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Upgrades roll out April 29

Gov. Markell praises Project SEARCH at Christiana Care



Gov. Jack Markell visited the first Project SEARCH classroom in Delaware at Christiana Care Health System.

Christiana Care is the inaugural employer in Delaware to host Project SEARCH, a nationally recognized program dedicated to job-skill training for individuals with disabilities. Project SEARCH helps candidates develop job skills needed to secure competitive employment and possess the self-confidence to enter the workforce after graduation.

"I am overjoyed to be here. This event is the highlight of my day," said Gov. Jack Markell. Addressing the student interns, he said, "You are learning skills here that will benefit you for the rest of your life."

The cornerstone of the project is total immersion in the employment environment coupled with continued classroom training and mentoring.

Nine students from the Red Clay Consolidated School district currently attend classes each day at Christiana Hospital to learn valuable workplace skills while also working as interns in several departments at the hospital.

"Our participation in the program is an example of how Christiana Care embraces innovative programs to benefit our community, transform the care we provide and add greater value by fostering learning and inclusion," said Robert J. Laskowski, M.D., Christiana Care president and CEO.

"Programs like this demonstrate how we can change our culture," said Mervin Daugherty, Ph.D., superintendent of Red Clay Consolidated School District.



A Special Gift

During the Wilmington Hospital expansion project topping out ceremony (see back cover), U.S. Air Force Major Jeff Matthew — also a Senior Project Engineer with SKANSKA USA Building, Inc., — presented to Dr. Laskowski a flag that he had flown on his KC-10A tanker aircraft over Afghanistan, to honor the Wilmington Hospital expansion project team.

Christiana Care leads the way in organ donations



Of the 130 hospitals in the tri-state region served by the Gift of Life Donor Program, Christiana Care ranks first in the number of families that have chosen to donate organs.

In 2011, 45 donors and their families gave 141 patients the lifesaving gift of a heart, lung, liver, pancreas or kidney. Another 94 donated bone, skin, cornea and heart-valve tissue, potentially saving the lives of or assisting more than 6,000 patients. This represents record participation from the communities Christiana Care serves.

Supporting Gift of Life

The success of the program stems from Christiana Care's strong support of the donation and transplant process and the supportive collaboration of Christiana Care's critical care teams and Gift of Life staff, according to Joanne Matukaitis, RN, director of Patient Care Services, Critical Care, and Christopher Schimpf, RN, Gift of Life Donor Program Hospital Services Coordinator.

When a patient is approaching death, with no chance of survival, Christiana Care staff begins working with Gift of Life. Together they coordinate all aspects of the donation process: supporting the family, obtaining consent, ordering appropriate tests, recovering the gifts, and following up with the family.

Some solace for families

"One of the aspects of organ and tissue donation that can be overlooked is the solace it can bring to donor families in the midst of their loss," says Schimpf. One mother of a 16-year-old girl, who donated her daughter's organs after a car accident, said that when the phone stopped ringing with people offering support, the only thing keeping her going was that her child saved eight lives. That knowledge was the only comfort she had in her grief. She called it her lifeline.

In our region, 6,482 candidates are on the waiting list, for organs. More than 113,000 candidates are waiting nationally. ●

To learn more, please visit www.donatelife-de.org, www.donatelife-pa.org, or www.donatelife-nj.org.

CONTINUED FROM COVER

Gov. Markell praises Project SEARCH at Christiana Care

"Everyone here is committed to our children. When we commit to our children, we bring about change in society."

Project SEARCH is seeking additional business sponsors in Delaware. Current partners include Christiana Care, the Red Clay Consolidated School District, Goodwill of Delaware and Delaware County, Inc., and the State of Delaware's Department of Education and Department of Labor, Division of Vocational Rehabilitation. ●



← **ON THE COVER:** Project SEARCH student intern Logan Alpaugh (standing), told others, including (from left), Christiana Care president and CEO Robert J. Laskowski, M.D., Red Clay Consolidated School District Superintendent Mervin Daugherty, Ph.D., and Delaware Gov. Jack Markell, that he gets respect, equal treatment and opportunities to learn new things at Christiana Hospital.

General internists: defining and delivering high-value care

Choosing treatment options for early stage prostate cancer is not like selecting the best electric screwdriver on the market, said Sean R. Tunis, M.D., keynote speaker at the 2012 Mid-Atlantic SGIM (Society of General Internal Medicine) regional meeting held March 16 at the John H. Ammon Medical Education Center.

More than 200 physicians attended the event titled “*Generalism on the Front Lines: Defining and Delivering High-Value Care.*”

Dr. Tunis, founder and director of the Center for Medical Technology Policy and past chief medical officer and director of the Office of Clinical Standards and Quality for the Centers for Medicare and Medicaid Services (CMS), spoke about “*Defining High-Value Health Care through Comparative Effectiveness Research.*”

He said CMS recruited him to create an evidence-based policy-making system for Medicare and Medicaid programs. He collected, reviewed and analyzed the scientific literature on paying for treatments such as a PET scan for Alzheimer’s disease or a defibrillator for cardiac care. “Every systematic review of the literature handed to us had serious defects that left significant uncertainties in what we could recommend,” he said.

Comparative effectiveness research, said Dr. Tunis, reduces the gaps in evidence if projects engage the decision makers themselves — patients, practicing clinicians and payers — to determine the most important unanswered questions.

Such research must:

- Inform clinical or health policy decisions.
- Compare at least two alternatives, each with potential to be a best practice.
- Achieve results at population and subgroup levels.
- Measure outcomes important to patients.
- Use methods and data sources appropriate for the decision of interest.
- Be conducted in real-world settings, not just under optimal conditions.

“If a research study does not actively incorporate the decision makers and other key stakeholders in defining what the questions are, it probably isn’t comparative effectiveness research,” he said.

Welcoming attendees to the conference, Robert J. Laskowski, M.D., Christiana Care president and CEO, said: “This is the most exciting time of my professional career. I’ve spent a large part of my career figuring out ways to improve the way we care for people. For the first time, I see the big picture changing. We need to think bold thoughts and work like crazy to bring those thoughts to reality.”

“Three decades from now we will look at this time with general internal medicine being at the forefront of how American medicine reinvented itself, and, in the process, reinvented medicine for the entire world.”

—Robert J. Laskowski, M.D., Christiana Care President and CEO



(From left) Julie Silverstein, M.D., Daniel Elliott, M.D., Neeta Milasincic, M.D., and Sean R. Tunis, M.D., founder and director of the Center for Medical Technology Policy, at the 2012 SGIM regional meeting.



(From left) John A. Donnelly, M.D., assistant program director, Internal Medicine Residency, Karla Testa, M.D., and Christopher Prater, M.D.

Julie Silverstein, M.D., chief of General Internal Medicine at Christiana Care, moderated a panel discussion on “The Future of General Internal Medicine.” Panelists agreed that general internists will turn to new technologies, including telemedicine, to reach patients.

“One of the beauties of general internal medicine is the ability to innovate,” said panelist Katrina Armstrong, M.D., division chief of General Internal Medicine at the University of Pennsylvania. ●

Hundreds dance to demonstrate commitment to healthy lifestyle ↓

Christiana Care held its second annual Dance Your Heart Out event in March at Wilmington's Chase Center on the Waterfront. With 350 people attending, Dance Your Heart Out gave people a chance to do just that – with Wii Dance, Zumba® fitness, belly and line dancing. The evening's theme, "Health is Motion," highlighted the important role physical activity plays in total health.

