

FOCUS

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

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Systemwide challenge spurs tech creativity



Clinical pathways lead to high-value care

Medical 'road maps' support care teams in achieving optimal health and an exceptional experience for every patient, while eliminating waste and reducing the cost of care.

From Acute Medicine to Women's and Children's, the service lines and essential services of Christiana Care Health System are sharing success stories from their first year of implementing clinical pathways as they roll out the second set of these medical road maps, designed to reduce unnecessary variation in care, improve patients' health and experience, and reduce health care costs.

Poorwa I. Kenkre, M.D., has fun with one of her young patients at Limestone Medicine and Pediatrics, one of Christiana Care's primary care practices that is benefiting from practice transformation and the Patient-Centered Medical Home model of care.

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The new pathways range from providing early supportive care for about 100 cancer patients undergoing multiple modes of treatment to optimizing the health of all who are preparing for surgery.

“This process has exceeded my expectations, the way teams have come together on this work,” said Ken Silverstein, M.D., MBA, chief clinical officer. “What’s special is we’re improving outcomes. We’re reducing things like readmissions. All of our patients have been touched, because the entire clinical system has been focused on this.”

Clinical pathways enable doctors, nurses and other care providers to implement standardized but individualized plans of care informed by the most up-to-date information. They include algorithms for screening, evaluation, diagnosis and treatment, answers to common questions or concerns, recommendations for patient-education materials, information about resources available to patients and their families, and recommendations for follow-up and preventive care.

One of the keys to the pathways’ success is that they standardize protocols, ensuring that all patients receive the right care, at the right time, with the right team involved, 100 percent of the time.

“There are places where variation is appropriate, but unnecessary variation does not provide an environment for the patient to have the best health outcome, and there are costs related to that,” Dr. Silverstein said.

The approach is breaking down traditionally siloed areas of the health system, creating robust collaboration among service lines and essential services. The process is governed by the Clinical Value Council and Clinical Value Executive Committee. A Pathway Integration Team supports systemwide implementation, and a Project Manager Forum supports the integrated practice teams (IPTs) tasked with developing the pathways for their service lines.

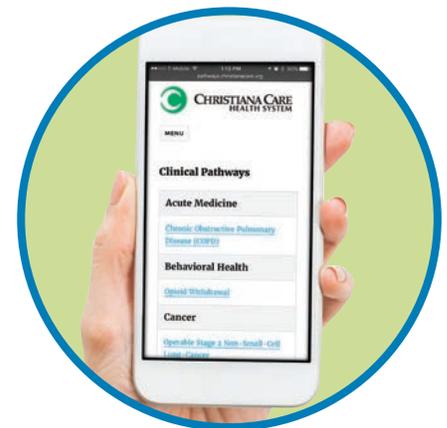
“People are excited for these new relationships,” he said.

The pathways aren’t static documents. They are ever-evolving, guided by new research and experience, always with the potential to support coordinated leaps forward in delivering optimal health and an exceptional experience to the people we serve. In Women’s and Children’s, for example, feedback surrounding a new testing approach for women with gestational diabetes — the service line’s inaugural clinical pathway under the new process — led the service line to regroup and create a whole new, more efficient obstetrical visit that has been embraced by patients.

“The vision is that this competency will become inherent in all that we do, and the service lines will continue to forge ahead on their own,” he said. “We’re still learning, but at some point you will see this clinical pathway development process as being self-sustaining. It’s the kind of collaboration our patients deserve.”

While the clinical pathways are currently being used primarily in Christiana Care’s hospitals and outpatient practices, they are published online at <http://pathways.christianacare.org>. As this library of clinical pathways grows — along with their implementation — they have the potential to support better coordinated and optimized care for patients throughout the community, as physicians and other care providers will be able to leverage the pathways throughout the continuum of care.

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<http://pathways.christianacare.org>



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KEN SILVERSTEIN, M.D., MBA

The Acute Medicine service line is improving the experience and health of patients who are experiencing lower-GI bleeding through a new clinical pathway.



ACUTE MEDICINE:

Lower gastrointestinal bleeding

Building on a body of research that was already under way, the Acute Medicine service line chose lower gastrointestinal bleeding for its new clinical pathway.

“The diagnosis falls within Acute Medicine, but it touches a lot of different areas — primary care physicians, the Emergency Department, surgeons, nuclear medicine,” said Kate Rudolph, M.S., administrative director of Inpatient Medicine. “There’s a lot of complexity, and it’s very, very resource-intensive. And yet, we haven’t significantly improved outcomes.”

The service line has assembled a multidisciplinary team to achieve consensus on a standardized treatment plan for the estimated 100 to 170 patients that Christiana Care Health System treats for lower GI bleed each year, Rudolph said.

“If we can have a more team-based approach across specialties, at each step of managing this condition we will be setting the patient up for the next successful step of treatment,” she said.

The team identified opportunities to improve care while reducing costs, said Virginia Collier, M.D., MACP, physician leader of the Acute Medicine service line and Hugh R. Sharp Jr. Chair of Medicine. For example, the service line found that it had been over-utilizing the red blood cell (RBC) nuclear scan, which measures a patient’s rate of bleeding.

“If the patient is bleeding slowly, a bleeding scan will be negative,” Dr. Collier said. “Ordering the study increased the time to diagnosis and resulted in additional costs. Performing the scan did not provide value to the patient.”

The new treatment approach is expected to improve patient outcomes, shorten the length of stay, lower the cost per patient, reduce unnecessary testing and provide a better transition to outpatient services.

“We are doing our best to make this a patient-focused pathway, providing education to help patients understand their condition and be an active participant in their care,” Rudolph said.

Meanwhile, Acute Medicine is seeing success with the chronic obstructive pulmonary disease (COPD) clinical pathway that was developed last year.

Since Jan. 1, 470 patients have been enrolled in the COPD clinical pathway, which has resulted in a reduction in readmission rates below the target of 24 percent to 17.34 percent.

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The service line also has improved home health utilization. Of the patients enrolled to-date, 16 are in hospice, 197 are at home with the help of a home health care organization, and 193 are living independently.

The next challenge for the service line is to expand the COPD clinical pathway to more patients.

“We have a nurse practitioner helping us with the high-risk COPD patients, but we’re not touching as many patients as we need to,” Dr. Collier said.

While readmissions have gone down, an important need is to reduce admissions from the Emergency Department. Identifying and aggressively treating COPD patients in the ED may spare patients the need for a hospital stay, she said.

BEHAVIORAL HEALTH:

Suicide assessment

The newest clinical pathway for the Behavioral Health service line addresses a leading cause of preventable death: suicide.

Three times as many Americans die from suicide than homicide, according to a 2014 report from the Centers for Disease Control and Prevention.

“It’s a huge public health problem,” said Linda Lang, M.D., chair of Psychiatry and service line physician leader. “The rate is higher now than it was 10 years ago. It’s getting worse, and we have to do something about it. We felt it was our role at Christiana Care to take this on.”

The pathway involves incorporating the Columbia Suicide Severity Rating Scale (C-SSRS) into Christiana Care’s electronic medical record system.



Statistics show that 45 percent of people who commit suicide were seen in a primary care office within 30 days of their death”

LINDA LANG, M.D.

The scale, developed by psychologists at Columbia University, uses six questions to gauge if a person is suicidal. Embedding the scale in standard operating procedures will help clinicians identify suicidal patients who are admitted with unrelated health issues like diabetes or high blood pressure. One of the advantages of using the C-SSRS is that it can be administered by anyone, regardless of medical training.

“We are now shifting our focus to the transition points and primary care settings, identifying drivers for COPD admissions and re-admissions, and working to optimize care across a broader continuum,” said Vinay Maheshwari, M.D., MHCDS, FCCP, associate chair of Specialty Medicine, Department of Medicine, associate physician operations lead for the service line and director of Intensive Medicine.

Additionally, Acute Medicine is working on strengthening its smoking-cessation program and continuing to place patients into pulmonary rehab.

“Smoking cessation and pulmonary rehab have the most important impact on their quality of life,” Dr. Collier said.

“Some patients who might not admit to feeling suicidal upfront may open up when someone is sitting with them asking questions from the Columbia scale,” Dr. Lang said.

The pathway also calls for educating staff so they know what signs to look for in suicidal patients. Statistics show that 45 percent of people who commit suicide were seen in a primary care office within 30 days of their death, she said.

Implementation of the pathway is occurring in phases. The Columbia scale has already been rolled out for inpatients. Eventually all patients will be screened.

In the hospital, many resources are required to care for suicidal patients — for example, “safety sitters” — staff who watch over patients. Being able to stratify the risk will enable the hospital to deploy its resources most efficiently, she said. Depending on their risk — low, moderate or high — patients will be offered treatment ranging from education to inpatient care.

The suicide assessment initiative complements the service line’s inaugural clinical pathway, which standardized the screening, identification and treatment of patients at risk for opioid withdrawal.

“One-third of people who commit suicide have a substance-abuse problem,” she said. “The pathways are very linked.”

The service line established a screening tool for opioid use similar to the one being used to assess suicide risk. At the time, they predicted that the clinical pathway would reveal that between

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2 and 10 percent of patients being admitted to the hospital are in opioid withdrawal. Early results suggest that 2 percent of admissions are in active withdrawal, Dr. Lang said.

“We are learning that patients coming in with an infection such as pneumonia may also be experiencing heroin withdrawal,” she

said. “Once the withdrawal symptoms emerge, they want to leave or sign out against medical advice, and they leave with untreated infections. By treating their withdrawal, we should start to see AMA rates going down and improve the overall health of the community. Many of them have been willing to accept help in community-based drug programs.”

CANCER CARE:

Supportive care of oncology patients

The Cancer Care service line is adopting a new clinical pathway that aims to improve the quality of life and health outcomes for certain patients receiving multiple modes of treatments at once, like chemotherapy and radiation.

“We discovered looking back that our high 30-day readmission rate is with these patients,” said Nicholas Petrelli, M.D., Bank of America endowed medical director of the Helen F. Graham Cancer Center & Research Institute and physician leader for the service line. “These patients are readmitted for dehydration secondary to their treatment.”

The clinical pathway is focused on patients with cancer located in the head, neck, thoracic or rectal areas.

The new protocol is called SCOOP, or supportive care of oncology patients, said Chris Koprowski, M.D., MBA, associate physician leader of the service line.

The idea, he said, is to provide the same supportive, early intervention to patients being treated curatively as the palliative care afforded those with advanced disease. He cited a Harvard University study showing that patients receiving such care early-on lived longer and enjoyed a better quality of life.

“I predict we will impact our patients in terms of improving their quality of life and patient experience,” he said. “It’s fairly unique. There was next to nothing written about this particular approach when we reviewed the literature.”

Dr. Koprowski estimated that about 100 patients will be touched by SCOOP in its first year. Those identified for the pathway will have their needs tracked in the areas of social work, nutrition and behavioral health. If a patient does end up in the Emergency Department, he or she will be identified and admitted directly to a cancer floor, and the patient’s care team will be alerted upon discharge.

“We have baseline data on these folks that is relatively reliable,” Dr. Koprowski said. “We’d like to see diminished emergency room visits, diminished admissions and readmissions, and greater patient satisfaction,” he said.

In part, the service line plans to reduce readmissions by providing a medical support “home” staffed by a primary care physician, where patients can be treated instead of being admitted to the Emergency Department.

