMBROSIO

This is the first year the seal has been awarded, a new effort by NOD to recognize companies that demonstrate exemplary hiring and employment practices for people with disabilities.

"Serving as respectful, expert, caring partners with our neighbors is The Christiana Care Way," said Thomas L. Corrigan, MBA, CPA, executive vice president and chief financial officer of Christiana Care, and executive sponsor of Project SEARCH. "Partnering with colleagues who have differences personifies our commitment to diversity and inclusion."

The NOD Seal is awarded based on an organization's disability practices in several areas:

climate and culture; identifying and sourcing talent; onboarding; performance management; and tracking and measurement.

In FY 2016, Christiana Care's efforts included:

- Recruitment and job placement for Project SEARCH student interns at Christiana Hospital.
- Job skills development through the Easter Seals Summer Internship at Wilmington Hospital.
- The Multicultural Heritage Committee's Disabilities Awareness and Resource Expos at both Wilmington and Christiana hospitals.
- Dedicating a talent adviser to champion disabilities employment initiatives for the health system.

"It all goes back to our Diamond and our culture of extraordinary people," said Nicole D'Ambrosio, talent adviser, Human Resources, Talent Acquisition Strategy. "Our employees with disabilities are demonstrating every day that they are an exceptional part of our team at Christiana Care."

In the past five years, Christiana Care has hosted 41 Project SEARCH Student Interns and extended offers to 19 of the program's graduates. Christiana Care also partnered with Easter Seals to help the organization assess its clients by providing work-based experience.

NOD Chairman Tom Ridge congratulated Christiana Care and other honorees for blazing a trail as national leaders in hiring people with disabilities. "They have seen the untapped potential of this talent pool," he said. "They have dedicated resources to welcome individuals with disabilities into their companies. And they are reaping the rewards of a diverse and productive workforce."

NOD is a private, non-profit organization that seeks to increase employment opportunities for the 80 percent of working-age Americans with disabilities who are currently not employed. ●



*“We now  
have the skills  
to live the lives  
we want.”*

CHRIS COULSON, PROJECT SEARCH GRADUATE





## PROJECT SEARCH GRADUATES 10 | CONTINUED

“I am just thrilled to be here on the fifth anniversary,” she said.

Over the years, the program has hosted 41 interns, 30 of whom have secured employment, with 17 being hired by Christiana Care.

Staff from the Christiana Care program have been asked to speak at the national Project SEARCH conference because all six members of its 2015 graduating class have found jobs, said Kerry Delgado, corporate director for talent optimization.

Kimberly Wilson, manager of Materiel Distribution & Logistics, called the program “heaven-sent.”

“I was always impressed with their dedication, high standards, pride and outstanding work ethic,” Wilson said of the students.

Each graduate took to the microphone during the ceremony to share their experience.

“One of the biggest things I learned in Project SEARCH was to turn your biggest weakness into your biggest strength,” said Sam Swift. “My biggest weakness is that I’m in a wheelchair. But we all know that wheels are faster than legs.”

He had his sights set on becoming a hospital greeter.

For implementing the first Project SEARCH site in Delaware, Christiana Care this year received the Employer of the Year award from the Division on Career Development and Transition, an international organization affiliated with the Council for Exceptional Children that promotes careers and vocations for people with disabilities.

The program itself earned a number of distinctions this school year.

Through a partnership with Concord High School, students invented a barcode-scanning device that makes it easier for employees with disabilities to sort medicine in pharmacies. The “Scan ‘n Sort” project won the national title in the SourceAmerica Design Challenge. The program also was named a 2016 Superstar in Education award winner from the Delaware Chamber of Commerce and Partnership Inc., and Christiana Care received the Employer of the Year award from the Division on Career Development and Transition, an international organization affiliated with the Council for Exceptional Children that promotes careers and vocations for the disabled.

Christiana Care partnered for Project SEARCH with Red Clay Consolidated School District, the Delaware Department of Education, the Division of Vocational Rehabilitation, Community Integrated Services and Autism Delaware, POW&R.

The departments participating as work sites included Helen F. Graham Cancer & Research Institute, Clinical Engineering, Environmental Services, Facilities & Services, Food & Nutrition, Learning Institute, Materiel Distribution & Logistics, Operating Room, Patient Escort, Patient Guide, Pharmacy, Prep and Holding, Property Management, Sterile Processing and Surgical Material Distribution. ●





## The art and science of ensuring a clean, safe hospital room

Service Assistant Bernadette Dorsey prepares a clean hospital room for its next patient.

**W**hat does it take to clean a hospital room? Cleanliness and comfort are just the beginning. The Environmental Services team provides a critical foundation of patient safety and infection-prevention.

As soon as a patient is discharged, an Environmental Services team swings into action, making certain the room is clean and safe for the next patient.

“The Environmental Services staff are our partners in both patient flow and patient safety,” said Linda Laskowski Jones, MS, APRN, ACNS-BC, FAAN, vice president, Emergency & Trauma Services. “They do far more than help to get beds ready. They play a critical role in reducing infections, including hospital-acquired infections.”

With Christiana Hospital operating at peak capacity, the Environmental Services team is responsible for turning over up to 225 rooms a day, said Jason Funyak, director, Environmental

Services/Patient Escort. At Wilmington Hospital, the teams are turning over nearly 75 rooms a day.

Environmental Services recently launched a more advanced electronic protocol designed to rapidly alert the housekeeping staff that a room requires cleaning.

“When a patient escort is contacted to transport a patient from a room, they communicate through their iPhone,” Funyak explained. “That will alert the closest person in housekeeping to clean that vacant room.”

Making certain there are enough staffers to get the job done is an essential part of the strategy, said Bob Mulrooney, vice president, Facilities and Services.

“When we get to the late afternoon to early evening on high-volume days, we need to ensure that there is adequate staff to handle that busy time, which often requires making alternative shift arrangements,” he said. “Getting a room ready is critical for a

CONTINUED

*“The Environmental Services staff are our partners in both patient flow and patient safety. They play a critical role in reducing infections, including hospital-acquired infections.”*

LINDA LASKOWSKI JONES, MS, APRN, ACNS-BC, FAAN  
VICE PRESIDENT, EMERGENCY & TRAUMA SERVICES



patient who is waiting for a place to get more comfortable and to alleviate capacity issues in the ED.”

After the housekeeping staff arrives, it should take about 30 minutes for the room to be thoroughly cleaned. The plan of action is precise and efficient, Funyak said:

“Strip the bed. Remove the trash. Dust high and low. Sanitize all horizontal surfaces with a bleach wipe. Spot clean vertical surfaces, such as walls. Clean the bathroom. Dust the floor. Put new linens on the bed. Wet mop the floor.”

If the patient who vacated the room suffered from an infectious disease, the process is more intense, requiring 45 minutes. The curtains are removed. Walls are scrubbed with a disinfectant. In certain circumstances the room is treated with ultraviolet light, which kills pathogens lurking on surfaces.

Checks and balances are in place to ensure that standards are being met, including periodic tests. One such test involves

dabbing a fluorescent marking gel on high-touch areas, such as sinks, doorknobs and call buttons. By shining a black light on areas marked with the gel, the staff can determine if the surface has been thoroughly cleaned.

Christiana Care’s Environmental Services staff provide a critical foundation of patient safety and infection prevention. Team-building and recognition are important elements of supporting their success. To show appreciation to Environmental Services workers, the department hosts breakfasts and luncheons for team members, and staff are frequently rewarded with tickets that can be redeemed for meals, as well as spot bonuses for workers who receive kudos from the staff and patients for a job well done.

“We had one employee who got so many kudos she was able to buy herself a set of pots and pans,” Funyak said. “Our hope is whenever she uses those pots and pans to cook for her family it’s a reminder of how much we appreciate the wonderful job she does for our patients.” ●

**300 rooms  
a day**

are turned over by the Environmental Services team between Christiana and Wilmington hospitals during peak capacity.



Service Assistant Solomon Solaja cleans and disinfects a patient room at Christiana Hospital.



## Christiana Care nurses honored among Delaware Today 2016 Top Nurses

Of the 90 Delaware licensed nurses chosen as Top Nurses by their peers through a poll by the Delaware Nurses Association, Christiana Care nurses received 32 of the awards. The awardees are listed in the May issue of Delaware Today magazine. Four Christiana Care nurses were named category winners. Ten of the awardees who made the magazine's 2015 list were recognized again this year. Several Christiana Care nurses received awards in more than one category.