New offerings this year included demonstrations for yoga, meditation and stress-reduction, along with a performance by Tapestry Tribal, a local belly dancing troupe. And there were health screenings to determine blood pressure, bone density and body-fat analysis. Christiana Care Health Coach Team members were on-hand to help people find a doctor. Participants also were encouraged to visit information sources on stroke prevention, heart health, arthritis, joint replacement, nutrition and exercise.



Don't let stress get you down

Even though April is National Stress Awareness Month, stress can occur at any time of the year. And it can seriously affect our health, our emotional well-being, and our behavior. Over time, stress may contribute to heart disease, obesity, digestive problems, and sleep disorders.

But it's also a warning signal that we might be in danger, and provides us with a rush of adrenaline that can help us to dodge an oncoming car or climb a tree to escape an angry Rottweiler.

The first step in reducing our level of stress is to identify what may trigger it. For instance, are you afraid you'll be late for work? Well, you can deal with that by laying out your clothes and packing your lunch before you go to bed ... and then setting the alarm clock for 30 minutes earlier than usual.

Regular aerobic exercise is a tremendous stress buster. Your heart beats faster, which increases blood flow to your muscles and lungs. Your body releases endorphins, a natural painkiller that enhances your sense of well-being. Exercise also contributes to a good night's sleep, another strategy for reducing anxiety.

Stress also can often lead to eating too much — and eating the wrong things. Eating a healthful, balanced diet will help you to keep your weight down. Research has shown that certain foods, including oatmeal, spinach, oranges, black tea, almonds and dairy products, actually help to soothe stress. If you can't control stress on your own, reach out and get help. Relaxation techniques, including breathing exercises, can make a positive difference. You also might want to talk with your doctor about medications or counseling help.

Stress is a part of life. But we don't have to allow it to control our lives. And April is a great time to start learning ways to chill out, calm down and perk up. ●



AHA National Walking Day April 4 →

Christiana Care joined people across the nation on April 4 to celebrate the American Heart Association's National Walking Day. Walkers organized at Christiana Hospital, Read's Way, the HealthCare Center at Christiana, the Helen F. Graham Cancer Center, and the Preventive Medicine & Rehabilitation Institute to take part in a 30-minute walk to promote wellness. Ed Goldenberg, M.D., medical director of Employee Wellness and chair of the American Heart Walk in September, reminds all colleagues that it is not too early to start forming your teams for that annual AHA signature event.

New pediatric emergency care system will help thousands



Emergency Medicine specialist Leo W. Burns, M.D., listens to pediatric patient Sarah Whalen's heart in the ED at Christiana Hospital, with Casi Short, RN, looking on.

- Wilmington Hospital is designated a Level 3 center because it has the personnel and resources to treat pediatric patients for a range emergency care services, including the ability to stabilize and transfer pediatric patients for more intensive services.
- Only children's hospitals, such as Nemours/Alfred I. duPont Hospital for Children, qualify for Level 1 status.

"We know from experience when a state or region organizes a system of care, benefits follow," says state Trauma System Coordinator Mary Sue Jones, RN, MS. "A standard system results in smoother communication between hospitals for ease of transfer and consistency of care."

Emergency Medicine Department physician Christopher Moen, M.D., represents Christiana Care Health System on the state subcommittee and helped develop the new standards for the pediatric system. Nursing leaders from Christiana Care's Emergency Department also played a key role in assuring facility readiness. Delaware eventually will be part of a study to help other states model similar initiatives. ●

Each year, more than 15,000 patients 15 and under seek treatment at Christiana Care's Emergency Department (ED) facilities at Christiana and Wilmington hospitals. Now, through a new network, the hospital EDs will be able to save the lives of even more children.

Overall death rates within the Delaware Trauma System — a network of the Delaware Division of Public Health — have been cut by 40 percent thanks to the efforts of emergency department health care staff.

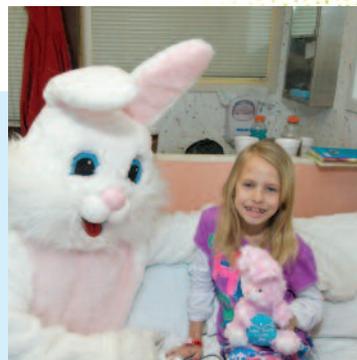
Delaware recently launched a Pediatric Emergency Care Facility Recognition Program, and became only the fifth state to create a standard of care that includes equipment, protocols, staffing and continuing education.

The system has three levels:

- Christiana Hospital is designated as a Level 2 pediatric center, meaning it can provide inpatient pediatric care as well as critical care.

Easter Bunny visits Pediatrics unit

The New Castle County Sheriff's Office dispatched the Easter Bunny for a surprise visit on April 8 to Christiana Hospital's Peds unit. Sophia Whary and Ava Watson got a chance to shake the Bunny's paw at their bedsides. The Bunny visits children at hospitals throughout the country in the weeks before Easter, compliments of the National Sheriffs' Association.



Cancer researchers pioneering new blood test for lung cancer

Researchers at the Helen F. Graham Cancer Center have joined colleagues at Philadelphia's Wistar Institute and Temple University to develop the world's first practical blood test for lung cancer, with the aid of a \$1 million grant spread over two years.

The study is based on research by Professor Louise C. Showe, Ph.D., of Wistar's Molecular & Cellular Oncology Program and director of Wistar's genomics facility. Showe's research to date suggests that it is possible to detect early stage non-small cell lung cancer by examining changes in gene activity in white blood cells. ●



"Our ability at the Graham Cancer Center to recruit large numbers of patient volunteers to provide blood samples in the quantities needed for analysis is critical to [the feasibility of the] clinical trial."

*—Thomas Bauer II, M.D.
Chief of Christiana Care's Thoracic Surgery section*

Bone Marrow Transplant Program earns new accreditation for cellular therapy

Christiana Care's Bone Marrow Transplant Program recently received accreditation by the Foundation for the Accreditation of Cellular Therapy (FACT).

The foundation, headquartered at the University of Nebraska Medical Center in Omaha, establishes standards for high quality medical and laboratory practice in cellular therapies.

Christiana Care's accreditation specifically applies to the adult allogeneic and autologous hematopoietic progenitor cell transplantation, marrow and peripheral blood cellular therapy product collection, and cellular therapy product processing.

FACT is a non-profit corporation co-founded by the International Society for Cellular Therapy and the American Society of Blood and Marrow Transplantation for the purposes of voluntary inspection and accreditation in the field of cellular therapy.

"The award signifies our patients can be assured of quality care and it underscores the high level of training, education and experience among our doctors and staff."

*—Frank V. Beardell, M.D.
Director of Christiana Care's Bone Marrow Transplant Program*



New accreditation adds value

FACT is the only accrediting agency that addresses all quality aspects of cord blood collection, processing, testing, banking, selection and release.

Many government agencies and health insurance companies will require FACT accreditation for patient care reimbursement.

Patients seek FACT-accredited programs in their search for a quality patient care and treatment program.