Meanwhile, Dr. Petrelli said, the service line’s first clinical pathway has proven a success. It zeroed in on patients with operable Stage 2 non-small-cell lung cancer. The service line leaders chose this patient population because it was a small group that would be easier to track. So far this year, there are 13 patients enrolled in the pathway.

“We’re measuring whether they receive surgery or not, chemotherapy; we are closely watching to ensure there are no unnecessary scans or unnecessary treatments, and that they are following up with their primary care physician,” said Tammy Brown, RN, MSN, OCN, NTABC, clinical director of the Cancer Program.

“We have 100 percent compliance,” Dr. Petrelli said. “We don’t seem to have an inappropriate use of PET scans.”



We’d like to see diminished emergency room visits, diminished admissions and readmissions, and greater patient satisfaction.”

CHRISTOPHER D.
KOPROWSKI, M.D., MBA

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HEART AND VASCULAR:

Syncope

The Heart and Vascular service line has chosen for its second clinical pathway a common condition with a variety of causes: syncope, or loss of consciousness.

“One of the bigger problems we have today is we have many people with syncope getting too extensive a workup,” said Timothy Gardner, M.D., physician leader of the Heart and Vascular service line and medical director of the Center for Heart & Vascular Health. “You wouldn’t want someone who is otherwise healthy to go through an extensive neurological workup, just like you wouldn’t want someone who has a low likelihood of a heart rhythm problem to wear a 24-hour heart monitor for a week.”

Emergency room physicians, who see hundreds of patients a day, understandably are concerned about missing something life-threatening, he said.

“The tendency is to over-test, but if we can develop evidence-based practices to treat patients more effectively, more safely and lower the cost — that’s the holy grail to reducing unnecessary testing and treatment,” he said.

In many cases, a fainting spell is caused by conditions fairly simple to treat. The patient could be dehydrated, anxious or have forgotten to take their blood pressure medicine.

“Patients who have syncope don’t have an obvious diagnosis,” he said. “We get a large number of patients who get admitted with a syncopal diagnosis, and most of them get admitted on observation status.”

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The tendency is to over-test, but if we can develop evidence-based practices to treat patients more effectively, more safely and lower the cost — that’s the holy grail to reducing unnecessary testing and treatment.

TIMOTHY GARDNER, M.D.

In the past 18 months, Christiana Care has treated 2,800 patients — or 156 per month — for syncope. About 60 percent were discharged from the Emergency Department, Dr. Gardner said.

Syncope can be a sign of a serious problem like a heart blockage or a neurological issue. But because of the wide variety of potential causes, the possible pathways for treatment are varied.

“Obviously, some people with syncope do have serious causes, especially older people, so we need to both reduce variation and be effective,” he said.

First, a physician will make sure there are no injuries associated with the episode, like a fall. The patient’s medical history will be reviewed with an eye toward obvious explanations such as medication. In rare instances, if there are other symptoms indicating there might be something wrong with circulation to the brain, the patient will be targeted for a neurological workup.

Even for patients who need further evaluation, a hospital stay isn’t necessarily the most appropriate option. If, for example, the patient can be seen the following day by a cardiologist, he or she wouldn’t have to be admitted to the hospital.

In its first clinical pathway, the Heart and Vascular service line addressed the most common type of heart attack: the non-ST-segment-elevation myocardial infarction, or NSTEMI.

Christiana Care sees about 50 NSTEMI patients per month, most of whom are identified in the Emergency Department. The clinicians there now consistently use a scoring system known as thrombolysis in myocardial infarction (TIMI) that predicts which patients are of highest risk. The workflow also determines the frequency of troponin tests.

“Developing the NSTEMI clinical pathway was really a wonderful experience,” said Leslie Mulshenock, MBA, director, Heart and Vascular, Business & Informatics, and administrative project lead for both clinical pathways. “We’ve had a slight reduction in length of stay, and medication compliance is up.”

Dr. Gardner concurred. “I’m very pleased with the initial implementation of the NSTEMI clinical pathway. For patients who have come through the Emergency Department and were diagnosed early-on with NSTEMI, we’re getting tremendous compliance and participation.

“It’s been especially helpful in reducing time spent in the emergency room, and the coordination between emergency room staff and cardiology has been greatly improved.”

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MUSCULOSKELETAL HEALTH:

Hip FIT (Fracture Intervention Team)

If the Musculoskeletal Health service line's new Hip FIT (Fracture Intervention Team) clinical pathway is successful, its physicians will never meet the people they've helped the most.

That's because the population will become educated at an earlier age about the importance of maintaining bone health and won't need their services.

"A primary goal of the Musculoskeletal service line is to improve the bone health of our neighbors," said Brian Galinat, M.D., MBA, physician leader for the service line and chair of the Department of Orthopaedic Surgery. "The more awareness people get regarding their bone health when they are in their 20s, 30s, 40s and 50s, the fewer hip fractures we will see in older folks."

Christiana Care treats more than 500 hip fracture patients each year. Regardless of age, it's always a severe injury.

The pathway establishes better coordination of care for patients with hip fractures. Dr. Galinat believes the new protocol will decrease length of stay, and Christiana Care's care-coordination and support service Care Link should help decrease readmissions.

Standardizing the treatment plan also better positions Christiana Care with Medicare's bundled payment program — a new payment model that incentivizes health care providers to improve quality and health outcomes while reducing cost.

"This is an opportunity for us to do the right thing and benefit from a new payment model that was spawned by the Affordable Care Act," Dr. Galinat said.

The new clinical pathway aims to reduce the time between a patient's arrival and surgery by utilizing only the medical consults that are appropriate for each patient. "For example, clinical decision guidelines will allow the hospitalists to clearly know when and when not to consult cardiology. If we can safely get the patient to the operating room in under 36 hours, we will have better patient outcomes," he said.

The protocol also engages social services earlier in the process to help a family select a proper skilled nursing facility earlier so that discharge is not delayed. "Interestingly, patients admitted with a hip fracture on the weekend currently have an overall shorter length of stay. We are fairly sure that this is in large part to issues related to transfer to skilled facilities on a weekend. If you come



Dan Grawl, PA-C and Andrew Brady, M.D., orthopaedic surgeon, discuss a patient's postoperative care for a hip replacement. Preventing hip fractures and optimizing care for hip-fracture patients is the focus of the Musculoskeletal Health service line's new clinical pathway.

in on a Saturday, you may leave Wednesday. If you come in on a Tuesday, you may leave Monday."

The Musculoskeletal Health service line learned a lot from its first clinical pathway, vertebral fragility fractures, he said. So far, that pathway has enrolled about 115 patients.

The pathway for vertebral fragility fractures consists of two main components: coordinating follow-up care to ensure patients are connected with an osteoporosis provider who can guide them through treatment to prevent future fractures, and narrowing spine surgery consults to the minority who might benefit from them.

Dr. Galinat said future clinical pathways, like the present ones, will carry a unifying message of the importance of bone health.

"As long as we keep this the focus of the Musculoskeletal Health service line, providers from pediatrics to primary care will take more time to make bone health a part of the discussion," he said. "It will have a trickle-down effect throughout the health system and our community."

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NEUROSCIENCES:

Uncomplicated seizure

For its second clinical pathway, the Neurosciences service line wanted to focus on a population best served in an outpatient setting — people presenting to the Emergency Department with an uncomplicated seizure.

For its second clinical pathway, the Neurosciences Service Line wanted to focus on a population best served in an outpatient setting — people presenting to the Emergency Department with an uncomplicated seizure.

“Many of these patients do not require admission to the hospital if they can be set up with rapid follow-up care in the outpatient setting,” said Valerie Dechant, M.D., associate service line leader and medical director of Neuro Critical Care. “The uncomplicated seizure clinical pathway focuses on facilitating patients’ access to neurological services. If they come to the Emergency Department, whether with their first or breakthrough seizures, we focus on connecting the patient to the appropriate resources in the community. This creates a better experience for the patient and more appropriate utilization of resources for the health system.”

In addition, she said, Christiana Care is hiring more epilepsy experts as part of a plan to develop a dedicated epilepsy center.

Dr. Dechant estimated that anywhere from 200 to 300 patients will be enrolled in the new clinical pathway in the first year.

The target group will be patients 18 and older who are not pregnant and whose seizures are not due to conditions such as acute trauma, infection, stroke, or alcohol or drug use, said June Wang, M.D., Ph.D., an epileptologist who practices with Christiana Care Neurology Specialists. Every day, the Emergency Department sees several patients who have had seizures due to a variety of reasons — maybe they haven’t taken their medication appropriately, or are suffering from sleep deprivation or stress, or their medications need to be adjusted, she said

“We want to have a standardized care plan in the emergency room so everybody will be on the same page,” Dr. Wang said. “We want to avoid unnecessary testing and admission.”

The major improvement the new pathway will provide is a better transition from the Emergency Department to outpatient services.

“Currently, after a visit to the emergency room, there is a disconnection in how you continue the care,” she said. “There really is a big gap between the emergency room and outpatient clinics.”

Under the new protocol, information about every patient in the pathway will be sent to an outpatient clinic. Dedicated staff will review the database each morning and discuss a treatment plan with a medical provider. The pathway also will capture new patients with a diagnosis of epilepsy who aren’t yet connected with specialty care.

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We want to have a standardized care plan in the emergency room so everybody will be on the same page. We want to avoid unnecessary testing and admission.”

JUNE WANG, M.D., Ph.D.

“This is the time we can find those patients and avoid the burden of unnecessary admission in the future,” she said.

Meanwhile, the service line’s first clinical pathway, treating patients for acute ischemic stroke, has been going well, Dr. Dechant said.

“We rolled out several information technology aids that have really helped us get our patients on the pathway, track what we’re doing with them and make sure they are getting the services we want them to get,” she said.

Clinicians check up on the enrolled patients on a monthly basis. In addition, the standardized order template for stroke patients points them toward getting the proper medication.

“That guide ensures these patients get the rest of the pathway applied,” Dr. Dechant said. “We continue to gain momentum in people using that tool, and that speaks to the fact that not only is it good for the patients, but it is user-friendly for the doctors. People have really embraced the idea.”

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PRIMARY CARE & COMMUNITY MEDICINE:

Practice transformation

Every one of the 110,000 patients treated by the Primary Care & Community Medicine service line will be touched by its new clinical pathway: practice transformation.



“We use it as a catch-all term to encompass a range of practices we need to undertake, rather than choosing to focus on one disease,” said Omar Khan, M.D., medical director for Community Health at the Eugene du Pont Preventive Medicine and Rehabilitation Institute and service line physician leader. “With 30 to 50 common diseases, if we attacked everything on a disease basis, it would take us quite a while. What we really needed to do was install broad-based intervention. It was ‘go big, or go home.’”

If that sounds like a heavy lift, that’s because it is. But the service line already has made great strides, thanks to a team effort.

“Our colleagues from across the service line and medical group deserve a great deal of credit,” Dr. Khan said.

The goal is to certify all of the health system’s primary care sites as Patient-Centered Medical Homes, as deemed by the national Center for Quality Assurance, by mid-2018, he said.

In 2011, Christiana Care’s Department of Family and Community Medicine became the first practice in the state to earn that distinction (Level 1 of 3).

This past summer, two other practices — Wilmington Health Center’s Adult Medicine and Pediatrics — received Level 3 certification, a step up the Level 2 accreditation it earned in 2013.