### **Felisha Marcus Alderson, MSN, RN, CCRN**

*Center for Rehabilitation at Wilmington Hospital, for Long-Term Care/Rehabilitation.*

### **Tiffani Lee, MSN, RN, PCCN**

*Nurse manager, 6C Star Unit, Christiana Hospital, for Advancing/Leading the Profession.*

### **Kimberly Mattison, BSN, RN, PCCN**

*Staff Development Specialist, nurse manager, for Education and Mentorship.*

### **Bethany Twardowski, MSN, RN**

*HIV Primary Care Nurse, for Public Health, Community Health or Ambulatory Care.*

## Christiana Care's Delaware Today 2016 Top Nurses

### ACADEMIC EDUCATOR

**Beth Smith, APRN, NNP-BC**

### ADVANCED PRACTICE RN

**Kathy Curtis, MSN, APN\*\***

**Wendy Wintersgill, MSN, RN, CCRN,  
ACNS-BC \*\*\***

### ADVANCING – LEADING THE PROFESSION

**Tiffani Lee, MSN, RN, PCCN**

**Felisha Marcus Alderson, MSN, RN, CCRN**

**Donna Casey, MA, BSN, RN, FABC, NE-BC**

**Linda Laskowski-Jones, MS, APRN,  
ACNS-BC, CEN, FAWM, FAAN**

**Susan Mascioli, MS, BSN, RN, NEA-BC,  
CPHQ, LSSBB**

**Kara W. Streets, MS, BSN, RN, CEN, NE-BC**

**Karen Toulson, MSN, MBA, RN, CEN, NE-BC**

**Judith A. Townsley, MSN, RN, CPAN**

### BEHAVIORAL HEALTH

**Steven Ismael Beltran, BSN, RN-BC**

**Darcy Burbage, MSN, RN, AOCN, CBCN**  
*Case/Quality Management Managed  
Care-Informatics*

### CASE/QUALITY MANAGEMENT, MANAGED CARE INFORMATICS

**Lorraine Adkins, BSN, RN, CIC**

**Gale Moore Bucher, MSN, RN, CPHQ,  
COS-C, FABC**

**Donna Papanicolas, BSN, RN**

**Mary Redman, RN, OCN**

### EDUCATION AND MENTORSHIP

**Kimberly Mattison, BSN, RN, PCCN**

**Michelle L. Collins, MSN, APRN, CNS,  
RN-BC, ACNS-BC**

**Kathrine Crawford, MSN, RN, CCRN**

**Jennifer Painter, MSN, APRN, CNS, RN-BC,  
OCN, AOCNS**

**Wendy Wintersgill, MSN, RN, CCRN,  
ACNS-BC**

### INPATIENT CLINICAL NURSING, PERIOPERATIVE AND EMERGENCY

**Susan Atkison, BSN, RN-BC**

**Kaci Rainey, BSN, RN, CEN**

**Megan Smakulski, MSN, MBA, RN, PCCN**

**Amanda E. Williams, BSN, RN-BC**

### LONG-TERM CARE – REHABILITATION

**Felisha Marcus Alderson, MSN, RN, CCRN**

**Wendy Wintersgill, MSN, RN, CCRN,  
ACNS-BC**

### PUBLIC HEALTH, COMMUNITY HEALTH OR AMBULATORY CARE

**Bethany Twardowski, MSN, RN**

**Kathy Curtis, MSN, APN**

**Nora C. Katurakes, MSN, RN, OCN**

### VOLUNTEERISM AND SERVICE

**Marilynn Bartley, MSN, RN, FNP-BC ●**

\*\* Recognized in two categories.  
\*\*\* Recognized in three categories.

## Dot Fowler honored as 'Nursing Legend'



**D**ot Fowler, MSN, APRN, RN-BC, professional advancement coordinator, was one of three winners in the Nursing Legend category — and the only one of the three who is not currently retired.

Fowler has been a registered nurse for 38 years. From 1978 until 1991 she worked exclusively in the care of perinatal patients. She was nurse manager in Labor & Delivery at the Hospital of the University of Pennsylvania (HUP) from 1991 until 1995. She received her MSN in women's health nursing from the University of Pennsylvania in 1993. In 1996 she joined Christiana Care as nurse manager in Labor and Delivery, while continuing as a nurse practitioner providing obstetrical triage care at HUP until 1998. In 1998 she became director of Patient Care Services at Christiana Care. She was appointed professional advancement coordinator for Christiana Care in 2012.

Fowler has been a Pathway reviewer for the American Nurses Association since June 2011 and an intermittent reviewer for organizations applying for the ANCC's Pathway to Excellence designation. She was instrumental in developing Career Advancement of RN Excellence through Synergy (CARES) in 2012.

Fowler testified before Congress in 2007 to promote increased access to obstetrical and neonatal services.

She served as president of the Council of Women and Infants Specialty Hospitals in 2006. ●



## 2016 Excellence in Nursing Awards spotlight extraordinary staff

During National Nurses Week in May, the Excellence in Nursing Awards, organized by Christiana Care’s Professional Nurse Council, once again filled the main auditorium of the John H. Ammon Medical Education Center in the annual celebration of exceptional nurses. The ceremony acknowledged:

- More than 90 nurses hailing from all nine Christiana Care service lines, plus special awards for nurses in various categories, including Advanced Practice, Educator, Leadership, Mentoring and the annual Dot Fowler Award.

- Nurses newly promoted to RN III and RN IV, marking professional advancement on Nursing’s clinical ladder.
- Recognition of DAISY Award winning nurses, nominated by patients and colleagues for being expert, caring partners in health as part of the national DAISY program introduced at Christiana Care in 2014.
- Administrative assistants, who support all that Nursing accomplishes, were recognized through the annual Friends of Nursing Award. ●

*“Our nurses are leaders within the organization and also in the community. This professional excellence and expert, innovative care has earned Christiana Care Health System two Magnet designations.”*

CHRISTOPHER E. OTTO, BSN, RN, CHFN, PCCN  
CHAIR, CHRISTIANA CARE PROFESSIONAL NURSE COUNCIL



Christiana Care’s Professional Nurse Council celebrated the outstanding work of nearly 100 exceptional nurses with the Excellence in Nursing Awards during National Nurses Week in May.



The 2016 Friends of Nursing Award honored the Department of Nursing administrative assistants for being valued partners in supporting nursing at Christiana Care.

To view the list of awardees, visit <http://news.christianacare.org>.

## First State School congratulates graduates



Celebrating with pomp and circumstance were Mervyn Daugherty, superintendent, Red Clay School District, Adriana Bohm, board member, Red Clay School District, graduates Taylor Reilly and Shannon Fulghum, and First State School Principal Kathleen Mattix.

Shannon said, “I missed much less time because my nurse was in the classroom. I also learned to have confidence in my ability to manage my disease.”

Both graduates are prepared for the next step in their education and their lives.

In the commencement address, Patricia P. Hoge, Ph.D., RN, a public health advocate and Christiana Care trustee, encouraged students and their families to push themselves, adapt to change, find joy every day, stay curious and be resilient.

Like many high school seniors, the next step for Taylor Reilly and Shannon Fulghum is college. But their road was different than most.

Taylor, 18, has a rare form of scoliosis called chondrodysplasia punctata, restrictive lung disease and reflux.

Shannon, 19, has Type 1 diabetes and Addison’s disease, a disorder in which the adrenal glands don’t produce enough hormones.

“Taylor would go to school for three months and then get sick,” recalled her mother, Dawn Reilly of Wilmington. “We wound up home schooling her until she started at First State five years ago.”

In a traditional school setting, Shannon often missed classes due to visits to the school nurse’s office.

“She fell behind in her studies,” said her mother, Maureen Fulghum of Newark.

On June 9, Taylor and Shannon graduated from First State School, a nationally recognized partnership between Christiana Care Health System and Red Clay School District.

The school is embedded at Wilmington Hospital, where students in grades kindergarten through 12 attend classes in a medically supervised setting. Funded by Christiana Care and the Delaware Department of Education, the trailblazing school has served more than 300 students since its founding in 1985.

“I had a gastric tube removed a few years back, and my nurse at school cleaned the wound while I healed so I didn’t miss school,” Taylor said.