FACT educates and helps cord blood banks provide the highest quality products and services for cellular therapy health professionals and patients. ●



Successful new treatments for chronic deep vein thrombosis reported

New findings show that minimally-invasive interventional radiology techniques can successfully treat patients suffering from post-thrombotic syndrome. The syndrome includes chronic symptoms caused by DVT — the formation of a blood clot in a vein, usually in the legs. Such symptoms range from pain and swelling, to ulcers and gangrene, according to Mark J. Garcia, M.D., chief of Vascular Interventional Radiology.

Speaking at the 37th annual meeting of the Society of Interventional Radiology (SIR) in San Francisco, Dr. Garcia

received minimally invasive treatments to relieve blockages and restore blood flow. The team reported a 97 percent success rate, with 93 percent of the patients reporting significant improvement of symptoms. Only 7 percent experienced unchanged symptoms. None reported worsening of their symptoms.

“There is increasing evidence that early and complete removal of the blood clot is likely to give people their best chance to avoid disabling symptoms, such as pain, swelling, skin changes and ulcer formation,” Dr. Garcia said.



“Many people suffering from post-thrombotic syndrome once heard that no treatment options are available to remove their clots and help relieve the symptoms, but that no longer is true.”

—Mark J. Garcia, M.D.
Chief of Vascular Interventional Radiology

said: “Many people suffering from post-thrombotic syndrome once heard that no treatment options are available to remove their clots and help relieve the symptoms, but that no longer is true. Interventional radiologists now have an opportunity to help these individuals ... achieve an improved quality of life.”

Approximately half the people who have DVT managed medically alone see their condition deteriorate to the point where they develop post-thrombotic syndrome, which is characterized by a constellation of symptoms, including leg pain, swelling, fatigue and permanent skin changes.

However, the new findings report that the post-thrombotic syndrome symptoms can significantly improve with minimally invasive treatments for DVT.

More than 100 patients suffering from post-thrombotic syndrome participated in the three-year study. The patients

Few studies to date have evaluated endovascular treatments for chronic deep vein thrombosis. Dr. Garcia said more research into this area should be performed, given the promising findings. The Christiana Care-based research was one of only a handful selected for presentation at the SIR meeting, from more than 450 submissions.

The U.S. Centers for Disease Control and Prevention estimates that between 300,000 and 600,000 Americans develop DVT each year. The clot can block blood flow and cause symptoms, most commonly pain and swelling. Once someone develops deep vein thrombosis, clots can break off and travel through the bloodstream and get stuck in the lungs, a phenomenon called pulmonary embolism, which can cause severe damage and even death. DVT and pulmonary embolism combined kill up to 180,000 people each year. ●



Celebrating Health Information Professionals Week

To celebrate Health Information Professionals Week March 25-31, Christiana Care’s Health Information Management Services team planted a tree on the Christiana Hospital campus. Doing the planting, from left, were HIMs colleagues Lisa Halin, Debbie Starobynski-Jczyk, Stephanie Brumberg, Sarah Tobler and Kristal Shelley Martin.

Dr. William Weintraub tells cardiology conference that prevention works Cardiology fellows present at ACC conference

William Weintraub, M.D., the John H. Ammon Chair of Cardiology at Christiana Care, and director of the Center for Outcomes Research, described results from the ASCERT study that found better survival with coronary bypass surgery (CABG) than with percutaneous coronary intervention (PCI) for selected patients.

Speaking at the American College of Cardiology Scientific Sessions, Dr. Weintraub cautioned that bypass surgery is not for everyone, and that a heart team approach is best for choosing the right therapy for each patient. ASCERT is short for "Survival after PCI or CABG in Older Patients with Stable Multivessel Coronary Disease: Results from the ACCF-STS Database Collaboration on the Comparative Effectiveness of Revascularization Strategies." ASCERT was the largest and most comprehensive study of its kind, analyzing health outcomes of 190,000 US patients between 2004 and 2008.

"Prevention works" was also a message Dr. Weintraub brought to the ACC platform, highlighting prevention strategies published previously in *Circulation*, August 2011, as an American Heart Association policy statement.

"Prevention is the only realistic way to reduce health care dollars spent on heart disease in this country," he told the ACC audience. "Treatment for blood pressure, elevated cholesterol and smoking cessation programs are highly effective and good places to start."

Christiana Care Cardiology fellows claimed six spots on the ACC's roster of poster presentations.



When diagnosing heart attacks, Anitha Rajamanickam, M.D., and colleagues predicted that millions can be saved in health care spending when the test for creatinine kinase (CK)-MB is eliminated in the presence of normal levels of troponin, the preferred serum marker.

Efforts to shorten door-to-balloon times from hospital door to cath lab and emergency angioplasty are succeeding during regular hours at Christiana Hospital, but Daming Zhu and co-authors found that timing during off-duty hours needs improvement. A separate study led by Asad Ali, M.D., showed that when the trip to the cath lab is faster, the procedure itself goes better, reducing fluoroscopy imaging times and contrast dye volumes.

Analysis of the atrial fibrillation record AF database by Yuanyuan Zhang and colleagues points to age and higher baseline measurements as predictive factors for this commonly diagnosed and difficult-to-manage heart rhythm disorder.

Comparing optimal treatments for coronary heart disease requires improvement in trial design and patient recruitment guidelines, according to a study led by Doralisa Morrone, M.D., with colleagues in Pisa, Italy. ●

"Prevention is the only realistic way to reduce health care dollars spent on heart disease in this country."

— William Weintraub, M.D., the John H. Ammon Chair of Cardiology at Christiana Care and Director of the Center for Outcomes Research

Annual Update in Cardiology draws more than 250 participants

Hosted by Christiana Care Cardiology Consultants in March, the 23rd annual Update in Cardiology drew more than 250 participants, including physicians, residents, nurses and physical therapists, to the John H. Ammon Medical Education Center. The event, sponsored by Christiana Care and the Delaware Academy of Medicine, provides a forum for discussing emerging technology, the latest clinical news and research for managing and treating cardiovascular disease. It featured more than a dozen experts in cardiology and related disciplines.



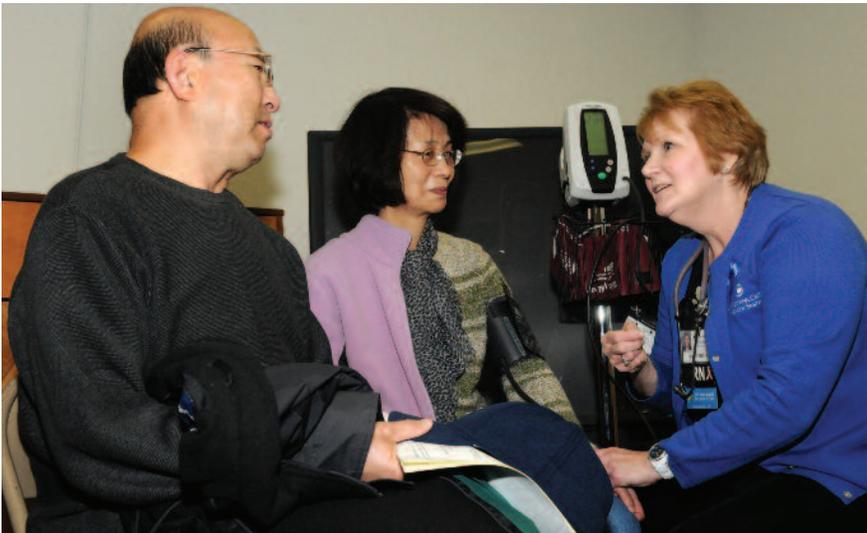


Photo left: Nora C. Katurakes, RN, MSN, OCN, Manager, Community Health Outreach and Education (right) counsels a couple seeking health information at the Hockessin Chinese American Community Center's health fair in March.