“It was a large push to get that group re-certified, and that was successful,” said Julie Silverstein, M.D., FACP, associate service line leader for Primary Care & Community Medicine.

The team effort included Nancy Howard, MSM, FABC, director of Primary Care Operations; Mary Ann Faralli, Ed.D, MSN,

MBA, RN, CCRN, Quality Improvement Program manager; and Sarah Schenck, M.D., FACP, medical director for Adult Medicine, and care coordinator Crystal Pollock, RN-BC, both at the Wilmington Hospital.

“It’s a very strong team, and they have been working hard to assess practice needs and identify gaps,” Dr. Silverstein said.

The challenge, she said, was not so much in improving practices, but documenting standards that Christiana Care already has in place to demonstrate their qualification for the certification.

“The biggest reward was reviewing national standards and recognizing that we were adhering to those standards already. Some of it was out of organic growth, doing what we knew was right and providing the type of care we want to provide.”

To achieve certification, facilities need to document that they use patient-centered practices and provide coordinated care.

“
You have to show evidence that you’re doing certain things — you’re patient-friendly, accessible and delivering care as the patient wants it. It’s transforming the practice into a basket of services that really wraps itself around the patients’ needs.”

OMAR KHAN, M.D.

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“You have to show evidence that you’re doing certain things — you’re patient-friendly, accessible and delivering care as the patient wants it. It’s transforming the practice into a basket of services that really wraps itself around the patients’ needs,” Dr. Khan said.

For example, a phone is the best technology that some patients have. “Our technology has to be what the patients are also using. If they call an office with a concern, the priority should be to get them seen by a primary care physician that same day,” he said. “It should be seamless customer service from entrance to exit.”

The initiative is boosted by a state innovation model (SIM) grant from the Delaware Center of Health Innovation. It also is supported by a partnership between the Delaware Academy

of Family Physicians and its counterpart in New Jersey, which together are overseeing the Practice Transformation Services Project.

“This certification is far more than just a stamp of approval,” Dr. Khan said. “What it signifies underneath is that we’ve met very many metrics. The practice isn’t just the same practice with a new certificate. It is a practice transformed around patients’ needs.”

Meanwhile, the service line is doubling down on its first clinical pathway, which addresses the management of care for adults with Type 2 diabetes. The team is creating an online and smartphone-accessible module for diabetes management for providers in partnership with Endocrinology. Patients have access to the portal to transmit information such as blood sugar levels.



A key to creating a healthier community while controlling health care costs is helping people to stay healthy and out of the hospital. This includes simple but important steps like annual wellness checkups and flu vaccinations. Practice transformation in Christiana Care’s Primary Care and Community Medicine service line promises to have a positive impact on patients and families throughout the community.

“A key opportunity for us was to allow a primary care physician to escalate medications for diabetes management in an appropriate manner,” he said. “Rather than having a consultation just for that, we can embed that information into an algorithm in a smartphone. It should save unnecessary complications and free up consultants for diabetes.”

The service line also is working on embedding key elements into patients’ electronic health records to help physicians decide on next steps.

Finally, Dr. Khan said, the department is piloting a shared visit concept for patients with equivalent conditions, to provide education and peer bonding.

SURGICAL SERVICES:

Perioperative evaluation and treatment services

Like their colleagues in Primary Care & Community Medicine, the Surgical Services team chose a clinical pathway that applies broadly across the service line, regardless of condition.

The subject, perioperative evaluation and treatment services, stemmed from the service line’s initial clinical pathway, recurring ventral hernia abdominal wall reconstruction, said Matt Rubino, M.D., FACS, chief of Surgical Services for Wilmington Hospital.

“We found out how important pre-operative optimization is,” Dr. Rubino said. “We realized we had the opportunity to make a big impact on a really broad patient population, regardless of what their diagnosis or surgery was.”

The trick is identifying high-risk patients whose surgical outcome can be improved by optimizing them before surgery, he said.

“There are certain high-risk patients who are going to be high-risk no matter what you do,” Dr. Rubino said. “We will be looking at different risk stratification tools to pick those patients out ahead of time. Part of that process is determining what outcome measures we want to look at — factors like length of stay, post-operative complications, readmissions, costs.”

Depending on patients' co-morbidities, the service line will be looking at helping patients improve things like blood sugar level and body mass index. The goal is to provide care management on a continuum, from the time a surgery is scheduled to when the patient returns home.

"We're still exploring different technologies for patient engagement," he said. "How can we communicate more frequently and provide them with information?"

One resource will be Care Link, Christiana Care's system for monitoring high-risk patients.

As for the current clinical pathway, the group has seen great improvements, said Joe Weiss, MHA, CHFP, CPHQ, administrative director for Perioperative Services.

The new protocol has shaved the average hospital stay from 11 days to seven or eight for the 80 recurring ventral hernia abdominal wall reconstruction patients enrolled in the clinical

pathway, he said. That's better for patients, and it also reduces the cost of care. Readmissions and emergency room visits also have gone down.

"We've had a quite few lessons learned over this process," he said. "It's very new working around the scheduling piece, reaching patients far enough out in advance. Instead of scheduling surgery in a week or two, we're pushing it out to 30-plus days to optimize them," he said. "We're seeing some good traction with that, so it's a big win for the team."

“

We realized we had the opportunity to make a big impact on a really broad patient population, regardless of what their diagnosis or surgery was."

MATT RUBINO, M.D., FACS

WOMEN'S AND CHILDREN'S: TIME (Triple I to Manage Early Onset Sepsis)

The new clinical pathway being adopted by the Women's and Children's service line will reduce the number of healthy-term babies admitted to the neonatal intensive care unit, and will reduce unnecessary antibiotic treatment and separation of mothers and newborns.

The pathway standardizes the treatment of babies born to women with a condition previously called chorioamnionitis (commonly referred to as chorio) and standardizes treatment using "Triple I" criteria, which evaluates for the presence of intrauterine inflammation, infection or both to manage treatment.

Nationally, just 1 in 10,000 births will be affected by early-onset sepsis related to this diagnosis, and although rare, when it occurs, the results can be devastating.

"This is perfect subject matter for a new clinical pathway because there is not a standardized way for obstetricians to diagnose this on the maternal side," said David Paul, M.D., physician leader of the service line and chair of Pediatrics.

Under current practice, all newborns of women with suspected chorio — regardless of whether they present with symptoms — are admitted to the NICU, where they are treated with intravenous antibiotics and stay for a minimum of 48 hours.

"This care of the newborn in the NICU requires the separation of mom and baby for something that's unlikely to happen," said Sherry Monson, RN, MSN, MBA, CENP, vice president of Women's and Children's Services.

To reduce the number of healthy-term babies admitted to the NICU, the service line will standardize maternal care of chorio

using Triple I criteria and adopt the sepsis calculator tool by Karen Puopolo, M.D., PhD, et al to determine to treat in cases of suspected Triple I.

"It's exciting to see the obstetricians, neonatologists, pediatricians and nurses from L&D, Mom-Baby and NICU all working together in a pathway that really affects the mom/baby dyad," Monson said.

The service line will track the number of term babies admitted to the NICU, about 10 percent of whom are there for Triple I, to gauge the success of the pathway, Dr. Paul said. Specifically, the clinical pathway team aims to reduce by 20 percent the number of infants sent to the NICU because they were born to mothers with Triple I.

"This pathway fosters 'TIME' for mothers and babies to bond, reducing the anxiety of separation and improving the birth experience for many mothers whose newborn would historically have gone to the NICU to rule out sepsis," said Linda Daniel, RN, MSN, CPHQ, director of Quality and Patient Safety for the Women's and Children's service line. "A standardized approach will improve care delivery."

The pathway calls for the babies assigned to a postpartum unit to have their vital signs monitored so that they may be treated

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Christiana Care's Women's and Children's service line is reducing unnecessary stays in the NICU for newborns with specific risk factors, creating a better experience for families and promoting better health for babies.



“It’s exciting to see the obstetricians, neonatologists, pediatricians and nurses from L&D, Mom-Baby and NICU all working together in a pathway that really affects the mom/baby dyad.”

SHERRY MONSON, MSN, RN, MBA, CENP

quickly if they show signs of bacteria in the bloodstream, usually manifested in breathing difficulties.

“If the baby remains clinically healthy, we can skip a visit to the NICU,” Dr. Paul said.

Meanwhile, the Women’s and Children’s service line has seen its inaugural clinical pathway evolve, said Elizabeth Zadzielski, M.D., MBA, FACOG, medical director for ambulatory women’s health and associate leader of the service line.

That pathway focused on the treatment and follow-up care of gestational diabetes patients and their babies.

The new protocol increases compliance with gestational diabetes testing. Previously, women at risk of the condition underwent a one-hour test early in their pregnancy. An abnormal result would require them to return for a three-hour diagnostic test. That often meant a lag of one or two months, and only about 75 percent were following through with the testing, Dr. Zadzielski said.

In January, the service line adopted use of a two-hour screening and diagnostic test to eliminate the need for the initial one-hour test and subsequent three-hour test. Compliance continued to be an issue, so the team regrouped and have now integrated testing into an obstetrical visit for at-risk patients. Those mothers are

now scheduled for an initial two-hour visit in which the test is administered, and the rest of the time is spent meeting with a nurse practitioner and nutritionist to provide education and counseling.

“Lo and behold, we found the patients really, really liked this — you can have important testing done and get some really useful education at the same time,” she said. “The upshot is that we’re actually looking to further partner with phlebotomy on-site.”

The intervention doesn’t stop there. Women who have gestational diabetes are at a high risk of developing Type 2 diabetes after delivery. But again, there was a low compliance rate in getting postpartum testing done six weeks after giving birth. New research indicates that there isn’t a difference in accuracy if a woman is tested directly postpartum or weeks later. Now, such at-risk mothers have their glucose tested before they are discharged.

“We have learned a lot,” she said. “The value of this pathway has been the opportunity for us to look at current processes and retool and realign to really deliver expert care.” ●

Providing comfort at a time of loss



Members of the care team at Wilmington ICU, including Patient and Family Adviser Michael Gervay (right), have enhanced efforts to support families grieving the loss of a loved one.

When a person dies in the hospital, the loss is felt by everyone around them: families, friends and the health care team that has cared for them during their hospitalization. Patient care units at Christiana Care have long ensured that families are supported through these difficult times, but recent efforts, created in partnership with the Patient and Family Advisory Council, are helping to better ensure a consistent, comforting experience for families.

A systemwide program to better coordinate bereavement support began in March, after receiving input from the Council.

“We showed them sample cards and other materials,” said Denise Barbee, MJ, BSN, RN, director of Patient and Family Relations. “We were eager to hear their ideas.”

Barbee worked on the initiative with a multidisciplinary team that included Senior Patient Relations Specialist Kellie McQueen, Clinical Pastoral Education Supervisor Metty Mesick, MDiv, MAPC, BCC, ACPE, and Lead Nurse Practitioner Shirley Brogley, ACHNP, ANP-BC, of the Supportive and Palliative Care Program.

Their goal was to ensure that every family receives a message of condolence within seven days. Each card also includes contact information so grieving family or friends can reach out and learn more about resources in the community that might help them in a time of sorrow. Their efforts recognized and aimed to supplement

already established protocols in some areas of the hospital, including the Emergency Department, Women’s and Children’s and the intensive care units.