“Learning to bounce back is one of the most important things you can do in your life,” she said.

Celebrating with the graduates were their families, friends, schoolmates, teachers, volunteers and health care professionals — all part of the student support network at the First State School.

“Our staff of teachers, nurses, doctors, psychologists and social workers collaborates to meet the educational, physical, emotional and social needs of the children we serve,” said Elizabeth Houser, MSN, RN, program director. “We also work closely with parents, primary care providers, specialists and resources

in the community that can help our students to thrive.” ●



*“Learning to bounce back is one of the most important things you can do in your life.”*

PATRICIA P. HOGE, PH.D., RN

CHRISTIANA CARE TRUSTEE AND 2016 COMMENCEMENT SPEAKER

## Junior Board's 2016 Medicine Ball raises thousands for new ACE unit at Wilmington Hospital



Honorary Medicine Ball Chair Sharon Kurfuerst, EdD, OTR/L, FACHE, FAOTA, FABC, senior vice president, health services operations; 2016 Medicine Ball co-chair JoAnn Vahey; Judith Knotts-Kirlan; 2016 Medicine Ball co-chair Chris Frysztacki; Patricia Curtin, M.D., FACP, CMD, medical director of the ACE unit; Paula Tomanovich, MSN, RN-BC, nurse manager of the ACE unit; and Honorary Medicine Ball Chair Edmondo Robinson, M.D., MBA, chief transformation officer.



The Junior Board of Christiana Care Inc.'s Medicine Ball on May 13 resulted in a gift of \$73,725 to Christiana Care for the new Acute Care for the Elderly (ACE) unit opening this fall on the 8th floor of the Carol A. Ammon South Tower at Wilmington Hospital.

Honorary Medicine Ball co-chairs Edmondo Robinson, M.D., MBA, chief transformation officer, and Sharon Kurfuerst, EdD, OTR/L, FACHE, FAOTA, FABC, senior vice president, health services operations for Christiana Care Health System, gave attendees some insight into the benefits and advantages of having a nursing unit that focuses on health care for the elderly.

"Dr. Robinson and I were delighted to be honorary co-chairs for the 2016 Medicine Ball" Kurfuerst said. "Much of our careers at Christiana Care have been at Wilmington Hospital, and we have seen time and again the difference the ACE Unit makes in the lives of our older patients and their families. The new ACE Unit has been an important project for both of us, and we are thrilled to see it coming to fruition.

"We designed the ACE Unit for the unique care needs of elderly patients — needs that can change quickly or mask other issues. A mild fever in an elderly patient can cause confusion, leading to a fall and to a bone fracture. Mild problems can quickly exacerbate illness. Funds raised for the ACE Unit will go directly to the patient environment, equipment and materials that can sustain and improve functional, psychosocial and cognitive abilities — the keys to independent living.

The check was presented at the Junior Board's General Membership Luncheon on June 7. ●



Junior Board vice president of External Affairs Judith Knotts-Kirlan; Carroll M. Carpenter, chair of Christiana Care Trustees; and Patricia Curtin, M.D., FACP, CMD, medical director of the ACE unit.



Junior Board President Elect Georgianna Riley and her husband Paul have their caricature sketched at the Medicine Ball.



Junior Board of Christiana Care Inc. board members Diane Thomas, Ann Kappel, Georgianna Riley, Medicine Ball fundraising chair for the Wayfinding project Nancy Klein, Terry Foraker, MSN, RN, ONC, director of operations, Wilmington Hospital, Peggy Tracy, and Nancy Rich are recognized for the Junior Board's leadership gift to support the new computerized wayfinding system.

## Digital 'wayfinding' system helps visitors navigate Wilmington Hospital

Thanks to a new digital wayfinding system, guests at Wilmington Hospital can quickly get clear, easy-to-understand directions to lead them to their destination.

Launched in February, the system includes a digital kiosk that visitors can use to find and print directions the places they want to go. It's designed as a self-service system, but "if they need help, a staff member or volunteer can walk them through it," said Jill Karpinski, corporate director, Facilities Engineering.

Visitors can search for a patient room number, a department, a unit name or a conference room. Information includes a map and printed directions in large-font type.

Sponsored in collaboration with the Junior Board, the wayfinding system was three years in the making.

"The Junior Board was enthusiastic about supporting this new technology," said Nancy Rich, president. "Our goal was to help patients and visitors reach their destinations more easily and without stress. Visiting a hospital can be confusing for first-time visitors, and we want to help alleviate as much anxiety as we can."

Karpinski said the \$210-million expansion of Wilmington Hospital brought home the need for a wayfinding system.

"Wilmington Hospital is an entire city block, with essentially one entrance," she said. "Google can direct you to the hospital, but it doesn't help you once you get inside."

To provide a system that is accessible to everyone, the team focused on technologies that don't require visitors to have a smartphone.

"As the Wilmington Hospital Campus grew, so did our need to increase the navigation tools we had available to better serve our patients and families," said Margarita Rodriguez-Duffy, director, Visitor and Volunteer Services. "Through this new wayfinding technology, our team has another way to partner with our visitors to ensure that they get to their destinations in a timely fashion."

The wayfinding system has the ability to expand, based on feedback from visitors and staff. An upgrade that would include information on individual health care providers and their office locations is in the planning phase.

"This kind of technology gives us the ability to serve our neighbors in multiple ways," Karpinski said. "When someone visits the hospital, our goal is to make that experience as smooth and welcoming as possible." ●



Sandy Reddy, BSN, RN, finds some materials with passed expiration dates, which can be recycled for training purposes at the Virtual Education and Simulation Training center.

## Green Patient Care Area award recognizes environmental stewardship efforts

**S**andra Reddy, BSN, RN, is known to patrol the MRI department, searching for recyclables that have gone astray.

“If I see something that doesn’t belong there, I have a fit,” she said. Her team shares her commitment. “If somebody’s new, they get reminded real fast,” she said.

It’s this type of environmental stewardship that won Reddy’s department the distinction of being a Green Patient Care Area.

The MRI unit is one of 24 patient care areas and offices at Christiana Care Health System to apply for and receive the award in its inaugural year. To qualify, a unit had to achieve 15 of 21 specific actions, such as auditing their waste stream, recycling, setting printers to double-sided default, eliminating plastic foam cups and other items, turning off lights and not using space heaters.

“The purpose of the program is to spread the word and get these green practices used across the organization,” said Bob Mulrooney, vice president for Facilities and Services. “There’s a lot these departments can do.”

The Green Unit distinction, awarded by Christiana Care’s Environmental Stewardship Committee, reflects the health system’s growing commitment to energy efficiency and preserving the environment.

“We’re in the business of health care, and the things we do here can impact the environment and the health of the community,” Mulrooney said. “If we’re not releasing carbon emissions or generating as much waste, we’re not taking up landfill space, they’re not dealing with stuff leaching out. It’s part of our commitment to the community.”

The overarching goal, he said, is to reduce Christiana Care’s environmental footprint by using less energy in general and, in particular, less that is generated from fossil fuels, minimizing waste and encouraging recycling. The health system currently diverts 25 percent of its waste from the landfill, Mulrooney said.

Christiana Care recently installed a 2-megawatt combined heat and power plant at the campus, which captures the heat from generating power and uses it to produce steam and hot water

CONTINUED

for the HVAC system, laundry, kitchen and sterilization processes. In addition to providing clean energy, the natural gas-fired system will pay for itself in four years, Mulrooney said.

The health system also has a power purchase agreement to buy 15 percent of the energy generated by a Pennsylvania wind farm.

Reddy said the MRI Department does its part by instituting an efficient supply-ordering system, using personal mugs, water jugs and utensils, and donating its extra or expired equipment to Christiana Care's Virtual Education and Simulation Training Center. Staff members also bring in fruits and vegetables from their gardens to share.

"It's the right thing to do," Reddy said. "As environmentalists, we like to recycle, reuse and reduce."

This may be the first time Christiana Care's Adult Day Program received a Green Unit award, but it's been employing green practices such as recycling since its inception in 1994.

Program Director Gayle Pennington, MS, MA, NCC, ADC, RSME, who has been with the program since 1996, said being green is second nature to her.

"I grew up with grandmothers who saved everything and reused it," she said. "A lot of the people who I have in the program miss that time period."