Photo below: Xiangfen Gu's community health and wellness efforts provide vital information in Delaware's Chinese community.



A great recipe for Delaware's Chinese community: get familiar with local health care services

Like other Chinese Delawareans, Qui qi Li and his wife Mei zhen Dong found that language and cultural barriers hindered their ability to access health care services available in their community. In fact, some Chinese Delawareans travel as far as Chinatown in New York City to access the same life-saving screenings that are available right here.

But Xiangfen "Fen" Gu is helping the Lis and other Delawareans of Chinese descent overcome these challenges. After moving to Delaware from Nanjing China two years ago, Fen has been scouting Chinese restaurants to educate the community about health care resources.

"Most Chinese people don't go to the doctor until they feel bad," Fen says. So she goes to them. Her position was made possible by a grant from the National Cancer Institute with funding from the American Recovery and Reinvestment Act of 2009 (ARRA) — the "stimulus" bill.

Fen already has shared information with more than 300 people. After she visited the Lis, they took preventive steps to undergo screenings through the Screening for Life program, a

cooperative effort of the Delaware Division of Public Health, the U.S. Centers for Disease Control and Prevention, and health care systems, including Christiana Care.

Mr. Li underwent a colonoscopy, which turned out to be a lifesaver, as the test caught several polyps that he subsequently had removed. On the insistence of Fen, Mrs. Li underwent a colonoscopy, a Pap smear and a mammogram. Fen even accompanied Mrs. Li during her breast cancer screening and explained the procedure to her in Chinese.

"You are doing such an important job for people that don't speak English," Mr. Li said through a translator. "We are very lucky to have Fen."

"Christiana Care's effort to educate and inform people directly — no matter where they live — reflects the health system's commitment to reaching out to neighbors in underserved communities."

—Nora C. Katurakes, RN, MSN, OCN
Manager, Community Health
Outreach and Education

"If you don't have a place where people congregate," Katurakes says, "they're not going to get the information. And if you go to an event and are told you need to do something, you're not going to just go run and do it. ... It's a prevention model. People need to take time to process."

Fen's success in helping local Chinese residents has prompted Katurakes to describe her as a "godsend."

Recently, Fen's mission brought her to her 88th Chinese restaurant. There, she showed the owner's wife how to perform a self-examination for breast cancer

Today, Fen continues to traverse the roads and familiarize herself with Delaware. At each restaurant and church she enters, a smile accompanies her Mandarin greeting. By the time she leaves, the people she has met have learned what is available not three hours away in New York, but in their own state of Delaware. ●



Nurse makes preventing adolescent suicides his 'life's work'

Bullying, once dismissed as a normal part of growing up, is now recognized as far more dangerous and consequential than once believed. High-profile incidents, including school shootings and suicides, have sparked a national conversation about bullying, placing it front and center in the minds of parents, educators and health care professionals.

For Christiana Care's Gregory D. Cooper, BSN, RN, a crisis interventionalist at Wilmington Hospital, preventing adolescent suicide is his life's work. He is the lead author of, "Examining Childhood Bullying and Adolescent Suicide: Implications for School Nurses," published in the March issue of the Journal of School Nursing, with colleagues from Drexel University. Their earlier paper, "A Review and Application of Suicide Prevention Programs in High School Settings," appeared in October 2011, in Issues in Mental Health Nursing. Cooper spoke with Focus about his work.

Q. How common is bullying and what is its link to suicide?

Cooper: The Centers for Disease Control and Prevention estimates that 20 percent of high school kids are being bullied, but that number is probably quite low, because bullying primarily happens in middle school. Suicide is the third-leading cause of death in 10- to-24-year-olds, and several studies show a correlation between bullying and adolescent suicide.

Q. What should health professionals watch for?

Cooper: Simply ask: "has anyone in the past week or two said mean things to you, taken things, punched you, sent a mean text message — or have you done that to anyone else?" You'll be surprised how readily kids will answer the questions. Listen and validate their experience. You may be the first to hear this, so validation may be thanking them for sharing, asking, "how has it affected you? Do you not want to go to school? Do you feel sick a lot? Have you ever thought about harming yourself because of this?" Then advocate for them. That means you bring in parents, educators and professionals.

Q. How has Christiana Care addressed these issues?

Cooper: Our crisis intervention team is unique. You would be hard-pressed to go to any (other) ED in the country and get a full psychiatric crisis evaluation and get placed into an appropriate level of care, inpatient or outpatient, 24/7.

Q. What more should be done?

Cooper: What's difficult is to create policy change. That takes greater awareness and education, identifying the symptoms so people don't slip through the cracks. When there is an adolescent in the hospital, we must consider this.

Q. Why do kids bully others?

Cooper: For many kids, there's a biochemical aspect. And there is a learned social aspect for kids who see violence at home. Boys with conduct disorders or who are impulsive are more likely to bully.

Q. Is there a typical victim?

Cooper: In general, what puts you more at risk for bullying is being an outlier. That is, being someone who is quiet or passive, someone of a different sexual orientation, somebody who has friendship difficulties or low self esteem.

Q. What are the red flags to watch for?

Cooper: Behavior changes. This applies to children involved in bullying on any side — bullies, victims, bystanders. Other signs are increased anger or fear, decreased appetite, decrease in grades or self esteem, withdrawal — not wanting to go to school, saying they're sick, withdrawal from activities they previously liked to do, visiting the school nurse a lot. Kids who are bullied go to the nurse on average five times or more in a school year. Also look for unexplained injuries and unexplained broken or lost property.

Q. What strategies do you suggest for parents?

Cooper: Three strategies: communication, communication and communication. Talk to kids about bullying, identify it, talk about how to handle bullies, such as using humor, avoiding situations or removing yourself from a situation where you know it's going to happen. I would advise a child to defend himself only when he has exhausted all other means, because it never is a good thing when two people get into a physical altercation. If it has to go physical, it is dangerous for everyone.



Parents should monitor all their child's electronic communication. A child should never have a Facebook account that restricts parents from viewing it, or restricted texting capability.

Q. How effective are school anti-bullying programs?

Cooper: They vary, but many of them are not research-based. Seventy-seven percent of high schools have suicide-prevention programs and most have not proven successful. Fewer schools have anti-bullying programs. You've got to start in kindergarten. ●

For more information:
www.stopbullying.gov;
www.cdc.gov/ViolencePrevention/pub/measuring_bullying.html

Another successful match for Residency programs

Christiana Care had another successful residency match program this year. "We have accepted 100 new residents into our allopathic residencies and fellowships, osteopathic residencies, pharmacy, podiatry, dentistry and oral maxillofacial surgery residencies," says Janice E. Nevin, M.D., MPH, chief medical officer. Training and clinical duties for the intern Class of 2012-2013 begins on July 1.