“Some families may receive two cards where there is overlap with an existing program,” she said. “Most important, we now know that every family will receive at least one. They often are at the lowest point in their lives after losing someone they love. We want them to know that there are people who care.”

Michael Gervay, who serves as a patient and family adviser, worked with nurses in the Wilmington ICU to develop a protocol for staff to follow when a death occurs. That begins with a moment of silence. The family is presented with a memory box that includes a candle, a card from the staff and a small ceramic heart. Some loved ones also include a lock of the patient’s hair.

Gervay was motivated to become a patient and family adviser after his own experience when his father passed away in the Wilmington ICU.

“It’s a very simple thing to put together, yet it’s extremely meaningful for families,” Gervay said. “It eases the pain a little bit.”

Barbee said these gestures of compassion and caring also help the staff who are impacted by a patient’s death.

“With each card that we write, we reflect on that life,” she said. “We hope we are giving them some sort of comfort.” ●

Respectful, expert, caring partners in getting flu shots

By **Tabé Mase, APN, MJ, MSN, CHC**, director, Employee Health



More than 90 percent of the people who work at Christiana Care have worn a hang-tag on their badge that says “I’ve been vaccinated,” a visual sign that tells patients, colleagues and visitors that they have been inoculated against flu.

It’s also a sign that they are respectful, caring, expert partners in their neighbors’ health — and their neighbors include the people they encounter at work, at home and in the community. It’s a true reflection of The Christiana Care Way.

A flu shot doesn’t just help to keep you healthy so you can do your work. That value translates to your home because you aren’t spreading the flu to your loved ones. You carry your immunity with you to the grocery store, the gym and the movies. You take it with you to church.

As the state’s largest private employer, Christiana Care is making Delaware a safer place by contributing to “herd immunity,” which occurs when the vaccination of a high percentage of the population provides a measure of protection for individuals who have not developed immunity.

Because there are so few susceptible people to infect, herd immunity keeps the disease from spreading. It can prevent an epidemic. It works in schools, hospitals and other settings. And when we get vaccinated and encourage people outside the health system to do likewise there is a healthy ripple effect for all our neighbors.

In the years since Christiana Care started its vaccination campaign the number of employees going home because they are ill or calling out because they are sick has dropped dramatically.

The flu blitz also benefits colleagues because the percentage of employees who are vaccinated is a safety metric in our Transformation Recognition Program or TRP. The last time around, 92 percent of employees rolled up their sleeves and got a flu shot.

This time around, we want to do even better!

Vaccinating more than 11,000 employees, retirees and volunteers is a big job. The staff at Employee Health could not possibly handle it on their own.

So we asked employees to sign up for training as vaccinators. Creating affordable, innovative models of care is an important part of The Christiana Care Way.

We needed 500 hours of work from vaccinators. Colleagues from Infection Prevention, Pharmacy, nursing units and clinicians in various service lines have stepped up to help.

It’s inspiring that extraordinary people are helping extraordinary people. We are very grateful to the colleagues who have volunteered. When we work together, everyone benefits.

Expect a few tweaks in this year’s flu campaign. In an effort to make the vaccination initiative more efficient, we have improved the model. Retirees will receive shots at various Christiana Care locations along with active employees instead of coming to Employee Health as they have in past years. High doses will be available at stations for employees and retirees 65 and older. We are no longer offering nasal flu vaccines because they have not proved to be effective.

There also are fewer reasons not to be vaccinated. Being allergic to eggs is no longer a contraindication, according to the Centers for Disease Control and Prevention.

People with Guillain-Barré syndrome, a rare but serious autoimmune disorder, should not be vaccinated. You can learn more about who should and should not get the vaccine under the Flu tab on the Portal. There is lots of great information on the flu and its symptoms, as well.



If you decline to get the vaccine, please tell us why. It will help us understand how we can do our jobs better. There’s no penalty for not getting the shot, although it will have an impact on the TRP, a goal shared by your co-workers. Also, employees who do not have a hang-tag on their badge will have to wear a mask when they enter an area where there are patients.

So what if you think you are coming down with the flu?

If you are achy, feverish and fatigued, it’s better to be safe than sorry. Stay home and take care of yourself. After you have been free of fever for 24 hours, come back to work. Your neighbors will be happy to see you — healthy and well.●

eBrightHealth is first-of-its-kind health care partnership in the First State



The eBrightHealth Board of Managers. Back row: Bill Strickland, board vice chair, Bayhealth (sitting in for I.G. Burton, board chair, Bayhealth); Terry Murphy, FACHE, president and CEO, Bayhealth; The Honorable William Swain Lee, board chair, Beebe Healthcare; Jeffrey Fried, FACHE, president and CEO, Beebe Healthcare; Steven Rose, RN, MN, president and CEO, Nanticoke Health Services. Front row: Janice E. Nevin, M.D., MPH, president and CEO, Christiana Care Health System; Doneen Damon, board chair elect, Christiana Care Health System; Lynda Messick, board chair, Nanticoke.

Four leading hospital systems in Delaware have formed a statewide strategic partnership to increase access to health care services, improve the quality and affordability of care and offer all Delawareans an even brighter health care future through collaboration and innovation.

Named eBrightHealth, the partnership is a first-of-its-kind alliance of four health systems (consisting of six total hospitals) in the First State that serve more than 935,000 Delawareans. Participants are:

- Bayhealth.
- Beebe Healthcare.
- Christiana Care Health System.
- Nanticoke Health Services.

The alliance builds on the foundation and strengths of the statewide Quality Partners Accountable Care Organization (ACO) Medicare Shared Saving Program begun in January 2016. The ACO comprises the eBrightHealth hospitals and more than 200 primary care providers throughout the state who are employed by the hospitals or are in community-based practices. While the ACO is focused on Medicare populations,

eBrightHealth will allow us to apply the same care transformation strategies across other populations.

Named for Ebright Road, the highest geographic point in the state, eBrightHealth strives to achieve the pinnacle of health for Delawareans by sharing best practices and innovations to raise the quality of care. By sharing population health strategies such as clinical pathways, the partner systems can reduce unnecessary variation in care, which heightens the quality and patient experience of care while reducing the cost of care. For one example, last year Christiana Care introduced a clinical pathway for patients with chronic obstructive pulmonary disease (COPD) using evidence-based best practices. In six months, a key quality indicator — readmission to the hospital within 30 days of discharge — dropped significantly from 28 percent to 18 percent. Sharing the COPD clinical pathway through the eBrightHealth partnership could amount to meaningful improvements in health care statewide.

All the hospitals can report best practices examples that will be shared by the strategic partnership, improving access to the best care possible wherever Delaware residents live.

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eBRIGHTHEALTH | CONTINUED

“Quite simply, eBrightHealth is the future of health care,” said Terry Murphy, FACHE, president and CEO of Bayhealth. “The alliance will result in four cutting-edge health systems working together to identify and create strategies to provide the highest quality care to all Delawareans.”

The alliance supports the objectives of the state plan to improve the health of Delawareans, enhance health care quality and patient experience, and reduce health care costs.

Among the innovations eBrightHealth will initially focus on are the following:

Employee health plan care coordination for the partner systems.

- Clinical initiatives that create transformation in care delivery, such as reducing unnecessary use of the emergency department, improving primary care office workflow and implementing programs supporting end-of-life concerns.

- Laboratory and imaging services that focus on opportunities implementing recommendations from the national Choosing Wisely campaign to avoid wasteful or unnecessary medical tests, treatments and procedures that will promote better care and higher efficiencies.
- Information technology enhancements focusing on health information exchanges.
- Group purchasing arrangements to share risks and lower costs.

Under the alliance, each of the health systems in the eBrightHealth partnership maintains its operating independence and all services.

“This coalition represents a new chapter that will propel us to further our efforts to transform health care delivery and achieve even greater efficiencies throughout the state,” said Jeffrey M. Fried, FACHE president and CEO of Beebe Healthcare.

Addressing population health is a chief goal of eBrightHealth that will facilitate care coordination for Delawareans with specific diseases.

“By joining together in this innovative partnership, we will enable Delaware to take its next big step into population health and create value for our community in ways that are meaningful to Delawareans,” said Janice E. Nevin, M.D., MPH, president and CEO of Christiana Care Health System.

Population health efforts at the four partner health systems will continue to focus on improving health outcomes of groups of individuals with chronic conditions that present higher levels of health risk and health costs, such as those with COPD, diabetes, asthma or heart failure. Collaboration among participating health systems can further integrate and coordinate the care delivery system with community health services and public health, implement health promotion and disease prevention programs and address health disparities so all Delawareans can lead a healthy life.

“We’ll be working together on several initiatives to offer a more patient-centered, value-oriented, technology-driven and simpler model of care that builds on many of our strengths and ongoing innovations,” said Steven A. Rose, RN, MN, president and CEO of Nanticoke Health Services.

Governance of eBrightHealth consists of a Board of Managers that includes the board chair and CEO from each participating system. The eBrightHealth chair and CEO will be a rotating position starting with Steven Rose of Nanticoke. Other governance structures are Executive and Development Committees to review and identify initiatives. ●

“By joining together in this innovative partnership, we will enable Delaware to take its next big step into population health and create value for our community in ways that are meaningful to Delawareans.”

JANICE E. NEVIN, M.D., MPH





“The classes were informative and interactive and really fun... . By the time I had my first child, all of my questions had been answered — even the ones I didn’t know I had. It was everything I needed.”

PATRICIA HALL

Christiana Care prepares moms for success

Patricia Hall was thrilled to learn she was pregnant for the first time. Then came a flood of questions about what to expect during pregnancy and as a new mom.

Her search for answers led to Christiana Care, where Hall participated in the CenteringPregnancy program for her prenatal care. CenteringPregnancy offers patient-centered prenatal care in a group setting, and provided Hall with education on how to nurture herself and her baby before and after giving birth.

“I learned so much, from what I should eat to what changes I should expect in my body,” said Hall, now the mother of three, who also participated in other Christiana Care classes and support

programs for expectant mothers. “The classes were informative and interactive and really fun. I loved meeting women in the same shoes as me. By the time I had my first child, all of my questions had been answered — even the ones I didn’t know I had. It was everything I needed.”

As the largest health care provider in Delaware and one of the largest in the U.S., Christiana Care delivers more than 6,000 babies a year. Through education and expert, compassionate care for mothers-to-be, and strategic partnerships with local organizations, Christiana Care helps women across the region prepare for pregnancy, carry to term and deliver thriving babies.

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“Some of the most important things a woman can do to have a healthy baby occur before she becomes pregnant. By focusing on preconception health, we can help assure better health outcomes for both mother and baby.”

DAVID A. PAUL, M.D.

“We provide the full spectrum of care to help mothers and babies achieve optimal health,” said Elizabeth M. Zadzielski, M.D., associate clinical lead, Women’s and Children’s Services at Christiana Care. “We are extremely passionate about this and very optimistic about the difference we can make for women. We want all moms to be successful.”

Attention to preconception and prenatal health is of national importance. Annually in the U.S., six in every 1,000 babies die before their first birthday, a rate even higher in Delaware — eight in 1,000. And across the country, according to “Closing the Black-White Gap in Birth Outcomes: A Life Course Approach” from the National Institutes of Health, African-American babies are more than twice as likely than white babies to die within their first year.

But behind these disturbing numbers is hope. With education and better maternal health, many infant deaths are preventable. Christiana Care works toward this goal through collaborative programs and services to support vulnerable populations.