*"We're in the business of health care, and the things we do here can impact the environment and the health of the community."*

BOB MULROONEY, VICE PRESIDENT FOR FACILITIES AND SERVICES

Part of the program's dedication to environmentally friendly practices stems from the small staff's interest, she said. As a practical matter, it's also necessary.

"We run off a small budget, so we're always looking for ways to be creative and use what is available to us," she said.

Staff members also have a garden where they and their clients grow peas, Swiss chard, sunflowers, peppers, tomatoes and Chinese green beans. They bring in extra plants and seeds from home and use their crops in salads at lunch.

Pennington said they take the metal rods from old hanging folders to stake the plants.

"We're just really trying to be environmentally aware," she said. "We use anything we can find. Reusing materials and being creative is therapeutic for our clients." ●



Green Patient Care Area award recipients at the Christiana campus MRI unit are committed to being responsible stewards of resources and the environment.



## Joan Pirrung appointed director of clinical operations for Christiana Care Trauma Program

Joan Pirrung, MSN, APRN, ACNS-BC, has been promoted to director of clinical operations for the Trauma Program and will have trauma center administrative oversight of the trauma programs at both Christiana and Wilmington Hospitals.

Pirrung has been a nurse for 25 years, a trauma surgical nurse for 23 years, and she was the Trauma Program manager for the past 14 years.

She is board certified as an adult clinical nurse specialist and holds several clinical certifications pertinent to the care of the trauma patient. She has served in a variety of leadership roles at Christiana Care, including nursing leader of Christiana Care's Musculoskeletal Service Line, nurse manager of TSU, patient care coordinator of the Surgical Critical Care Center and staff nurse committee chair for unit-based initiatives. She also assisted in building the initial Neuro Critical Care APC team.

Pirrung is an instructor for ATCN, TNCC, TOPIC, DMEP, BLS and PALS. She has published and speaks locally and nationally on both clinical and programmatic topics. She serves on several trauma-related committees internally and externally.

She is currently serving a one-year term as the national president of the Society of Trauma Nurses. ●



## Tabé Mase appointed director of Employee Health Services

Tabé Mase, MJ, MSN, FNP-C, CHC, joined Christiana Care as a staff RN in 1997.

She joined the Employee Health Services team as a nurse practitioner and credentialed member of the Medical-Dental Staff in 2007. She has since held positions of as staff nurse practitioner, clinical supervisor, clinical program manager and operations manager.

Mase received a Master of Jurisprudence in health law with honors from Widener University School of Law in 2011. She received an MS degree in nursing at Wilmington University, graduating magna cum laude in 2006; a Bachelor of Science in nursing from the University of Delaware, graduating cum laude in 1996; and bachelor's degrees in English and French linguistics from the University of Yaoundé, Cameroon, with honors in June 1992.

She completed the Christiana Care Frontline leadership course in 2009 and received a Christiana Care/University of Delaware-issued certificate in health care leadership in 2014. ●



## 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.

## Michelle L. Collins named director of Magnet Program

Michelle L. Collins, MSN, APRN, CNS, RN-BC, ACNS-BC, LSSBB, has been appointed director for the Magnet Program.

In this new role, Collins will collaborate with leaders on processes to enhance professional nursing practice across Christiana Care Health System, promoting an environment of interdisciplinary excellence that is patient-centric. She will ensure that the infrastructure and methods for achieving our third Magnet re-designation are developed, communicated and sustained through shared governance. The Magnet Recognition Program recognizes health care organizations for exemplary patient care, nursing empowerment, transformational leadership and innovations in professional nursing practice. It is a designation that serves as the ultimate credential for high-quality nursing care. She will report to the new chief nurse executive when one is selected, and in the interim, she will report to Sharon Kurfuerst.

“Having a dedicated director for the Magnet Program is one of the many ways we demonstrate our commitment to nursing excellence and how we continue to invest in our extraordinary people,” Kurfuerst said.

Collins joined Christiana Care initially from 1991 to 1995 as a critical care nurse resident and since returning in 2000 has taken on roles with progressive responsibility over her past 25 years in

nursing, including clinical nurse, cardiac case manager, staff-development specialist, nursing orientation and faculty coordinator, and manager for Nursing Professional Development. For the past five years, she has served as Christiana Care’s director for Nursing Professional Development with responsibility to improve our BSN and certification rates, enhance and expand our nurse residency programs, lead the Structural Empowerment component of Magnet, and manage wound ostomy continence nursing.

Collins received her bachelor’s degree in nursing and master’s degree in adult health nursing from the University of Delaware in 1991 and 2009, respectively. She is currently enrolled in a doctor of nursing practice degree program as a licensed and board-certified adult health clinical nurse specialist. She is a national speaker, author of multiple peer-reviewed publications and was a content editor for the most recent edition of the Core Curriculum for Nursing Professional Development. She received her Juran Lean Six Sigma Green Belt in December 2014 and her Black Belt in February 2016. ●



## Christiana Care/UD Healthcare Leadership course graduates fourth class

Eighteen managers from across Christiana Care Health System completed the Christiana Care/University of Delaware certificate program in Healthcare Leadership May 10, with group presentations on their capstone projects at the John H. Ammon Medical Education Center.

The group represents the fourth cohort to complete the training program, which is sponsored by the Christiana Care Institute for Learning, Leadership and Development (iLEAD).

The curriculum consists of classroom sessions on advanced leadership topics, a presentation skills boot camp,



individual coaching sessions and a group project that challenges participants’ leadership skills.

The group projects, by title, and the group members were:

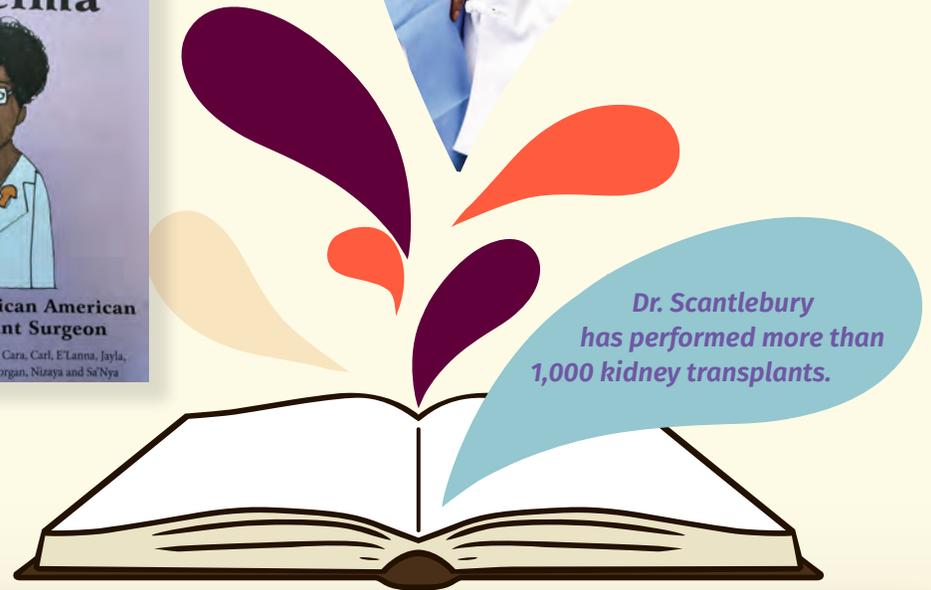
- “Walking the Way,” with **Catherine Burch, Jennifer Johnson, Roger Kerzner, Lauren Mahieu, and Deb Gigliotti.**
- “Is Your Workplace a Pain in the Neck?” **Krystal Coles, Amy Kohl, Anne Marie Messick, David Polk, and Danielle Weber.**
- “Employee Engagement: Not Just a Cookie,” with **Kandie Dempsey, John McMillen, Barb Stout, and Amy Whalen.**
- “Performance Evaluations: Transitioning to Meaningful Dialogues,” with **Suzanne Heath, Lauri Littleton, Pamela Ridgeway, and Leslie Stevens-Johnson.** ●

## Transplant surgeon presented with her biography crafted by children

**V**elma P. Scantlebury, M.D., FACS, associate director of the Kidney Transplant Program at Christiana Care, was formally presented with the book “The Story of Dr. Velma” by the Young Writers Workshop. Part of the Rose Hill Boys & Girls Club, the Young Writers Workshop selected Dr. Scantlebury as their inspiration. In 1989 she became the United States’ first African-American female transplant surgeon. In Dr. Scantlebury’s career, she has performed more than 1,000 kidney transplants.