"It is always exciting for new residents to know where they will spend the next phase of their training as a physician," says Dr. Nevin. "And it is equally exciting for Christiana Care to welcome another outstanding group of trainees. Our residents are integral as we redesign

care and achieve our goals for quality, safety and outstanding patient care."

Included in this year's class are all 63 spots offered through the National Residency Matching Program. Thomas Jefferson University's Jefferson Medical College and the Philadelphia College of Osteopathic Medicine head the list with eight and six new residents, respectively. More than 37 different allopathic and osteopathic medical schools populate our list.

"Congratulations and a huge thank you to everyone who has spent the last several months recruiting, interviewing and sorting through candidates," Dr. Nevin says. "A special thank you to our program directors for their critical leadership throughout this process." ●

Nursing specialty certification numbers rise 147 percent since '09

Congratulations to Christiana Care's 1,363 certified nurses.

This accomplishment is a true testament to our commitment to Certification Excellence, and represents a 147-percent increase, to 1,363 certified nurses this year from 552 in 2009. Here is a list of the winners of 2012 certification awards, recognizing units with the highest percentage of certified nurses within their category and the greatest increase in their percentage of certified nurses in a one-year period.

Units with 20-49 Nurses

Winner - Surgicenter OR, Wilmington Hospital, 83 percent of nursing staff is certified.

Winner - 4C OB/GYN/URO, increased to 45 percent (2012) from 19 percent (2011).

Honorable mentions

4D Surgical increased to 38 percent (2012) from 20 percent (2011).

Center for Advanced Joint Replacement, increased to 59 percent (2012) from 41 percent (2011).

Units with 50-100 Nurses

Winner - 5A Medical, Christiana Hospital, 59 percent of nurses are certified.

Winner - 3B Maternity, increased to 47 percent (2012) from 27 percent (2011).

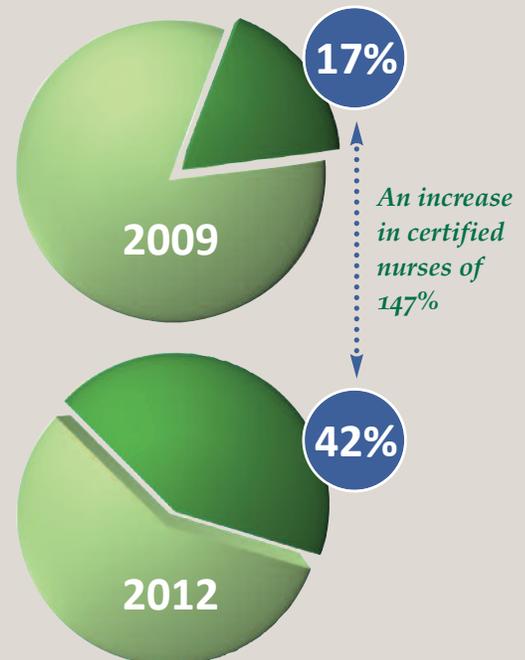
Honorable mention - 2C Surgical increased to 32 percent (2012) from 14 percent (2011).

Units with more than 100 Nurses

Winner - Labor & Delivery, 48 percent of nurses are certified.

Winner - Emergency Department, Christiana Hospital, increased to 33 percent (2012) from 27 percent (2011). ●

Certified Nurses at Christiana Care*



*percent of all nurses with specialty certification

Message center enhances doctor-to-doctor communication

Timothy Hennessy, M.D., has an early morning question about a patient's heart medication but hesitates to call the patient's cardiologist. So, he logs into Christiana Care's Computerized Provider Order Entry / PowerChart 2012 tools for physicians, goes to the message center, selects Communicate and sends a message to the cardiologist, who responds several hours later.

Dr. Hennessy is a general internist who also works as a hospitalist. Several times each week, he uses the system to reach out to another internist or a specialist. He inquires about such issues as: Would the patient benefit from another day in the hospital? How can we help a patient who is having trouble sleeping?

Technology makes it easier to communicate, he says. But email, text messaging and mobile phones also have fragmented the way people, including doctors, communicate.

"When doctors use different ways of technology to communicate, it can

actually make it difficult to know how to get in touch with a colleague," Dr. Hennessy says.

The message center is part of Christiana Care's transformation to an integrated electronic health record, says Janice Nevin, M.D., MPH, chief medical officer. Working with one, streamlined system that is solely for physicians benefits doctors because it offers a central location for messages and a mechanism for quick response.

Dr. Hennessy acknowledges that not all doctors are enthusiastic about yet another mechanism for communication. But he has used the system frequently and finds it extremely useful.

The message center offers an additional advantage in that messages are secure, ensuring patients' privacy. All messages are purged from the system after 60 days and are not part of the permanent record.

"Since the message is compliant with HIPAA, it allows for a freer exchange of information," Dr. Hennessy says.



Timothy Hennessy, M.D., logs into PowerChart 2012

The system can be accessed remotely and exchanges typically take only a few seconds. The patient's name automatically pops up in the message header.

Dr. Hennessy says the message center nurtures collaboration and can help to build relationships between primary care physicians and specialists.

"The more doctors talk to each other about their patients, the better the patient care will be," he says. ●

Next round of PowerChart upgrades roll out April 29

Changes and upgrades to PowerChart 2012 electronic health record (EHR) will affect inpatient units, including post-partum (3A, 3B, 3C, 4A, 4B); and observation units, the Emergency Department, Heart & Vascular Interventional Services and Perioperative Services. They become effective April 29.

Here's a brief sketch of how these changes will work:

Document Medications by History (home meds), is a new functionality added to the Medication List, replacing the current free-text medication grid nurses and pharmacists use in several forms today.

The **Procedure List** replaces the Medical/Surgical/Procedure list nurses use in forms today. The exception is the Nursing Profile where the "Surgeries and Procedures this

Admission Only" are documented. This current process and grid remain and this information will continue to print to the Current Orders report.

The **Problem and Diagnosis List** is a new tool to be used primarily by providers to capture one problem or diagnosis at a time. Only providers can enter a diagnosis.

The **Depart Process** is an interdisciplinary tool used to document all elements of the discharge in one location. This tool can be accessed and updated throughout the patient's stay by nurses, physicians, PAs, NPs and social workers.

Open house sessions

Clinical informatics will be hosting Open House sessions at Christiana and Wilmington hospitals in mid-April to give staff a first look at the new PowerChart experience. Check the portals for the Open House schedule. Even better, on the April 29 Go-Live date and for the first 13 days of the upgrade, extra support staff at both hospitals will be available 24-7. That is in addition to the knowledgeable PowerChart SuperUsers already in place. ●



ACT course promotes skills in systems theory, team dynamics, quality improvement

Classroom activities of the Achieving Competency Today course result in quality and safety improvements, some of which become routine in the daily life of the organization. “This course creates and supports an environment in which staff and physicians see the benefits of collaborative interdisciplinary teamwork that results in improved safety and quality patient care,” says Lee Ann Riesenber, Ph.D., RN, director of Medical Education Research and Outcomes.

The course, which graduated its 14th class in March, now brings the total number of Christiana Care Health System employee graduates to 303. It

is an ongoing professional development strategy and collaborative effort between Academic Affairs and the Office of Quality and Safety.