“Some of the most important things a woman can do to have a healthy baby occur before she becomes pregnant. By focusing on preconception health, we can help assure better health outcomes for both mother and baby,” said David A. Paul, M.D., clinical leader of Women’s and Children’s services line, chair of Pediatrics and governor-appointed chair of the Delaware Healthy Mother and Infant Consortium.

Since 2007, Christiana Care has partnered with the Delaware Division of Public Health on Healthy Beginnings, a program to help women achieve a healthy full-term birth, and one that Hall participated in. The program addresses many of the root causes of racial disparities in birth outcomes, including lack of access to quality health care, poor maternal health and, unique to black women, social and racial stressors and inequities.

Bringing together a team of Christiana Care physicians, nurse practitioners and educators, social workers, mentors, dietitians and case managers, the program helps patients identify and address pregnancy risks before conception and set the stage post-conception for a healthy pregnancy and delivery.

“Healthy Beginnings provides holistic care at our OB-GYN practices,” said Stephanie Rogers, MSN, RN, nurse manager of Parent Education, Lactation and Outpatient Programs at Christiana Care, with a background in racial disparities in maternal and child health. “The program addresses many risk factors the women we serve face, such as obesity and diabetes, stress, lack of exercise, and smoking, alcohol and illegal drugs. It also promotes having a reproductive life plan.”

Among the other Christiana Care programs supporting at-risk women are peer counselors who encourage and support WIC-eligible moms to breastfeed, the Center for Women’s Emotional Wellness, which offers specialized behavioral health support pre- and post-childbirth, community-based Health Ambassadors who connect pregnant women and families to health care, social services and more, and CenteringPregnancy, which combines prenatal care visits with support groups.

Additionally, to address the impact of the nation’s growing opioid crisis on Delaware’s youngest lives — approximately three in 100 babies born in Delaware experience opiate withdrawal within hours of being born — Christiana Care has joined forces with substance abuse and behavioral health services providers.

The health system provides clinical care and education to expectant mothers in recovery on-site at Brandywine Counseling and Community Services in Wilmington and runs

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“We provide the full spectrum of care to help mothers and babies achieve optimal health. We are extremely passionate about this and very optimistic about the difference we can make for women. We want all moms to be successful.”

ELIZABETH M. ZADZIELSKI, M.D.

educational groups at Connections in Newark. And obstetrics staff visit Brandywine twice a month to provide onsite prenatal care to women participating in the methadone maintenance program.

“It’s vital that we reach and engage at-risk women very early on,” said Women’s and Children’s nurse practitioner Pamela W. Jimenez, FNP-BC, RN, PNP-BC. “Our moms-to-be have incredible, inspiring stories, and we want them to feel comfortable seeking care regardless of what else is going on in their lives. Our priority is making sure their health needs are met and that we’re positioning them and their babies to thrive.” ●

Patricia Hall and her family, husband Carlton Hall Jr., baby Melody, three-year-old Luke and four-year-old Carlton III, live in Wilmington. Hall participated in Christiana Care classes and support programs for expectant mothers in a group setting that provides a mom-to-be with education on how to nurture herself and her baby before and after giving birth.



Philanthropist Tatiana Copeland turns personal experience into opportunity to help others

To support cancer prevention and women's health, philanthropist and businesswoman Tatiana Copeland has given a generous gift of \$800,000 to fund two breast tomosynthesis — or 3-D mammography — units at the Helen F. Graham Cancer Center & Research Institute at Christiana Care Health System to provide clearer, more precise mammograms.

“Uncertain mammogram results can be terrifying,” said Copeland, a breast cancer survivor who received her treatment at the Graham Cancer Center.

“Tomosynthesis can alleviate avoidable scares and take the Graham Cancer Center's already outstanding Breast Center to a new level.”

According to the American Cancer Society, across the U.S. one in eight women will face breast cancer at some point in their lives. In Delaware this year, doctors will detect 780 new cases. For women across the state, the Breast Center, the only facility in the region devoted exclusively to breast care, diagnosis and treatment, becomes a trusted ally in early detection screenings and post-diagnosis treatment.

The Breast Center is one of the first facilities in the U.S. to offer tomosynthesis. From a patient's perspective, nothing on the surface has changed. The procedure uses the same equipment as conventional 2-D mammograms. But unseen to the patient is a new world of imaging that can ultimately be life-changing for all women.

“Numerous well-run clinical trials have shown that tomosynthesis detects an additional one to four breast cancers per 1,000 women screened, and decreases recalls for repeat mammograms and biopsies by 15 percent,” said Diana Dickson-Witmer, M.D., FACS, medical director of the Breast Center. “This enables us to better find cancer and to make a more accurate diagnosis, while doing

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To support cancer prevention and women's health, Tatiana Copeland has funded two breast tomosynthesis — or 3-D mammography — units at the Helen F. Graham Cancer Center & Research Institute. 3-D mammography provides clearer, more precise mammograms.

“Uncertain mammogram results can be terrifying. Tomosynthesis can alleviate avoidable scares and take the Graham Cancer Center's already outstanding Breast Center to a new level.”

TATIANA COPELAND



“The Copelands have a way of identifying a need and taking the solution to the next level,” said Nicholas J. Petrelli, M.D., Bank of America endowed medical director of the Graham Cancer Center, here with the Copelands and Dr. Nevin.

fewer biopsies.” Dr. Dickson-Witmer is the senior author of an article published in the *Annals of Surgical Oncology*, October 2016, outlining an evidenced-based approach to counseling and screening patients with dense breasts.

While 2-D mammography is still standard, women who have had breast cancer or who have dense breasts can particularly benefit from tomosynthesis, said Dr. Dickson-Witmer. The 3-D technology creates multiple, layered images of a breast from different viewpoints. Radiologists can look at the breast one millimeter at a time and see through dense breast tissue that is often hard to read in conventional mammograms.

The Breast Center is one of the first facilities in the U.S. to offer tomosynthesis. Gerret and Tatiana Copeland visited the Graham Cancer Center to see the new units with Joanne Antonio, RN, CBEC, Diana Dickson-Witmer, M.D., FACS, medical director of the Breast Center, Christiana Care President and CEO Janice E. Nevin, M.D., MPH, Jacqueline Holt, M.D., chief of breast imaging, and Lola A. Osawe, MHSA, FACHE, FACMPE, administrative director.

“What has been game-changing with tomosynthesis is that we don’t have as many false positives, meaning we don’t have to call women back for nerve-racking tests and biopsies,” says Jacqueline Holt, M.D., chief of breast imaging at Christiana Care. “Since we

added this new technology, we decreased our call-back rate by close to 45 percent and our biopsy rate by 33 percent. We’ve spared many women unnecessary anxiety, missed work and lost wages. It’s the immediate impact Mrs. Copeland looked to make with her generous gift.” ●





Addiction Symposium addresses heroin epidemic in Delaware

When it came time to choose the topic for the 4th Annual Addiction Medicine Symposium, there was no debate. “We wanted to learn about heroin,” said Terry Horton, M.D., FACP, chief of the Division of Addiction Medicine. “Our friends and our families are affected by this epidemic in ways that surprise even those who have been in the field. I’m startled by the extent and magnitude with which heroin affects our patients and family members. It’s an extraordinarily important topic.”

Titled “The Heroin Epidemic,” the daylong conference on Aug. 30 drew 185 professionals to the John H. Ammon

Medical Education Center at Christiana Hospital, the largest crowd to date for the annual event. The forum was sponsored by Christiana Care Health System, Central East Addiction Technology Transfer Center Network and two dozen community providers that were on hand to distribute literature.

The symposium also featured a training session in administering Narcan, a drug used in an emergency to counteract a narcotic overdose.

The five speakers, including Rita Landgraf, secretary of the Delaware Department of Health and Social Services, addressed the

history of the current heroin epidemic, debated effective treatment options and examined the efforts Delaware is making to combat addiction.

Opioid addiction is a disease, they stressed, and should be treated as such. It does not discriminate by gender, class or ethnicity.

Dr. Horton recalled a range of patients: a 20-year-old admitted with “horrific endocarditis,” a 26-year-old man bound for graduate school before he died and was revived in the emergency room, and a 58-year-old woman who awoke from an angioplasty in heroin withdrawal.

How did we get here?

Matthew Ellis, MPE, CGE, of the Department of Psychiatry at Washington University in St. Louis, provided an overview of the perfect storm that exploded into an opioid epidemic. He harkened back to the early 2000s, when the Joint Commission on Accreditation of Healthcare Organizations referred to pain as the “fifth vital sign,” which could be treated with opioids.

At that time, the potential for abuse of extended-release oxycodone was considered low. That is, until snorting and injection became common, Ellis said. That led to the development of abuse-deterrent formulations that could not be crushed into small enough particles to snort and would turn into a gel, unable to be injected, if liquefied. Then entered drug cartels, which understood how lucrative the heroin trade was.

As supply-side efforts cut down on the availability — and upped the cost — of prescription opioids, more and more users turned to heroin. It was cheaper and easier to get, and the stigma of using heroin began to fade.

Ellis cited quotes from users who participated in research studies. Said one, “Every single person I know now that used pills now uses heroin. . . . Also every person I know that now uses heroin uses it intravenously. More people than I can count who I never thought would ever even try heroin are now shooting it up.”

So far this year, through Aug. 21, Delaware has seen 136 suspected overdose deaths, Landgraf said. The state ranked ninth in the nation in 2014 for the rate of fatal overdoses — 20.9 people per 100,000, compared with the U.S. average of 14.7. The problem is particularly prevalent in the southern part of the state.

“It’s the most horrific disease impacting Delaware,” she said.

The state’s system for combating the disease is fragmented. “Individuals face gaps in services and support,” she said. The answer lies in a partnership approach among prevention education, treatment and recovery, and law enforcement.

The state is working to develop more withdrawal management centers for addicts, she said, and pushing for Narcan to be available in pharmacies.

“I want to really make Delaware a state that dealers are afraid to come to,” she said.

Adam Brooks, Ph.D., and David Gastfriend, M.D., of the Treatment Research Institute in Philadelphia, spoke of the benefit of medication-assisted treatment along with counseling to help addicts get clean.

Drug-free treatment models have a higher relapse rate, Brooks said. However, he noted the stigma among some recovery groups that won’t accept a participant who is on medication, and the high cost of the medication, as hurdles to the medication-assisted approach.

“Cost is not a medical consideration,” Dr. Gastfriend said, projecting charts showing that spending upfront on treatment reduces providers’ costs in the long run. “We need pharma-therapy

available for all patients... . Without medication, you’re building a house on quicksand.”

Lex Remillard, MSW, LCSW, who practices in West Chester, Pennsylvania, and sees mostly young adults, was more leery of using medication in treatment.

“I have never seen Suboxone work in a long-term fashion,” he said. Suboxone, made up of buprenorphine and naloxone, is one of the medications used to treat people in withdrawal.

Many of the patients he sees began using painkillers as teens, after a surgery or swiped from a family member, and spiraled into addiction, he said.

“My job often is to just plant a seed” for recovery, he said. “Because if not, the addiction is going to take you.”