“The Story of Dr. Velma” was entered into the national Kids Are Authors competition, offered by Scholastic Books, and earned honorable mention.

During the presentation, New Castle County Executive Tom Gordon, New Castle County Chief Administrative Officer Timothy Mullaney and New Castle County District 10 Councilman Jea Street congratulated Dr. Scantlebury for her service. ●



The Young Writers Workshop, part of the Rose Hill Boys & Girls Club, were inspired by the achievements of Velma Scantlebury, M.D.



## Radiologist Peter Dross honored with Global Humanitarian Award



Peter E. Dross, M.D., FACR, received the Global Humanitarian Award in May from the American College of Radiology Foundation.

Dr. Dross is a member of the board of directors of Serving at the Crossroads, an organization that built, equipped and supports a medical clinic with diagnostic imaging services in La Entrada, Honduras.

He assisted in acquiring radiological equipment for the group and continues to provide on-site education and training to hospital staff. An attending physician in the radiology department at Christiana Care, Dr. Dross also is a clinical assistant professor of radiology at Thomas Jefferson University in Philadelphia. ●

Radiologist Peter E. Dross, M.D., FACR, right, receives the ACRF's Global Humanitarian Award, presented by Howard Fleishon, M.D., FACR, MMM, American College of Radiology Board of Chancellors. He is one of only three radiologists ever to have received a Global Humanitarian Award from the American College of Radiology Foundation.

## Christiana Care radiologists inducted as ACR Fellows

Peter Dross, M.D., Howard Levy, M.D., Alan B. Evantash, M.D., who retired in October, and Jacqueline S. Holt, M.D., chief, Breast Imaging at Christiana Care, were inducted as Fellows of the American College of Radiology (ACR), one of the highest achievements in the field of radiology, in May during the ACR 2016 conference "The Crossroads of Radiology" in Washington, D.C. ●



## Publishing

**Muge Capan, Ph.D., Stephen Hoover, MS,** and **Eric V. Jackson, M.D., MBA.** “Time Series Analysis for Forecasting Hospital Census: Application to the Neonatal Intensive Care Unit.” *Applied Clinical Informatics*. 2016.

**Mark D. Cipolle, M.D., Ph.D., Danielle L. Mosby, MPH,** et al. “Determining the Magnitude of Surveillance Bias in the Assessment of Lower Extremity Deep Venous Thrombosis: A Prospective Observational Study of Two Centers.” *Journal of Trauma and Acute Care Surgery*. May 2016.

**Ursula Guillen, M.D., Amy Mackley, MSN, RNC, CCRC,** and **Robert Locke, D.O., MPH.** “Parental and Staff Perspectives of NICU Research Procedures.” *BMC Pediatrics*. 2015.

**Kristen E. Miller, Dr.PH., MSPH,** et al. “Predicting Violent Behavior in Clinical Settings: A Case-Control Study of a Mental Health Inpatient Unit.” *Journal of Healthcare Protection Management*. June 2016.

**David A. Paul, M.D., Matthew Hoffman, M.D., MPH, Robert Locke, D.O., MPH,** et al. “Variation in NICU Admission Rates Without Identifiable Cause.” *Hospital Pediatrics*. 2016

**Jamie M. Rosini, Pharm.D., Joshua J. Davis, BA, Jeffrey Muenzer, M.D., Brian J. Levine, M.D., Dominique Comer, Pharm.D., MS, Ryan Arnold, M.D.,** et al. “High Single-Dose Vancomycin Loading is Not Associated with Increased Nephrotoxicity in Emergency Department Sepsis Patients.” *Academic Emergency Medicine*. June 2016.

**Anthony Sciscione, D.O.,** et al. “Dichorionic Twin Trajectories: the NICHD Fetal Growth Studies.” *American Journal of Obstetrics and Gynecology*. April 2016.

**Robert L. Witt, M.D.** “What is the Best Treatment of Incidental Papillary Thyroid Microcarcinoma?” *The Laryngoscope*. April 2016

## Presentations

**Becky Boyd, RD, LDN, CNSC.** “Barriers to Billing for Nutrition Services in an Outpatient Oncology Center.” Poster at the 2016 Oncology Nutrition Dietetic Practice Group (ONDPG) Symposium. Glendale, Arizona. April, 2016.

At the Academy Health Annual Research Meeting. Boston. June 26-28, 2016:

- **Dominique Comer, Pharm.D., MS, Angela Parker, MSN, RN-BC, Devida Long, BA, EMPH, Emily Wunsch, Bernadette Baker, MSN, APRN, NP-C, Tamekia Thomas, MSN, APRN, ACNS-BC, PCCN, Denise Taylor, MS, RD, Brian Rahmer, Ph.D., MS, Edward Goldenberg, M.D., Ray Blackwell, M.D., Elisabeth Bradley, MS, APRN, AGPCNP-BC,** et al. “Each One, Reach One! Improving Blood Pressure Awareness in the African American Community Using Peer Education.”

- **Susan Smola, J.D., MBA, Richard Caplan, Ph.D., Michele Campbell, RN, MSN, Christine Carrico, MSN, RN, Mitch Fawcett, MBA, Eric Jackson, M.D., MBA.** “Measuring the Impact of Culture of Safety on Patient Satisfaction.”

- **Susan Smola, J.D., MBA, Danielle Mosby, MPH,** et al. “Medical Home without Walls: Voices of High Utilizers in a Patient-Centered Community Based Intervention.”

- **Susan Smola, J.D., MBA, Robert Locke, D.O., MPH, Brenda Pierce, J.D., BSN, David Paul, M.D., Julie H. Silverstein, M.D.,** et al. “Medical-Legal Partnership: Integrating Attorneys with Clinical Teams to Address Social Determinants of Health.”

- **Susan Smola, J.D., MBA, Danielle Mosby, MPH, Claudine Jurkovitz, M.D., MPH.** “Medical Home without Walls: Employing a Patient Engagement Model in Program Evaluation.”

- **Susan Smola, J.D., MBA, Danielle Mosby, MPH, Brittany Cheadle, BA, Mitch Fawcett, MBA, Zugui Zhang, Ph.D., Diane Bohner, M.D., Eric Jackson, M.D., MBA, Claudine Jurkovitz, M.D., MPH.**

“Medical Home without Walls: A Innovative Community-Based Intervention Targeting Patients with Multiple Complex Chronic Conditions.”

- **Danielle Mosby, MPH, Bailey Ingraham Lopresto, MS, Alfred Bacon, M.D., Susan Levy, M.D., MPH.** “Systematic Review of Fecal Microbiota Transplantation in the Treatment of Pediatric Clostridium Difficile Infection and Inflammatory Bowel Disease.”

- **Surekha Bhamidipati, M.D., Kimberly D. Williams, MPH, Bailey C. Ingraham Lopresto, MS, LeRoi S. Hicks, M.D., MPH.** “Impact of Interdisciplinary Rounding with a Hospitalist on Patient Outcomes and Experience.”

- **Kimberly D. Williams, MPH, Alan L. Schwartz, Psy.D., Susan Smola, J.D., MBA, Julie H. Silverstein, M.D., Erin Booker, LPC, Linda J. Lang, M.D.** “Integrating Behavioral Health into Primary Care: An Evaluation of Patient and Provider Experiences with Behavioral Health Consultant Services.”

At the Annual Meeting of the College on Problems of Drug Dependency, Palm Springs, California, June 2016:

- **Yukiko Washio, Ph.D., Neal D. Goldstein, Ph.D., Richard Butler, MS, Stephanie Rogers, MSN, RN, David A Paul, M.D., Mishka Terplan, M.D., MPH,** and **Matthew Hoffman, M.D., MPH.** Poster. “Prevalence of Prenatal Cigarette Smoking and Marijuana Use in North Delaware State.”

- **Terry Horton, M.D., Beverly Wilson, Mark Lanyon, Claudine Jurkovitz, M.D., MPH,** and **Yukiko Washio, Ph.D.** “Mother and Child: Improving the Health of Opiate Dependent Mothers and Their Babies Using a Community-Based Peer Counselor.”