Sharon Anderson, senior vice president, Quality and Patient Safety, said of the course: “A generation of interdisciplinary health care professionals is acquiring skills in systems theory, team dynamics, patient safety and quality improvement — training that was not provided in their regular education programs, which positions them to improve the quality of care delivered to our patients. Our plan is to continue this training and expand it to include more Christiana Care colleagues in this very important work.”

The graduating class includes resident physicians, nurses, third-year Thomas Jefferson University Medical College students, and other Christiana Care colleagues. The catalyst of 53 rapid-cycle tests with detailed project plans being handed off to identified project champions at the end of the 12-week session. More than half continue on to create system-wide change that directly benefits our patients.

The course is available to Christiana Care employees twice a year. The next offering will be in September. If you are interested, contact tfields@christianacare.org.



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. All reports go directly to Compliance Officer Ronald B. Sherman. *Callers may remain anonymous.* The toll-free number is: **877-REPORT-o (877-737-6780)**.

✓ To learn more about Corporate Compliance, review the Corporate Compliance Policy online or contact Mr. Sherman at 302-623-2873.

Rose Mili wins Jefferson Award for volunteer work with MS Society

For the past 20 years Rose Mili has produced all of the marketing and promotional materials — brochures, T-shirts, prizes, ads and posters — needed to make the Multiple Sclerosis Society’s annual Thanksgiving MS Walk/Run a success.

In recognition of her efforts, Mili, a senior communications manager in the External Affairs Department, has won the quarterly Christiana Care Jefferson Award — for employees who exemplify actions and attitudes of service, caring and leadership beyond the work they do each day.

The 2011 MS Walk/Run event was the largest ever for the Delaware chapter, netting more than \$115,000 and drawing nearly 3,000 participants.

Mili received the MS Communicator of the Year Award in 2007 and helped the Race/Walk’s planning committee win the Helen Serbu Volunteer of the Year Award in 2009.

“Around 1998, a good friend was diagnosed with MS,” Mili says. With a personal connection, she says, the cause

began to resonate more. “You know how someone is affected; how having an unpredictable disease affects your life,” she says.

“That year, in addition to being on the planning committee, I began to participate in the 5K walk and raise additional funds through my walk pledges. I have probably raised on average about \$500 per year.” That kind of fundraising success earned Mili a “Golden Sneaker” moniker from the race officials, meaning she is one of the chapter’s top fundraisers. Now, to benefit the MS Society she is doing even more, joining the Women-Against-MS planning committee and serving on the executive committee of the charity’s new “MSquerade” in November.

Christiana Care partners with the Jefferson Awards to encourage and honor employees who provide community service.

If you know of someone who deserves consideration, simply complete the Jefferson Award online at <http://www.jeffersonawards.org/>. ●



Her role in organizing and managing fundraising events for the Delaware Chapter of the MS Society, and her own efforts at fundraising, earned Rose Mili (above, with Christiana Care Chief Operating Officer and Executive Vice President Gary Ferguson) a quarterly Christiana Care Jefferson Award.

Wound Care Center earns Center of Distinction Award



Christiana Care’s Wound Care and Hyperbaric Medicine Center earned a Center of Distinction Award from Diversified Clinical Services, the world’s largest wound care management company, by delivering outstanding results for twelve consecutive months in 2011.

The Wound Care Center team consistently met tougher standards set for the year, including a 91 percent healing rate in 30 median days to heal, a 92 percent patient satisfaction rate and an outlier rate of less than 19 percent. Outlier status is the result of a patient having at least one wound that has been in treatment for 14 weeks or more without achieving a healed outcome, according to Wound Care Center Program Director Jennifer Mulrooney.

The Wound Care Center received a previous Center of Distinction award for 2009 results. ●

“Our center is one of the 57 Wound Care Centers nationally that qualified for Diversified’s “Center of Distinction” category.”

— Jennifer Mulrooney, Program Director

THE 2012 COMMENDATION FOR EXCELLENCE NOW ACCEPTING NOMINATIONS

The annual Commendation for Excellence, established by the Medical-Dental Staff of Christiana Care Health System, honors physicians who have made exceptional contributions to the community through their clinical, scholarly, educational or humanitarian activities.

Current and former members of the Medical-Dental Staff are eligible.

To nominate a physician, submit a letter:

- Outlining the reasons for nominating
- Listing the nominee's qualifications
- Including, if possible, a *curriculum vitae*

For more information about the Commendation for Excellence Award, call 302-733-1049 or ask a member of the Awards Committee.

SEND NOMINATIONS TO:

Eric Johnson, M.D., c/o Judy DiMichele, Management Suite 1270, Christiana Hospital, 4755 Ogletown-Stanton Road, Newark, DE 19718; e-mail to jdimichele@christianacare.org.

The physician or dentist selected by the Awards Committee is endorsed by the Medical Executive Committee, and this year's recipient will be announced at the Medical-Dental Staff Event on Nov. 2.

AWARDS COMMITTEE:

Eric Johnson, M.D.
President, Medical-Dental Staff
Brian Burgess, M.D.
*President Elect
Medical-Dental Staff - Chair*
Janice Nevin, M.D.
Chief Medical Officer
Mary Ann Connor, D.O.
Yin Yin Lim, M.D.
Brian Levine, M.D.
Seyedmehdi Jadali, M.D. ●

Shirley Brogley honored for excellence in pain and palliative care

Congratulations to Shirley Brogley, ACHPN, APN-BC, winner of the Delaware End-of-Life Coalition (DEOLC) Annual Excellence Award for Pain and Palliative Care in the Nursing category.

Brogley participates in the Pain/Palliative Care Nurse Liaison Course at Christiana Care and was integral in creating the "No One Dies Alone" program.

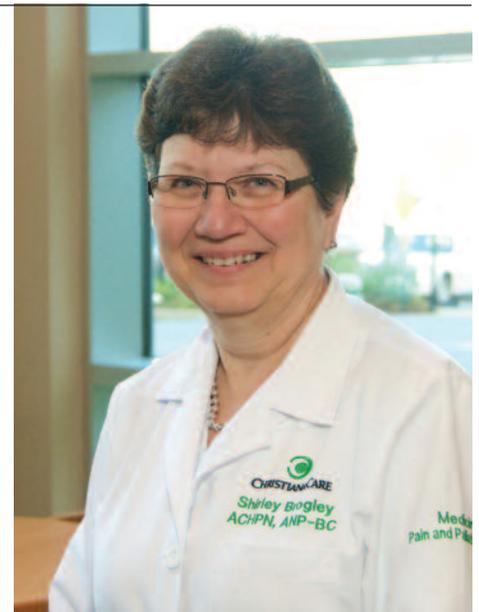
"Shirley's initiative and drive to improve the care for our patients at Christiana Care helped form the "No One Dies Alone Program," said Volunteers & Student Administration Director Margarita Rodriguez-Duffy. "She helped create the policies and procedures and continues to support the program by training the vigil volunteers. Her knowledge that she so freely shares with others is very valuable. We appreciate and benefit from her expertise."

Brogley is active both within Christiana Care and the community, constantly networking to promote the causes of excellent pain management and palliative care.

She is board certified in hospice and palliative nursing care. She is a founding member of the Delaware Medical Orders for Life Sustaining Treatment Initiative and a board member and treasurer of the Delaware Pain Initiative and the national/local chapter of Hospice and Palliative Nurses Association.