The audience, comprised of a wide range of professionals who interact with people struggling with addiction, came away with more than continuing medical education credits. They learned best practices for treating addicted patients with evidence-based approaches, how to administer a life-saving drug, the difference between the myths and realities of heroin addiction and, finally, the role they each can play attacking the addiction in partnership with each other and the state. ●



Secretary Rita Landgraf of the Delaware Department of Health and Social Services addressed the history of the current heroin epidemic and examined the efforts Delaware is making to combat addiction.

More than 180 from Medical-Dental Staff honored as Delaware Today 'Top Doctors'

More than 180 doctors from Christiana Care's Medical-Dental Staff have been named to Delaware Today magazine's 2016 Top Doctors list.

In May, the magazine invited doctors in Delaware to nominate who they would recommend to a loved one. Only doctors licensed in the state could vote. According to the magazine, this year's list is about 120 names longer than last year's list. More than 180 doctors are new to the list or appear for the first time since 2014 or prior.

Congratulations to all of the physicians who were honored in this year's list. Thank you also to the many physicians, nurses and support staff who partner with them to deliver on the promise of The Christiana Care Way.

Addiction Medicine

Terry L. Horton, M.D.

Allergy and Immunology

Richard Kim, M.D.
Gregory V. Marcotte, M.D.
Quan C. Nguyen, M.D.

Anesthesiology

Pablo Adler, M.D.
Steven M. Katz, M.D.
Melinda Randall, M.D.

Cardiology

Vinay R. Hosmane, M.D.
Gilbert A. Leidig Jr., M.D.
George D. Moutsatsos, M.D.
Ashish B. Parikh, M.D.
Ehtasham A. Quershi, M.D.
Brian H. Sarter, M.D.

Critical Care

Michael Benninghoff, D.O.

Dermatology

Courtney Guerrieri, M.D.
Dawn Hirokawa, M.D.

Emergency Medicine

Brian J. Levine, M.D.
Patrick Matthews, M.D.
John T. Powell, M.D.
Gordon D. Reed, M.D.
George R. Zlupko, M.D.

Electromyography

Enrica Arnaudo, M.D.
Anthony L. Cucuzzella, M.D.

Endocrinology

Ripudaman S. Hundal, M.D.
M. James Lenhard, M.D.
Valerie A. West, M.D.

Family Practice

William B. Funk, M.D.
Stephen J. Kushner, D.O.
Robin Jean Simpson, D.O.
Curtis A. Smith, M.D.
Adrian I. Wilson, D.O.

Gastroenterology

George Benes, M.D.
Michael J. Brooks, M.D.
Joel E. Chodos, M.D.
Mark J. Corso, M.D.
Jose F. del Rosario, M.D.
Christine M. Herdman, M.D.
Nathan A. Merriman, M.D.
Amy M. Patrick, M.D.

Genetics

Louis Bartoszesky, M.D.
Karen W. Gripp, M.D.

Geriatrics

Patricia M. Curtin, M.D.
Jeffrey M. Guarino, M.D.
David A. Simpson, M.D.

Gynecology

Gregory W. DeMeo, D.O.
Nancy Fan, M.D.
Chantel Imran, M.D.
Alexander L. Kirifides, D.O.
Stefanie Marshall, D.O.
Gordon J. Ostrum, M.D.
Nancy F. Petit, M.D.

Hematology

Frank V. Beardell, M.D.
Scott W. Hall, M.D.
S. Eric Martin, M.D.
Robin E. Miller, M.D.
R. Bradley Slease, M.D.

Hospital Medicine

Kunal P. Bhagat, M.D.
Kathleen F. Eldridge, M.D.
Laura A. Lawler, M.D.
James Piacentine, D.O.

Infectious Disease

Alfred E. Bacon, M.D.
David M. Cohen, M.D.
Wesley W. Emmons, M.D.
Stephanie A. Lee, M.D.
John P. Piper, M.D.
John F. Reinhardt, M.D.

Internal Medicine

Reynold S. Agard, M.D.
Beshara N. Helou, M.D.
Timothy J. Hennessy, M.D.
James P. Loughran, M.D.
Alexia Moutsatsos, M.D.

Maternal-Fetal Medicine

James S. Manley, M.D.
Jennifer Merriman, M.D.
Anthony C. Sciscione, D.O.

Medical Imaging

Vinay K. Gheyi, M.D.

Neonatology

Robert G. Locke, D.O.
David A. Paul, M.D.
Wendy J. Sturtz, M.D.

Nephrology

Manthodi K. Faisal, M.D.
Manish Garg, M.D.
Martin F. Gavin, D.O.
Carlos Andres Machado, M.D.
Arun V. Malhotra, M.D.
Collette J. Mehring, D.O.
Joshua J. Zaritsky, M.D.

Neurology

S. Charles Bean, M.D.
Michael J. Carunchio, M.D.
Paul A. Melnick, M.D.
Jonathan M.
Raser-Schramm, M.D, Ph.D
Jason M. Silversteen, D.O.

Oncology

David D. Biggs, M.D.
Michael Guarino, M.D.
Gregory A. Masters, M.D.
Pamela S. Simpson, M.D.

Ophthalmology

Andrew M. Barrett, M.D.
 Carolyn Glazer-Hockstein, M.D.
 Dorothy M. Moore, M.D.

Orthopaedics, Foot and Ankle

Paul C. Kupcha, M.D.
 Robert A. Steele, M.D.

Orthopaedics, Hand and Wrist

Randeep Kahlon, M.D.
 J. Douglas Patterson, M.D.
 David T. Sowa, M.D.
 Peter F. Townsend, M.D.
 Jennifer M. Ty, M.D.

Orthopaedics, Joint Replacement

Alex Bodienstab, M.D.
 Evan H. Crain, M.D.
 Steven M. Dellose, M.D.
 Eric T. Johnson, M.D.
 Leo W. Rasis, M.D.
 James J. Rubano, M.D.

Orthopaedics, Spine

Mark S. Eskander, M.D.
 J. Rush Fisher, M.D.
 Bruce J. Rudin, M.D.

Orthopaedics, Trauma

Drew A. Brady, M.D.
 Eric T. Johnson, M.D.
 Michael J. Principe, D.O.

Otolaryngology

Joan F. Coker, M.D.
 Kieran M. Connolly, M.D.
 Neil G. Hockstein, M.D.
 Jay Luft, M.D.
 William M. Sheppard, M.D.
 Michael T. Teixeira, M.D.
 Robert L. Witt, M.D.

Pain Management

Rachael Smith, D.O.
 Selina Y. Xing, M.D.

Pathology

Mary V. Iacocca, M.D.
 Gary Witkin, M.D.

Pediatrics

Matthew P. Gotthold, M.D.
 Kerry S. Kirifides, M.D.
 Sangita P. Modi, M.D.
 Karla A. Testa, M.D.

Physical Medicine

Kelly S. Eschbach, M.D.
 Scott T. Roberts, M.D.
 Rachael Smith, D.O.
 Craig Sternberg, M.D.

Plastic Surgery, Cosmetic

Lawrence D. Chang, M.D.
 Benjamin Cooper, M.D.
 J. Joseph Danyo, M.D.
 Paul A. Sabini, M.D.
 Jonathan N. Saunders, M.D.

Plastic Surgery, Reconstructive

Lawrence D. Chang, M.D.
 Benjamin Cooper, M.D.
 Joseph A. Napoli, M.D., D.D.S.
 Jonathan N. Saunders, M.D.
 David D. Zabel, M.D.

Podiatry

Anthony M. Caristo, D.P.M.
 Joseph A. Ciampoli, D.P.M.
 Raymond A. DiPretoro, D.P.M.
 W. Scott Newcomb, D.P.M.
 Katherine M. Perscky, D.P.M.

Psychiatry

Sandeep K. Gupta, M.D.
 Carol A. Tavani, M.D., MS

Pulmonology

Aaron S. Chidekel, M.D.
 Mark D. Jones, M.D.
 Anthony A. Vasile, D.O.

Radiation Oncology

Adam Raben, M.D.
 Sunjay A. Shah, M.D.
 Jon F. Strasser, M.D.

Radiology

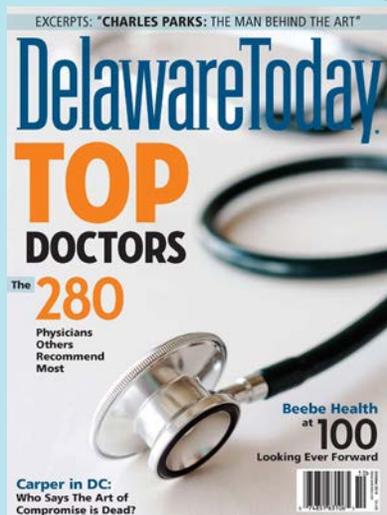
Mandip S. Gakhal, M.D.
 Vinay K. Gheyi, M.D.

Reproductive Medicine

Ronald F. Feinberg, M.D., Ph.D.
 George Kovalevsky, M.D.
 Barbara A. McGuirk, M.D.
 Adrienne B. Neithardt, M.D.
 Jeffrey B. Russell, M.D.

Rheumatology

Lourdes Aponte, M.D.
 Shakaib Qureshi, M.D.
 Carlos D. Rose, M.D.
 Eric M. Russell, D.O.

**Sports Medicine**

Bradley C. Bley, D.O.
 Evan H. Crain, M.D.
 Bradley J. Sandella, D.O.
 Joseph J. Straight, M.D.

Urogynecology

Matthew J. Fagan, M.D.
 Howard B. Goldstein, D.O., MPH
 Babak Vakili, M.D.

Urology

David J. Cozzolino, M.D.
 Thomas J. Desperito, M.D.
 T. Ernesto Figueroa, M.D.
 Andrew J. Glick, M.D.
 Michael R. Lobis, M.D.
 Steven A. Terranova, M.D. ●

Christiana Care surgeon leads drive to clarify cancer-screening guidelines for women with dense breasts



The Christiana Care Breast Center offers 3-D mammography at both the Graham Cancer Center and Concord Health Center locations.

Diana Dickson-Witmer, M.D., FACS, surgeon and medical director of the Christiana Care Breast Center and Breast Program at the Helen F. Graham Cancer Center & Research Institute, is the senior author of an article published in the *Annals of Surgical Oncology*, October 2016, outlining an evidenced-based approach to counseling and screening patients with dense breasts.

Currently 27 states, including Delaware, have mandated that mammography reports include information about a woman's breast density and a recommendation that she talk with her doctor about the benefits

of additional screening with MRI, 3-D mammography or ultrasound.

Although both MRI and ultrasound can detect breast cancers not easily seen on a mammogram, the downsides are more false positive readings, more recalls, more benign biopsies and higher costs that may not be covered by insurance. There is also the potential for over-diagnosis and treatment since some cancers found with these adjunct imaging modalities may never become clinically significant.

"When women talk about their mammographic breast density with their doctor, all of the other risk factors

for developing breast cancer and risk reduction strategies should be part of that conversation," Dr. Dickson-Witmer said.

Nearly half of all women undergoing screening mammography in the United States have what doctors describe as dense breasts — less fat, more fibrous glandular tissue. Increased breast density makes it harder for the radiologist to spot cancer on a mammogram, potentially making screening mammography less accurate for women with dense breasts.

"We think it is really important that breast density not be looked at as a stand alone critical element in a women's risk

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of developing breast cancer, because it isn't," she added. A woman's family and personal medical history, smoking, alcohol consumption, obesity after menopause and lack of exercise also factor in. "Only about 8 to 10 percent of women have extremely dense breasts. They may have a two-fold risk over the general population for developing breast cancer, but that is still a relatively low risk."