- **Elizabeth Zadzielski, M.D., MBA, FACOG, Stephanie Rogers, MSN, RN, Stefanie Gargano, M.D.,** and **Yukiko Washio, Ph.D.** “Group Prenatal Care – Providing Obstetric Care in a Community – Based Substance Abuse Treatment Center.”

CONTINUED

**John Emberger, RRT-ACCS, FAARC, CPHQ**, gave two lectures at the 2016 PSRC Pulmonary Seminar. "How Do I Protect My Patient's Lungs?" and "Performance Improvement & Process Improvement." Williamsport, Pennsylvania. May 2016.

**Matthew K. Hoffman, M.D., MPH.** "Management of Post-Partum: New Approaches." American Congress of Obstetricians and Gynecologists Educational Meeting. Dover. June 2016.

**Kristen Miller, Dr.PH., MSPH, Michele Campbell, MSM, RN, CPHQ.** "Improving Infusion Pump Safety through Usability Testing." National Patient Safety Foundation 18th Annual National Patient Safety Congress: The Heart of Safety. Scottsdale, Arizona. May 2016

**Kristen Miller, Dr.PH., MSPH, Muge Capan, Ph.D., Danielle Mosby, MPH, Jun Tao, MS, BS, Ryan Arnold, M.D.,** et al. "Sepsis Visual Risk Profiling Model." 6th Biennial National

IDeA Symposium of Biomedical Research Excellence. Washington, D.C. June 2016.

**Kristen Miller, Dr.PH., MSPH.** The CONNECTED Patient- A Randomized Controlled Trial: Continuous Electronic Cardio-respiratory Tracking for ED Sepsis Patients." University of Delaware Biomedical Engineering Research Symposium. Newark. June 2016.

**Stephen A. Pearlman, M.D., MSHQS**, gave a coding seminar at Lehigh Valley Hospital in Allentown on May 18, 2016.

At the American Congress of Obstetricians and Gynecologists Annual Clinical and Scientific Meeting, Washington, D.C. May 16, **Anthony Sciscione, D.O.**, presented:

- The Samuel A. Cosgrove Memorial Lecture Debate: "Is There a Place For Outpatient Pre-Induction Cervical Ripening at Term?"
- The Gerald and Barbara Holzman Stump the Professors event.

## Appointments

**Elliott Leitman, M.D.**, was appointed Manuscript Reviewer for the journal Orthopedics.

**Stephen Pearlman, M.D., MSHQSD**, was appointed to a national committee of the American Academy of Pediatrics on Child Health Financing.

The Professional Advancement Council has announced six promotions to RN III. Congratulations to **Daniel Zirolli**, eCare, **Megan Bastianelli**, 4D, **Krysti Urban**, Radiology, **Lelia Williams**, 6B, **Amanda Williams**, 4 N/S, and **Tamie Hotchkiss**, NICU.

## Awards

**Julie Mullins, RN**, of 5C received the DAISY Award for Extraordinary Nurses for the month of May 2016. ●

## Best practice review

### OXYGEN CYLINDERS

#### Q. WHY MUST OXYGEN CYLINDERS BE SECURED?

- A. Oxygen is stored in cylinders at extremely high pressures. Improperly handling or storing compressed gas cylinders could result in a sudden release of pressure causing the cylinder to become a missile-like projectile and potentially injuring patients or staff.

**Never** leave a cylinder standing free or unsecured on top of a patient bed.

#### Q. HOW SHOULD OXYGEN CYLINDERS BE SECURED?

- A. Store cylinders in an upright position in a designated oxygen cylinder rack, stand, cabinet or secured with chains or sturdy straps to prevent falling or rupture. Oxygen cylinders must be secured at all times.

#### Q. HOW DO I SECURE THE OXYGEN CYLINDER DURING PATIENT TRANSPORT?

- A. Secure the cylinder in the designated holder or carrier on the bed, stretcher or wheelchair. Oxygen cylinders should **never** be placed on top of the bed, stretcher or wheelchair.

#### Q. WHAT SHOULD I DO IF I SEE AN OXYGEN CYLINDER NOT PROPERLY SECURED?

- A. Immediately secure the cylinder by placing in a designated rack, stand, or holder. ●

*If you have questions about this Best Practice Review, please contact the Office of Safety and Emergency Management, 302-733-3914, or call the Safety Hotline – 7233 (SAFE) from within Christiana or Wilmington hospitals, or 623-7233(SAFE) from outside.*

## Residents inducted into Gold Humanism Honor Society

**F**ive physicians training in Christiana Care's graduate medical education programs were inducted into the Gold Humanism Honor Society (GHHS) and recognized as outstanding role models for compassionate care at the Sidney Kimmel Medical College of the Thomas Jefferson University in Philadelphia.

"The recipients of this award are clearly role models for physicians in training as they exemplify compassionate, patient-centered care and strong leadership. We are extremely proud of this honor, and they absolutely deserve it," said Brian Jay Levine, M.D., FACEP, FAAEM, residency program director in the Department of Emergency Medicine.

The national honor society was established in 2002. More than 20,000 medical students, residents and faculty, have been inducted for exceptional clinical care and compassionate leadership. At Thomas Jefferson University, the GHHS chapter is in its sixth year, though this is the first year that the chapter

has inducted residents, and 21 doctors were in the first class of residents.

Neil Jasani, M.D., MBA, FACEP, chief academic and learning officer and vice president of Medical Affairs of Christiana Care, assisted with the nominations.

"This award honors our resident physicians who personify all the qualities that we hold near and dear in our clinicians and embodies The Christiana Care Way, where we pledge to serve our neighbors as respectful, expert, caring partners in their health," Dr. Jasani said. ●

### Congratulations to the inductees of the Golden Humanism Honor Society:



**Owen Beams, M.D.**  
EM-2



**John J. Campbell, D.O.**  
EM/IM-2



**Rachel E. Carter, M.D.**  
EM/FM-4



**Amanda Cooper, D.O.**  
FM-3



**Erica Hellman, M.D.**  
OG-3

*"The recipients of this award are clearly role models for physicians in training as they exemplify compassionate patient-centered care and strong leadership."*

BRIAN JAY LEVINE, M.D., FACEP, FAAEM  
RESIDENCY PROGRAM DIRECTOR, DEPARTMENT OF EMERGENCY MEDICINE



The program embraces a train-the-trainer model that focuses on Christiana Care faculty — professionals who already possess the requisite quality improvement and safety skills — with a view to transform them into first rate instructors and teachers.

## Advanced Quality & Safety Improvement Science Program notches another successful training session

The 2015-2016 Advanced Quality & Safety Improvement Science Program (AQSISP) at Christiana Care concluded in May with 15 presentations by physicians and clinical leaders, including an advanced practice nurse, pharmacist and an administrative leader who completed the course, which was designed to provide knowledge and skills in teaching improvement and safety.

This program embraces a train-the-trainer model that focuses on Christiana Care faculty — professionals who already possess the requisite quality-improvement and safety skills — with a view to transform them into highly skilled instructors and teachers.

“The AQSISP aims to develop skills to teach and to lead the incorporation of continuous performance improvement and safety principles into all education curricula and into clinical practice by working with the entire Christiana Care health care community, thereby improving the quality of care we deliver,” said Robert M. Dressler, M.D., MBA, Quality and Safety Officer, Academic and Medical Affairs.

At the final meeting at the John H. Ammon Medical Education Center, each of the 15 participants presented their projects — its aims, background, interventions tested (or implementation plan), results (where available), and perhaps most importantly, the discussion and conclusions (lessons learned). ●

*“The AQSISP aims to develop skills to teach and to lead the incorporation of continuous performance improvement and safety principles into all education curricula and into clinical practice by working with the entire Christiana Care health care community, thereby improving the quality of care we deliver.”*

ROBERT M. DRESSLER, M.D., MBA  
QUALITY AND SAFETY OFFICER, ACADEMIC AND MEDICAL AFFAIRS

**Enrollment for the next cohort of learners is under way.**  
Contact Robert M. Dressler, M.D., MBA, at [rdressler@christianacare.org](mailto:rdressler@christianacare.org)  
or Loretta Consiglio-Ward, MSN, at [consiglio-ward@christianacare.org](mailto:consiglio-ward@christianacare.org).