She has 25 years of hospice nursing experience and has worked in the pain management and palliative care specialty since 2005. She completed the Harvard "Palliative Care in Education and Practice" course.

In presenting the award, DEOLC President Terry A. Towne, MS, RN-BC, NE-BC, said Brogley "clearly represents



an extraordinary nurse ... hard-working, and an unbelievable networker ... who knows how to get the right people engaged and get things done.

"Her organizational and networking skills make her the 'glue' of the clinical team," Towne said. ●



SAVE THE DATE!

Christiana Care celebrates the 2012 Great Place to Work Week this year June 4-8. Stay tuned to the Portals for more information.

Take employee opinion survey May 14-June 1

This year's systemwide Employee Opinion Survey runs from May 14 to June 1.

The purpose of the survey is to collect feedback from employees at all levels about Christiana Care as a Great Place to Work. Gathering this information is essential to help advance our transformation and fulfill our promise to continue to be a Great Place to Work. It also allows us to track our progress and conduct comparisons to national benchmarks.

This year's survey, administered by a new outside vendor that specializes in hospitals and health care organizations, consists of approximately 50 questions and only takes about 10 minutes to complete. The survey covers our core

employee commitment areas and includes an analysis of Magnet, diversity and inclusion and employee relations.

As in past years, employee responses are completely confidential. The vendor tabulates employee responses but does not share individual responses with anyone at Christiana Care.

Following the survey, units and departments can use survey results to help drive performance, foster teamwork and enhance our overall work environment. Any department that achieves a 90 percent participation rate or greater will be placed in a drawing to win a department pizza/salad party. Employee input goes a long way toward helping Christiana Care in its efforts at continuous improvement. ●

Picking the right benefits for you and your family

Christiana Care's FY 2012 Benefits Open enrollment runs from May 3-21 and is mandatory for all employees participating in benefits.

Each year Christiana Care faces the constant challenge of providing affordable health care. This year is no exception. The mandates of the Health Care Reform legislation combined with the continual rise of health care costs require innovative solutions. Christiana Care's goal throughout this process remains the same: to minimize the burden on employees and the organization while maintaining the value of the health care benefit.

Even with minor adjustments this year, Christiana Care still offers one of the best benefits package in terms of value among the nation's health care organizations. A recent Towers Watson

study revealed that Christiana Care employee health benefit costs are 10 percent lower than the national average in the health care field.

While costs for prescription drugs are rising nationally every year, Christiana Care only has minor changes this year with co-pays increasing by \$5 for generic and \$10 for both formulary and non-formulary drugs for non-Christiana Care Pharmacies. This is the first prescription co-pay change Christiana Care has made since 2009.

For prescriptions filled at Christiana Care pharmacies, there is no increase in co-pays for this year. The pharmacies at Christiana and Wilmington hospitals serve the medication needs of many employees

and their families. Also, you can receive even greater discounts by using the convenient mail-in pharmacy for maintenance medications.

Look for an Open Enrollment newsletter at home and an Open Enrollment email on May 3 with an electronic benefits guide incorporating video and sound to help you pick the right benefits for your individual or family needs. ●



Christiana Care to host medicine cabinet clean-out day

Unwanted or expired medications cause thousands of accidental poisonings each year and have been detected in municipal water supplies. Protect yourself, your family, the community and the environment. Bring these old medications to Christiana Care for proper disposal during Medication Cabinet Clean-Out Day from 10 a.m. to 2 p.m., Saturday, April 28. The drop-off location is the Medical Arts Pavilion (MAP) 2 parking lot at Christiana Hospital.

The following medications will be accepted: prescriptions, inhalers, over-the-counter pills, vitamins, pet medicines and liquid medications. Leave all medications in their original containers. All medications will be disposed of in an environmentally responsible manner. Medication Cabinet Clean-Out Day is a joint partnership of Christiana Care Health System, the Drug Enforcement Administration and the Delaware State Police. ●



April

21 Saturday, April 21, from 9 a.m. to 4 p.m., is **Delaware's first state-wide Parkinson's Day**, sponsored by Christiana Care's Department of Rehabilitation, at the John H. Ammon Medical Education Center. Speakers include neurologists, physical and occupational therapists, plus representatives from the Michael J. Fox Foundation for Parkinson's Research. They will join patients, caregivers and clinicians to discuss advances in Parkinson's disease research, treatment and resources. Admission is \$10. Lunch will be provided. Call Dale Gregore at 302-428-6732 for more information.

28 The **5th Annual Renal and Hypertension Symposium** will be 7:30 a.m. to 2:30 p.m., Saturday, April 28, at the John H. Ammon Medical Education Center. This year's educational activity will examine therapies for the management of pain, as well as anti-diabetes mellitus medications in chronic kidney disease, and the use of antibiotics in acute renal failure. Preregistration is required. Register now at cchs.cloud-cme.com/renal.

May

3 There will be a free **Kidney Donation Educational Workshop** at from 6 to 8 p.m. on Thursday, May 3 at the John H. Ammon Medical Education Center, main auditorium, to provide patients,

families and care providers key information on living and paired kidney donation. The workshop will feature welcoming remarks by S. John Swanson M.D., chief, Christiana Care Kidney Transplant program, plus sessions covering:

- Evaluation for donation and a review of the kidney sharing process, with Emily Pruitt, MSN, RN, living donor coordinator.
- Kidney Donation Surgery and Recovery with Dr. Swanson.
- Long-term health after donation, with Stephanie Gilibert, M.D., medical director, Christiana Care Kidney Transplant program.
- Questions and closing remarks.

A complimentary light dinner will be served. To register, call 302-623-3816 or register online at www.christianacare.org/events.

13 Christiana Care is a proud supporter of the **22nd Annual Philadelphia Affiliates - Race for the Cure on Mother's Day** – Sunday, May 13 from 6 a.m. to noon. The race provides grant funds for Delaware women to assist with mammograms and diagnostic services. Christiana Care is a current recipient of funds for the KOMEN - Pink Ribbon Program administered through the Community Health Outreach and Education Program at the Helen F. Graham Cancer Center. Consider joining the Christiana Care Health System team. Register online now at www.race.komen.philadelphia.org.

17 The Annual **'Go Red for Women'** luncheon, health expo, silent auction and fashion show will be from 10:30 a.m. to 1:30 p.m., Thursday, May 17 at the John H. Ammon Medical Education Center. Join other dedicated women and men to listen to expert advice, personal survivor stories, and other reasons to make it your mission to share in the commitment to fight the No.1 killer of women. To register or request more information call 302-286-5709. Tickets: \$65.

18 The American Cancer Society will host its annual **Hometown Heroes event** at the Wilmington Country Club at 4825 Kennett Pike in Wilmington at 7:30 p.m. Friday, May 18. Two Christiana Care colleagues are among the honorees who will be recognized at the celebration: Nora Katurakes, RN, MS, OCN, for her role as manager of Community Health Outreach and Education; and Stephen Grubbs, M.D., for his government services on the Delaware Health Care Commission. For tickets to the event, which includes food, beverages and entertainment, visit accsityofatlantis.org or call 302-324-4227. ●



Education & Research Celebration May 1-2, 2012

The Learning Institute’s Center for Educator Development, Evaluation and Research is spotlighting all the great work done by our Christiana Care education and research colleagues in the past year. Visit the Wall of Fame to see more than two dozen projects dedicated to excellence in education and research at Christiana Care. The Wall is located across from the elevators in the John H. Ammon Medical Education Center. Cast your vote for the “People’s Choice” Award on the portals. Voting ends April 27.