The authors originally presented their recommendations as a panel moderated by Dr. Dickson-Witmer at the American Society of Breast Surgeons annual meeting in April. They point out that currently there are no definitive, evidenced-based guidelines for screening based on breast density alone.

Their effort to clear a pathway to care for women with dense breasts may be the first on this subject to appear in a major surgical journal.

"Take the opportunity to talk to women about their other risk factors, whether they should see a genetics counselor, and what behaviors they can change to reduce their risk for breast cancer," she said. Risk-reducing medications such as tamoxifen or raloxifene are also options for some women.

To aid in that discussion, the authors recommend surgeons use one of several evidenced-based breast cancer risk assessment tools, such as the IBIS Breast Cancer Risk Evaluation Tool developed by the International Breast Cancer Intervention Study, also known as the Tyrer-Cuzick model.

The model uses personal and family history, including genetic history, and lifestyle factors to calculate a breast cancer lifetime risk percentage value. Doctors can then plug that value into an evidence based algorithm (the Massachusetts Breast Risk Education and Assessment Task Force algorithm, for example) to determine whether additional supplemental

screening is indicated. The algorithm recommends MRI screening for women with greater than 20 percent lifetime risk on the Tyrer-Cuzick (IBIS) risk model, no adjunctive screening for women with less than 15 percent risk and consideration of adjunctive screening with MRI or ultrasound for women with lifetime risk of 15-20 percent.

Experts agree and medical evidence supports the advice that any woman, regardless of her breast density, who falls in the high-risk group (greater than 20 percent lifetime risk, based on genetics, family history of breast cancer and other factors) should have an MRI along with her yearly mammogram. On the other hand, if her lifetime risk is less than 15 percent, she is less likely to benefit from supplemental imaging, regardless of breast density.

"The intermediate group (lifetime risk of 15 to 20 percent) is the only group where breast density should be taken into account for adjunctive screening," said Dr. Dickson-Witmer. "We recommend tomosynthesis (3-D mammography) as the first-line screening modality of choice for these women, if available."

Women in the intermediate category should consider additional screening with MRI or ultrasound, if tomosynthesis is not available, but a conversation with their doctor about the benefits and drawbacks of these methods is essential.

Studies show that initial screening with 3-D mammography, particularly for women with dense breasts, can find additional cancers, with fewer callbacks for additional images and fewer false positives than a 2-D mammogram.

The Christiana Care Breast Center offers 3-D mammography at both the Graham Cancer Center and Concord Health Center locations. ●



"When women talk about their mammographic breast density with their doctor, all of the other risk factors for developing breast cancer and risk reduction strategies should be part of that conversation."

DIANA DICKSON-WITMER, M.D., FACS

Ideas for health care apps compete to become reality in Innovation Challenge



Imagine an app that empowers nurses to accurately and easily record information during the swirl of activity that accompanies a Code Blue — when a hospital care team rapidly responds to resuscitate a person in cardiac arrest. Imagine technology that allows expectant mothers to monitor their pregnancies and keep closely in touch with their providers. Imagine using your smartphone to make medical appointments, electronically fill out forms in advance and even make co-pays.

These are some of the brightest of the bright ideas presented at the 2016 Innovation Challenge, Sept. 29 at Wilmington Hospital, hosted by Christiana Care's Health & Technology Innovation Center. Launched this year, the Innovation Center explores ways to research, develop and apply new technologies and devices to make health care safer, more effective and more efficient.

Innovation plays a vital role in The Christiana Care Way, contributing to affordable models of care delivered in ways patients value, said Janice E. Nevin, M.D., MPH, Christiana Care president and CEO.

"If we are going to advance our mission, innovation is a key ingredient," Dr. Nevin said, speaking by video conference.

In all, 70 ideas for apps were submitted to the Innovation Center. For the challenge, the field was narrowed to four finalists. The best idea was determined by members of the Innovation Center Governance Council.

"The winner will work side-by-side with the team at the Innovation Center to make that idea a reality," said Neil Jasani, M.D., MBA, FACEP, Christiana Care's chief learning officer and vice president for Medical Affairs.

That doesn't mean the other ideas won't come to fruition, said Randall Gaboriault, MS, chief information officer and senior vice president, Innovation and Strategic Development. The center's mission is to provide a steady stream of technologies that will add value to the patient experience.

"The Innovation Center gives us an opportunity to invent, respond and pioneer," he said.

The judges considered four pitches:

Michael Benninghoff, D.O., medical director, MICU, MERC, Respiratory Care, presented "All Clear! Real Time Digital App For ACLS Data." The goal: replacing handwritten difficult-to-decipher notes during Code Blue with an app that enables the rapid response team to record cases with such aids as a red flashing light that alerts the team when an injection of epinephrine is due.

Keith Heitz, organizational excellence consultant, advocated for "One Stop — An App For All Things Visitor," which would help visitors to the hospital to improve access with information, such as real-time info on parking, text message updates on the status of patient procedures, walking directions, and access to hospital directories.

Matthew Hoffman, M.D., MPH, FACOG, Marie E. Pinizzotto, M.D., Endowed Chair of Obstetrics and Gynecology, presented "An Integrated Pregnancy Application" that ultimately would allow expectant mothers with routine pregnancies to make fewer doctor's visits and provider higher-

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Keith Heitz introduced his idea, "One Stop - An App For All Things Visitor," which would help hospital visitors improve access with information.



Care Link medical director Tabassam Salam, M.D., FACP, pitched "A Boarding Pass for Christiana Care Appointments."



Michael Benninghoff, D.O., presented All Clear! Real Time Digital App For ACLS Data, the winning response to the 2016 Innovation Challenge.

risk patients with the extra care they need. The app would educate patients by enabling them to text with a nurse, log fetal movements and receive timely updates on such concerns as the Zika virus.

Tabassam Salam, M.D., FACP, medical director of Care Link Services, pitched "A Boarding Pass for Christiana Care Appointments," in which patients could use their smartphones to schedule appointments, complete medical questionnaires, reconcile medications, upload a picture of their insurance cards, pay a co-pay and even videotape concerns, such as a gait disturbance.

The winner, by unanimous consent, was "All Clear! Real Time Digital App For ACLS Data."

Dr. Benninghoff said the proposed app was a collaborative effort by members of the committee that oversees Code Blue and rapid response.

"We've been talking about this for a couple of years," he said. "It was clear to us that we had to come up with something different because data gets lost when there is a room of 20 people trying to save a life and someone is trying to write things down on a piece of paper."

Once developed, the app will enable a nurse to record times and procedures on a digital tablet. The proposal also calls for such prompts as flashing lights to alert the responders to certain benchmarks in care.

"More accurate records will help us to develop better algorithms and enhance care," Dr. Benninghoff said. "We also will be better able to talk to families, which is an important part of what we do." ●

Emergency Department visit inspires philanthropist to support Christiana Care resident physicians and nurses



John T. Powell, M.D., FAAEM, was the supervising attending physician in the ED during Mr. Rice's visit. "I am touched that not only has he complimented our service," said Dr. Powell, "but he has also gone above and beyond for future nurses and doctors."

"Being a doctor is about more than stomping out disease; it's about caring for people and making meaningful personal connections with them."

JOHN T. POWELL, M.D., FAAEM

One late Sunday afternoon a few years ago, chest and shoulder pain stopped Elwood Rice short. He headed straight to Wilmington Hospital, where two Emergency Department residents treated him. The young doctors ruled out a heart attack and spent hours running a battery of tests, even after Rice's pain subsided. Long after being released, Rice remembered the residents' tenacity and empathy.

Today, the retired paper technology industry executive, who was ultimately diagnosed with shingles, has made two contributions to Christiana Care Health System in thanks for the care he received.

"I was so impressed," said Rice, a world-traveling octogenarian who spends part of every year in his hometown of Wilmington.

"These fellows worked really hard to figure out what was causing my pain. I mentioned to one of the ED nurses how thankful I was for the care. She told me residents often carry significant debt from medical school and work for relatively little pay, as residency is still part of their education. She said that unexpected circumstances — such as a personal illness, family emergency or even a lost stethoscope — can become financial hardships."

This nurse's chance comment inspired Rice to take philanthropic action.

He established the E.J. "Woody" Rice Resident Intern Endowment Fund for Christiana Care residents' special needs. "I decided to give back and help doctors while they're training," explained Rice. "And I wanted my gift to have lasting impact."

The fund will serve as financial support for eligible residents in Christiana Care's 15 residency programs.

"Many people don't realize that medical school graduates carry an average student loan debt of almost \$200,000," said Neil Jasani, M.D., MBA, FACEP, Christiana Care's chief learning officer and vice president for Medical Affairs. "During graduate medical training, doctors face long, intense hours of hard work for a salary that typically isn't comparable to this level of debt. Having a cushion for unplanned expenses can alleviate unnecessary stress for them and their families."

Christiana Care is home to one of the nation's most competitive medical education programs. Every year, seeking experience at a nationally recognized community-based teaching hospital, more than 1,000 fourth-year medical students apply for Christiana Care's emergency medicine residency alone. The 12 applicants accepted then spend three years training with leading clinicians in a Level I trauma center that treats adults and children from around the region.

"Christiana Care residents learn the best clinical practices and, importantly, they are trained in The Christiana Care Way, which is to serve as expert, respectful and caring partners in the health of patients," said Brian J. Levine, M.D., FACEP, FAAEM, program director of Christiana Care's emergency medicine residency and an alumnus of the program. "It's heartwarming to hear that Mr. Rice experienced this Way, and that it inspired him to help residents, who carry forward the health system's values."

Rice is furthering his help for health care providers in training. After learning from Dr. Jasani that nurses in Christiana Care's nurse residency programs share similar financial challenges, he established a separate fund for them. Said Rice, whose late wife Marion was a nurse, "Sometimes a problem that might seem small to someone else will weigh heavily on a person's mind and can have a big impact on other areas of their life. If emergency financial assistance solves a problem, everybody — the doctor or nurse, patient and donor — benefits."

Christiana Care's nursing residencies offer novice nurses the opportunity to train in one of five specialty areas — neonatal, medical, perioperative, emergency and critical care.

"Nursing is as much an art as it is a science," said Jennifer Painter, MSN, APRN, CNS, RN-BC, OCN, AOCNS, director for Nursing Professional Development and Education at Christiana Care. "Nurses spend so much time caring for and getting to know patients and families that it's wonderful to have their work acknowledged and their advanced training supported in a unique way. We are grateful to Mr. Rice."



"Sometimes a problem that might seem small to someone else will weigh heavily on a person's mind and can have a big impact on other areas of their life. If emergency financial assistance solves a problem, everybody — the doctor or nurse, patient and donor — benefits."

ELWOOD "WOODY" RICE

John T. Powell, M.D., FAAEM, one of the doctors who cared for Mr. Rice at Christiana Care, was honored to learn that his patient's experience with the health system inspired such generosity.

"Being a doctor is about more than stomping out disease; it's about caring for people and making meaningful personal connections with them," said Dr. Powell, an attending physician in the Wilmington ED who completed his residency and fellowship at Christiana Care. "We cared for Mr. Rice the way we would any patient. I am touched that not only has he complimented our service, but he has also gone above and beyond for future nurses and doctors." ●

Christiana Care approved to confer Maintenance of Certification of physicians participating in quality and performance improvement projects

Christiana Care Health System has joined a select group of institutions approved by the American Board of Medical Specialties (ABMS) to confer Maintenance of Certification upon doctors in Delaware who actively participate in quality improvement projects.