## Hospitalist-led study highlights need for more research on team-based rounds

While team-based rounds are largely viewed by health professionals as an effective way to improve patient care, a Christiana Care-led analysis recently published in the *Journal of Hospital Medicine* found that there is little evidence in medical literature that reveals the outcomes of these kinds of rounds.

“On its surface, team-based rounds make sense, but our study shows that we have yet to know the true impact of these rounds on important care measures such as patient outcomes and patient experience,” said lead study author Surekha Bhamidipati, M.D., a hospitalist with Christiana Care Hospitalist Partners and a scholar with Christiana Care’s Value Institute. “This is not to say that these rounds aren’t important. Rather, we want to encourage researchers and providers to more thoughtfully design team-based rounds so they can measure their value.”



Interdisciplinary rounds are practiced in a variety of ways at Christiana Care and across the nation.

*“Future team-based rounds — also known as interdisciplinary rounds — should be designed to ensure the most appropriate health professionals are participating in the rounds and should include discussions amongst the rounding team on patient outcomes and patient participation.”*

SUREKHA BHAMIDIPATI, M.D., SCHOLAR, CHRISTIANA CARE VALUE INSTITUTE



from these rounds, there was a lack of data to show the effect on patient safety and patient experience. Various types of team-based rounds were analyzed during the study.

“We believe standardization is key for both the design of these rounds and for the taxonomy of these studies, in order to advance this field of research,” said Dr. Bhamidipati, who, as a hospitalist, specializes

in the care of hospitalized patients at Christiana Hospital and helps to coordinate the care for patients once they are admitted to the time they are discharged.

Dr. Bhamidipati conducted the study as a scholar in Christiana Care’s Value Institute, which was established in 2011 to embed population-based research expertise in an independent academic health system, creating a unique institution that conducts real-world research on today’s most pressing health care issues through collaborations among researchers, patients, health care providers and policymakers.

Christiana Care Value Institute colleagues listed with Dr. Bhamidipati as coauthors of the study include Kimberly D. Williams, MPH, Bailey C. Ingraham Lopresto, MS, and LeRoi S. Hicks, M.D., MPH. ●

“Future team-based rounds — also known as interdisciplinary rounds — should be designed to ensure the most appropriate health professionals are participating in the rounds and should include discussions amongst the rounding team on patient outcomes and patient participation,” Dr. Bhamidipati said.

In a review of 22 studies, the authors found that there was no clear definition of team-based rounds, which are a patient-centered model of care where different disciplines come together to coordinate care and is becoming a standard of care for U.S. hospital patients.

In addition, there was a wide variation in both the design and team composition of these rounds. While there was some data that showed improvements in length of stay and staff satisfaction

## July

### Smoking Cessation Program

Every Tuesday, 10:30 a.m. – 1:30 p.m.

Helen F. Graham Cancer Center & Research Institute

If you want help with quitting a tobacco addiction, check out this face-to-face smoking-cessation program, which helps you identify situations that trigger you to smoke and develop strategies to kick the habit. A trained smoking cessation counselor meets with you three times in a month to help you plan for a tobacco-free life.

To register, call 800-693-2273. For additional information about this free program, call 302-623-4661.

### Freedom from Fractures

#### FREE Bone Health Screening and Consultation

Saturday, July 9,  
10 a.m. – 2 p.m.

John H. Ammon Medical Education Center



 Two million preventable fractures occur each year, and 50 percent of all Americans over age 50 will have a life-altering fracture. At this health and screening event you can learn how to reduce your risk of having a fracture; learn your risk level based on your personal clinical factors; and talk with peer educators about next steps for taking control of your bone health.

### Kidney Transplant Patient Education Workshop

Sunday, July 24, 12:30 – 3 p.m.

Hilton Wilmington/Christiana, 100 Continental Drive, Newark

Christiana Care experts offer presentations and screenings to provide important information to patients, caregivers and families on transplantation before and after the start of dialysis.

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



## August

### Delaware Donor Dash

Saturday, Aug. 6, 8:10 – 9:30 a.m.

Wilmington Riverfront, Dravo Plaza

The Delaware Donor Dash is a 5k walk/run event that benefits organ and tissue donation and transplantation initiatives in Delaware. The 8:10 a.m. event start-time is an estimate based on the agenda for the 2015 event. For more information and to register, visit <http://www.dedonordash.org>.

### INBRE Scholars Research

Friday, Aug. 19, 11:30 a.m. – 1:30 p.m.

John H. Ammon Medical Education Center

The Delaware IDEA Network of Biomedical Research Excellence (INBRE) and The Value Institute are hosts of the 2016 Scholars Research Day & Luncheon, an annual lunch and networking event that features student researchers providing their findings on research topics aimed at improving the delivery of health care in partnership with their Christiana Care mentors. Registration is limited to 150 people. Visit <https://events.christianacare.org>.



We've got  
heart  
& sole



### Save the Date!

#### The American Heart Association's 25th Annual Heart Walk

Sunday, 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.

To register a walking team at <http://www.heart.org/wilmingtonwalk>, click on

"Participant Registration." Individuals can join one of the several teams from Christiana Care already listed on the site or start a new team. Register to receive one of 1,000 Christiana Care Heart Walk T-shirts reserved for employees and their team members.

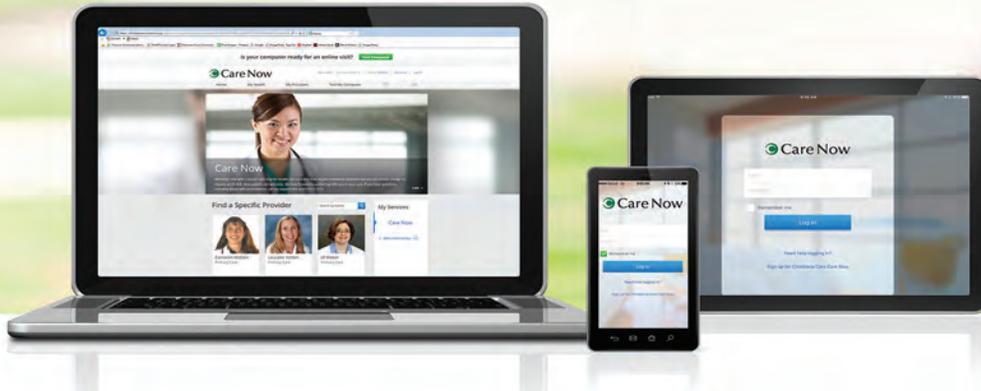
### 2016 Cancer Symposium

Thursday, Sept. 22, 6 – 8:30 p.m.

John H. Ammon Medical Education Center

Topic: Lung Cancer Screenings: Results of the Statewide Program and Christiana Care's Program will provide the screening results and discuss shared decision making modules for lung screenings. A panel discussion will follow. Registration information will be e-mailed soon. Mark your calendars!

## Care Now Telehealth option for employees



On July 5, Christiana Care launches the Care Now telehealth program to help employees and covered dependents receive health care in a secure, fast and easy way, 24 hours a day, seven days a week. Care Now allows you to connect through video with a doctor quickly and easily with your mobile device, tablet or personal computer. It's free to enroll and there is no copay through the end of the year.

If you are at work and would like to connect to Care Now, you can use the kiosk set up in Employee Health at Wilmington Hospital. Look for a similar

kiosk at Employee Health at Christiana Hospital in coming weeks.

Care Now is a partnership with American Well, one of the largest telehealth operators in the U.S., covering more than 23 million people.

“Christiana Care greatly values and understands the vital role of the primary and specialty care physician in employee health and well-being,” said Chris Corbo, corporate director of Benefits and Wellness. “Care Now is a supplemental service to use when your doctor’s office is closed, your children need immediate care or you are traveling for work or

### How to get started

Download the iOS or Android Christiana Care Care Now app from the iOS App Store or Google Play Store.