Tuesday, May 1

Reception Event – 11 a.m. to 12:30 p.m. (lunch included) in the John H. Ammon Medical Education Center Main Auditorium. Register online in the Education Center on the portal.

This event features:

- Keynote speaker: David Metcalf, Ph.D., director of the Mixed Emerging Technology Integration Institute for Simulation and Training, at the University of Central Florida. Dr. Metcalf discusses his area of expertise, Mobile Learning and Innovation in Healthcare and Medical Education.
- An Innovation Panel of Christiana Care employees sharing what they have done in the area of research and education.
- Wall of Fame “People’s Choice” and “Most Innovative” awards presentation.

Wednesday, May 2

Day two features the Education and Research Expo, 11 a.m. to 5 p.m. in the John H. Ammon Medical Education Center Main Auditorium. A wide range of Christiana Care departments and external resources will be represented. ●



Clinical Support Specialist Carolyn Zsoldos, RN, (left) and Clinical Transformation Analyst Amy Tyler, RN, visit the Wall of Fame on opening day.

FORMULARY UPDATE

FORMULARY ADDITIONS

ANTIDEPRESSANT MEDICATIONS

MEDICATION – GENERIC/BRAND NAME	STRENGTH / SIZE	USE / INDICATION	COMMENT
Belimumab injection / Benlysta	120 mg & 400 mg vials	Treatment of autoantibody positive systemic lupus erythematosus	Administration limited to CCHS physician office practices and ambulatory infusion centers
Cefoxitin injection	1 gm & 2 gm	Prophylaxis and treatment of several types of infections	Replaces cefotetan injection
Droperidol injection / Inapsine	2.5 mg/mL; 2 mL vial	Treatment of migraine headache	<ul style="list-style-type: none"> • Continuous ECG monitoring required for 3 hours after a dose • Availability limited to emergency departments • Available only while prochlorperazine injection is unavailable

FORMULARY DELETIONS

Cefotetan injection	Replaced with cefoxitin injection
Dantrolene capsules	50 mg and 100 mg capsules removed because of rare use. Injection and 25 mg capsule remain available
Lanolor skin emollient	Removed because it is no longer manufactured. Lansinoh remains available.

Symptoms and medications associated with serotonin syndrome

Katie A. Gulick, Pharm. D., BCPS

Serotonin syndrome is a potentially life-threatening adverse drug reaction caused by excessive serotonergic activity and excessive circulating serotonin in the central nervous system (CNS) and peripheral nervous system. The mechanism is not fully known, but may be related to excess agonism of serotonin receptors in the CNS and periphery. Other potential mechanisms include an increase in serotonin synthesis and release, decreased serotonin uptake and metabolism, or direct serotonergic receptor activation. Most cases develop in patients using multiple serotonergic medications, increasing serotonergic transmission.

Symptoms:

The most common clinical features of serotonin syndrome include mental status changes, autonomic instability, and neuromuscular hyperactivity/abnormalities. Symptoms can develop rapidly, but most often appear 6-24 hours after medication changes or overdose. Mild cases include symptoms such as tachycardia, shivering, diaphoresis, tremor, hyperreflexia, restlessness, mydriasis, and myoclonus. Symptoms in moderate to severe cases include hypertension, hyperthermia (>38C), ocular clonus, hyperactive bowel sounds, and inducible clonus of extremities. Severe cases of serotonin syndrome may include symptoms of autonomic instability, delirium, muscle rigidity, rhabdomyolysis, renal failure, seizures, possible metabolic acidosis, and disseminated intravascular clotting. Moderate to severe cases often require hospitalization.

Diagnosis and Treatment:

Diagnosis of serotonin syndrome is based on signs, symptoms, and behavioral changes in the presence of the use of serotonergic medications.

Treatment of serotonin syndrome begins with discontinuation of offending agents and supportive care. Mild cases may resolve within 24 to 72 hours, however it may take longer. Moderate to severe cases with hyperthermia, autonomic instability, and hypertonicity require hospitalization. Benzodiazepine medications may be useful in treating agitation and tremor. Serotonin 2a antagonists such as cyproheptadine have been used as a possible antidote.

Medications with Serotonergic Activity:

The following table contains medications that can increase serotonin levels.

Prevention of serotonin syndrome can be achieved through awareness of the potential toxicity of serotonergic medications, and the risk of combining multiple serotonergic medications. ●

MEDICATIONS THAT CAN INCREASE SEROTONIN LEVELS

ANTIDEPRESSANT MEDICATIONS

SSRIs (e.g., paroxetine, sertraline, fluoxetine, citalopram)

MAOIs (e.g., phenelzine, tranylcypromine)

SNRIs (e.g., venlafaxine, duloxetine)

Tricyclics (e.g., amitriptyline, nortriptyline, imipramine)

5-HT 2A receptor blocker (e.g., trazodone)

Herbals (e.g., St. John's wort, Ginseng, Nutmeg, Yohimbe) (non-formulary)

Analgesics (e.g., tramadol, meperidine, fentanyl)

Antimigraine meds (e.g., triptans, ergot alkaloids)

Antiemetics (e.g., metoclopramide, ondansetron)

MISCELLANEOUS MEDICATIONS

Linezolid

Cyclobenzaprine

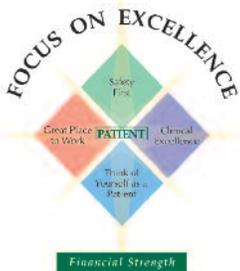
Buspirone

Dextromethorphan

References:

Ables AZ, Nagubilli R. Prevention, Diagnosis, and Management of Serotonin Syndrome. *Am Fam Physician*. 2010;81(9):1139-1142.

Quinn DK, Stern TA. Linezolid and Serotonin Syndrome. *J Clin Psychiatry*;11(6):353-356.



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.

Wilmington Hospital expansion project hosts ‘topping out’ event

Topping out ceremonies are a tradition in the big-building industry, a moment in time to pause and observe as workers get set to install the last piece of steel at the highest point of the new structure.

Christiana Care held a topping out ceremony the afternoon of April 12 to celebrate completion of the steel frame of Wilmington Hospital’s new south tower. The beam was available for employees to sign on earlier in the day before a celebration on the top deck of the public parking garage.

The \$210 million expansion is one of the largest building projects in Delaware and throughout the Mid-Atlantic region. Once complete, the nine-story, 286,000-square-foot tower will include:

- An upgraded Emergency Department that’s double its current size.
- A surgical suite with 13-ORs and four new procedure rooms.
- The capacity for 120 private patient rooms.
- A new intensive-care unit.
- An upgraded, 30-bed unit for the Center for Advanced Joint Replacement.
- A new main lobby entry repositioned on Jefferson Street, with an enclosed connector to the parking garage.

The project also will feature The Junior Board Healing Garden and a 51,000-square-foot Gateway Medical Office building. ●

BY THE NUMBERS

Number of pieces of steel needed to finish structure:
2,504

Collective weight of the steel:
1,106 tons

Percent of project completed at topping out stage:
40