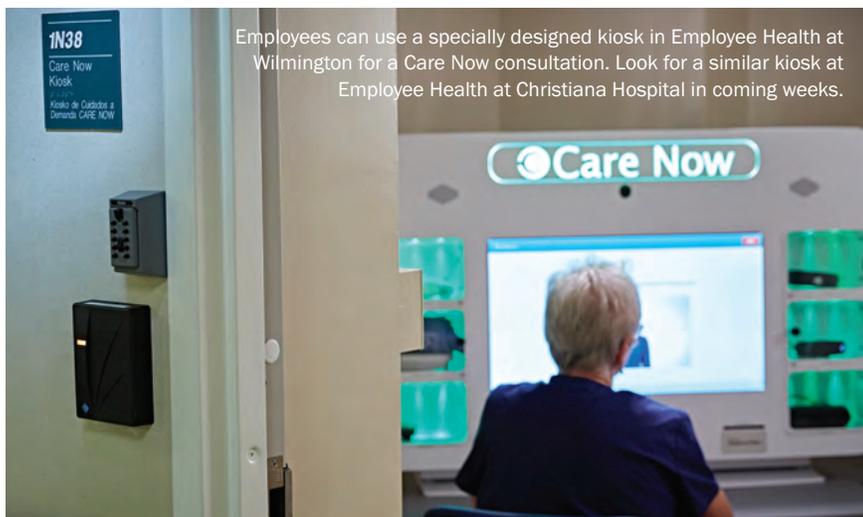
Or sign-up online at <http://www.christianacare-carenow.org>.

Be sure to sign up early, before you actually need to use Care Now.

vacation and need a doctor. Through this partnership, we are offering this innovative technological solution to help achieve optimal health and an exceptional experience.”

With Care Now, employees can have a private, secure video visit with a board-certified doctor at any time of the day or night, 365 days a year.

Care Now covers your health concerns that require immediate attention, such as colds, flu, sprains or strains or if you are simply not feeling well, but it is not intended for concerns serious enough to require a visit to the Emergency Department. Eventually, Care Now will offer access to behavioral health professionals, care coordinators through Christiana Care’s Care Link and primary care doctors. ●



Employees can use a specially designed kiosk in Employee Health at Wilmington for a Care Now consultation. Look for a similar kiosk at Employee Health at Christiana Hospital in coming weeks.

# Hypercalcemia of malignancy: pharmacologic management

By Krystal Canally, Pharm.D.

Hypercalcemia of malignancy occurs in approximately 20 to 30 percent of patients with cancer and is the most common cause of hypercalcemia in hospitalized patients. It can occur in solid tumors or hematologic malignancies and is considered an oncologic emergency as it can lead to progressive mental impairment, renal failure, and coma. It is important to remember that ultimately, the cause of the hypercalcemia must be treated and antihypercalcemic therapy merely buys time until the patient can receive treatment for the underlying disease. General supportive measures, such as removal of calcium from total parenteral nutrition, discontinuation of calcium supplements and medications that may independently cause hypercalcemia (e.g., lithium, calcitriol, vitamin D, and thiazides) is also important and often forgotten in the management of hypercalcemia of malignancy.

Hypercalcemia is associated with a variety of clinical manifestations ranging from mild symptoms (e.g. constipation or nausea) to severe symptoms (e.g. renal failure, severe mental status changes, or coma). These patients are often substantially dehydrated and initial therapy involves saline hydration at 200-300 ml/hr with careful monitoring to avoid fluid overload. After adequate fluid hydration has been achieved, loop diuretics may be used to increase the renal excretion of calcium or in cases of fluid overload. Loop diuretics are used less commonly since the advent of bisphosphonates and should not be considered a mainstay of treatment for patients with hypercalcemia.

Intravenous bisphosphonates are considered the most effective agents for the treatment of hypercalcemia of malignancy. It is important to note that orally administered bisphosphonates are poorly absorbed and should not be used. Bisphosphonate therapy requires two to four days to decrease the serum calcium levels

and should be initiated as soon as hypercalcemia of malignancy is detected. Approximately 60 to 90 percent of patients achieve normal calcium levels within four to seven days with responses lasting from one to three weeks. Either pamidronate or zoledronic acid are considered acceptable therapies and the choice of agent is a matter of convenience and cost. Zoledronic acid is administered over 15 minutes, whereas pamidronate requires a longer infusion time but is less expensive. Bisphosphonates have been associated with azotemia and patients should be adequately hydrated prior to bisphosphonate administration. Caution should be used when considering bisphosphonate therapy in patients with severe renal impairment and the risk of therapy versus benefit should be evaluated. Patients who do not respond to bisphosphonate therapy should receive repeat dosing no more frequently than every 7 days and second-line agents can be considered in refractory cases.

Calcitonin is commonly used in conjunction with aggressive hydration and bisphosphonates, however its cost of therapy and lack of efficacy make this agent a less attractive option for the treatment of hypercalcemia of malignancy. Calcitonin rapidly decreases serum calcium, but only by approximately 1 mg/dl and due to tachyphylaxis, duration of therapy should not extend beyond 48 hours. The use of calcitonin should be reserved for patients who are severely symptomatic or as second-line in refractory cases.

Denosumab, a non-formulary medication, is the newest FDA approved agent for the treatment of hypercalcemia of malignancy that is refractory to bisphosphonate therapy. Additionally corticosteroids may be added in refractory cases, but adverse effects often limit chronic use of steroids. ●

**TABLE 1. TREATMENT OF HYPERCALCEMIA**

Treatment	Dose	Onset of Action	Duration of Action	Cost of Therapy
Hydration	200-500 ml/hr	Hours	During infusion	~\$10 per day
Furosemide	20-40 mg IV, after rehydration	Hours	During therapy	\$3 per vial
Pamidronate	60-90 mg IV over 4 hours	24 to 72 hours	2 to 4 weeks	\$25-30 per dose
Zoledronic acid	4 mg IV over 15 minutes	24 to 72 hours	2 to 4 weeks	\$42 per dose
Denosumab**	120 mg SubQ every 4 weeks	9 days	4 weeks	\$2,200 per dose
Glucocorticoids	Prednisone 60 mg orally daily for 10 days	2 to 5 days	Days to weeks	\$5 for 10 days
Calcitonin	4-8 IU/kg SubQ or IM every 12 hours	4 to 6 hours	48 hours	\$2,200 per dose

IV: intravenous; IU: international units; SubQ: subcutaneously; IM: intramuscularly; \*\*Non-formulary agent

#### References:

1. Stewart AF. Clinical practice. Hypercalcemia associated with cancer. *N Engl J Med* 2005;352:373
2. Machado CE, Flombaum CD. Safety of pamidronate in patients with renal failure and hypercalcemia. *Clin Nephrol* 1996;45:175
3. Lumachi F, Brunello A, Roma A, et al. Cancer-induced hypercalcemia. *Anticancer Res* 2009;29(5):1551



**CHRISTIANA CARE**  
HEALTH SYSTEM

External Affairs  
P.O. Box 1668  
Wilmington, DE 19899-1668  
www.christianacare.org

PRSR STD  
U.S. POSTAGE  
PAID  
WILMINGTON DE  
PERMIT NO. 357

*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](http://christianacare.org/donors).*

## Delaware Subaru car dealership gives \$10,000 to support NICU babies and families



Christiana Care Health System Trustee Michael Uffner and his team at Delaware Subaru delivered a generous gift to Christiana Care. From left, Carroll M. Carpenter, chair of Trustees at Christiana Care, Lee Asher, AutoTeam Delaware general manager, Katie Loizeaux of Viemark Advertising, Michael Uffner, Andrew Raszewski, Subaru district sales manager, Janice E. Nevin, M.D., MPH, president and CEO of Christiana Care, and Nick Gianakis, Subaru sales manager.

Christiana Care Health System Trustee Michael Uffner and his team at Delaware Subaru delivered a generous gift to Christiana Care with proceeds from his dealership's "Share the Love" campaign to support the special needs of babies in the Neonatal Intensive Care Unit (NICU) and their parents through the Kitty Esterly, M.D., NICU Special Needs Fund.

Uffner is president, chairman and CEO at Delaware Cadillac, Saab, Subaru, Kia and served as vice chair of Trustees at Christiana Care from 2010 to 2015.

In a special presentation at Christiana Care's Trustees meeting on May 19, Uffner and his Delaware Subaru colleagues gave nearly \$10,000 on behalf of Subaru

of America Inc. Subaru's "Share the Love" campaign contributes profits from sales and leases to benefit local organizations.

"Your leadership gift is an inspiring contribution to Christiana Care," said Trustee Chair Carroll M. Carpenter in accepting the gift. "This wonderful gift and the many ways you continue to support the health system are incredibly meaningful to our community."

"We could have chosen to support any of the wonderful nonprofits in our state, but we chose Christiana Care because of its significant impact on the health and future of our community," Uffner said. ●