“It’s a way for us to support our physicians’ efforts in making our care better,” said Robert Dressler, M.D., MBA, quality and safety officer, Academic and Medical Affairs. “In the past several years, we’ve been asking physicians to dedicate time to be involved in quality improvement projects. Now, clinicians can use their participation in those projects to earn credit through the Multi-Specialty Portfolio Program. It’s one way we can acknowledge their commitment to enhancing the value of care provided to the community.”

Once physicians are board-certified, one component for the maintenance of their medical specialty expertise is through professional development aimed at enhancing patient care and outcomes.



“It’s a way for us to support our physicians’ efforts in making our care better.”

ROBERT DRESSLER, M.D., MBA

But with 24 different specialty boards, each with its own requirements and timelines, the process for achieving the necessary credit became confusing, Dr. Dressler said.

The ABMS recognized physicians’ frustration in 2010 by creating a pilot program between three specialty boards and the Mayo Clinic.

“The general idea is that there are a lot of health care organizations that are doing really good, meaningful things in quality improvement and performance improvement,” said David Price, M.D., FAAFP, FACEHP, executive director of the ABMS Multi-Specialty Portfolio Program. It made sense to devise a mechanism to recognize that work, he said.

By 2014, the number of specialty boards participating had increased, along with the organizations invited into the pilot, and the Portfolio Program became official. Now, 21 of the 24 boards plus 71 institutions are engaged in the program. About half of the organizations are academic medical centers, Dr. Price said.

The program covers 95 percent of all practicing ABMS diplomates in the United States, he said.

Christiana Care, whose participation was finalized in late 2015, joins a number of venerable institutions, including the Johns Hopkins Hospital, Stanford Health Care and the Dana Farber Cancer Institute.

95% 
of practicing ABMS diplomates in the U.S. are covered by the program

So far, two projects have been submitted for Maintenance of Certification consideration, said Carol Pashman, MS, BSN, RN, director of Continuing Physician Professional Development, Continuing Medical Education and the Multi-Specialty Portfolio Program.

One addresses the protocol for treating patients in the intensive care unit who are in alcohol withdrawal. The other aims to improve the connection with quality outpatient care for patients 60 and older after they are discharged from the Emergency Department.

“We have a number of patients who need follow-up after having a visit in the Emergency Department. Sometimes they’re not able to get in to see their primary care physician in a timely manner,” said Loretta Consiglio-Ward, MSN, RN, education specialist, Quality and Safety, Institute for Learning, Leadership and Development (iLEAD). “We’re creating the option for these patients to come in for follow-up care. Our goal is to prevent readmissions by helping them stay healthy and well out in the community.”

Consiglio-Ward said it’s too early to estimate how many submissions the program will receive annually.

A multidisciplinary board composed of leaders from multiple service lines will provide oversight review of the projects, Pashman said, while she, Consiglio-Ward

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and Dr. Dressler make up a subcommittee that will screen the submissions before they are brought to the full board.

Projects could address health outcomes of the patient population, efficiency of service, safety of care, effectiveness of treatment and access to care, among other improvements, said Consiglio-Ward.

To qualify, physicians must participate during the entire process of their effort.

“Physicians must be able to verify and attest that they have participated throughout the entire quality-improvement effort, engaged with others involved in the project,

and helped implement change,” Pashman said. “Additionally, they must personally reflect on their experience and on the impact of the project on their practice.”

Participating physicians also must commit to implementing their protocols into their own practice or systemwide.

In reviewing the applications, the committee will be looking at how the proposed improvement was implemented and how its success was measured, Consiglio-Ward said.

Christiana Care’s application impressed the ABMS on several points, Dr. Price said.

“One is the multi-pronged approach to teaching safety and quality improvement,” he said.

One example was the use of video surveillance to improve inter-professional teamwork during neonatal resuscitations.

With the Portfolio Program, he said, “We have a chance to be a fly on the wall and see what kind of cool stuff organizations are doing. Every time I talk to the organizations, I learn something different. It’s important to how we continue to evolve to make ABMS more relevant to the community. It’s a learning opportunity — we can learn from you.” ●

Best practice review

NON-VIOLENT OR NON-SELF-DESTRUCTIVE BEHAVIOR

Non-physical interventions are preferred alternatives to restraints. Orders for restraints are initiated only after non-physical measures have failed or safety concerns require an immediate physical response.

Q. WHEN SHOULD RESTRAINTS BE USED?

- A. RESTRAINTS MAY BE USED TO PROTECT THE IMMEDIATE PHYSICAL SAFETY OF THE NON-VIOLENT, NON-SELF-DESTRUCTIVE PATIENT.

Q. CAN A NURSE INITIATE THE USE OF RESTRAINTS WITHOUT A DOCTOR’S ORDER?

- A. IN AN EMERGENCY SITUATION ONLY, THE REGISTERED NURSE (RN) MAY INITIATE RESTRAINTS IN ORDER TO PROTECT THE SAFETY OF THE PATIENT. AN ORDER WILL BE OBTAINED FROM THE PHYSICIAN OR DESIGNEE AS SOON AS POSSIBLE AFTER INITIATION OF RESTRAINTS.

Q. WHAT ARE THE REQUIRED ELEMENTS FOR RESTRAINT DOCUMENTATION AND MONITORING?

- A. THE FOLLOWING WILL BE MONITORED AND DOCUMENTED:
 - ▶ 2-HOUR INTERVALS MINIMUM:
 - OBSERVED BEHAVIORS.
 - ROUTINE ACTIVITIES OF DAILY LIVING (ADL) CHECKS WHICH INCLUDE NUTRITION, HYDRATION, HYGIENE AND ELIMINATION.
 - SAFETY MONITORING CHECKS WHICH INCLUDE INTEGRITY OF RESTRAINTS, SKIN INTEGRITY, PROVIDING RANGE OF MOTION, CHECKING CIRCULATION, AND SENSATION OF RESTRAINED EXTREMITIES.

- ▶ AT 8-HOUR INTERVALS MINIMUM:

- CHANGES IN PATIENT BEHAVIOR OR CLINICAL CONDITION REGARDING THE NEED FOR CONTINUED RESTRAINTS.
- VITAL SIGNS.

Q. WHEN SHOULD RESTRAINTS BE RENEWED?

- A. RESTRAINT ORDERS ARE BY RESTRAINT EPISODE AND ARE CURRENT FROM WHEN THE RESTRAINT IS INITIATED TO UNTIL THE TIME THE RESTRAINT IS REMOVED. THERE ARE NO RENEWAL ORDERS.

Q. CAN A PROVIDER WRITE A STANDING ORDER OR PRN ORDER FOR RESTRAINTS?

- A. NO, STANDING ORDERS OR PRN (AS NEEDED) ORDERS FOR RESTRAINTS ARE PROHIBITED.

Q. WHEN SHOULD RESTRAINTS BE DISCONTINUED?

- A. RESTRAINTS MUST BE DISCONTINUED AT THE EARLIEST POSSIBLE TIME. ASSESS AND MONITOR THE PATIENT ON AN ONGOING BASIS TO DETERMINE WHEN RESTRAINTS CAN BE SAFELY DISCONTINUED. THE RN MAY DISCONTINUE THE RESTRAINTS BASED ON OBSERVATION AND ASSESSMENT THAT DETERMINES THE PATIENT NO LONGER NEEDS THE RESTRAINTS. ●

If you have questions about this Best Practice Review, please contact the Content Expert: Maureen Seckel, clinical nurse specialist, at 733-6023, or call the Safety Hotline: 7233 (SAFE) from within Christiana or Wilmington hospitals. From outside call 623-7233 (SAFE).

Christiana Care professionals visit White House to promote health and safety

Two Christiana Care health professionals visited the White House this year as part of their efforts to keep our community healthy and safe.



Tim Gardner, M.D., medical director of Christiana Care's Center for Heart & Vascular Health and executive director of the Value Institute, attended a special event Sept. 9 at the White House. Titled "Making Health Care Better," the event was part of a series launched this year to highlight the progress made in the United

States in reducing the risk of heart disease and stroke over the past seven years. The event also addressed what remaining and important work needs to be completed in order to improve the cardiovascular health of the U.S. population.

Heart disease kills about 610,000 people in the United States each year and accounts for one of every four deaths, according to the U.S. Centers for Disease Control and Prevention. Stroke kills nearly 130,000 Americans each year and accounts for one out of every 20 deaths. Previous "Making Health Care Better" events have centered on diabetes and mental health.

Speakers included Tom Frieden, M.D., MPH, director of the CDC; Gary H. Gibbons, M.D., director of the U.S. National Heart, Lung, and Blood Institute; and Robert M. Califf, M.D., MACC, commissioner of the U.S. Food and Drug Administration.

Dr. Gardner was invited because of his role with the American Heart Association, the leading nonprofit organization dedicated to educating about and stopping heart disease. An internationally-known heart surgeon and leader in cardiovascular medicine, Dr. Gardner was the AHA national president in 2008-09. In that role, he served as the association's chief volunteer science and medical officer responsible for medical, scientific and public health matters.

Christiana Care Information Security Analyst Louis Tomczak III (second from right) with his award-winning team at the White House.

Cybersecurity expertise

Louis Tomczak III, an information security analyst with Christiana Care's Information Technology Department, participated in a meeting at the White House July 28 that centered on the value of cybersecurity competitions.

Tomczak was invited to the White House after a regional team that he was a member of took first place in a computer security competition that serves as an educational exercise to give participants experience in protecting and responding to cybersecurity threats.

Tomczak was selected to participate in the computer security competition after excelling in a test on various aspects of cybersecurity — such as network analysis and forensics — that is run by the U.S. Cyber Challenge, a national program focused on identifying and developing cybersecurity talent to meet the nation's cybersecurity workforce needs.

In addition to the trip to the White House, Tomczak was congratulated for his team's victory and his dedication to cyber-safeguarding efforts by U.S. Sen. Tom Carper, U.S. Chief Information Officer Tony Scott and Delaware CIO James Collins. ●



Curious kids find lots of 'awesome' at Surgicenter special event



The Perioperative Professional Nurse Council gave an insider's perspective of the operating room to curious children at an open house Oct. 2 at the Christiana Surgicenter. Nearly 300 Christiana Care employees and their children, outfitted in scrubs and masks, toured the Surgicenter, with perioperative nurses and staff as their guides. They received hands-on education about surgical tools, monitors and other "cool stuff" for an experience more than one child called "awesome." ●



Medicine-Pediatrics 4th year resident David Roofeh, M.D. (left), offered a health fair module on exercise.



Himani Divatia, D.O., gave a classroom health talk, which included a fun game.

Christiana Care brings health fair to Christina Cultural Arts Center

Health professionals from Christiana Care visited Christina Cultural Arts Center in Wilmington in a health fair, coordinated by Himani Divatia, D.O., of Christiana Care Hospitalist Partners, Sept. 22. Participating Christiana Care staff included attending physicians and residents, health guides and ambassadors, social workers and others conducting a roundabout of health stations that included such topics as nutrition and healthy eating, exercise, vision and dental health. ●



Health Ambassador Nicole Felicia Purdy played a pinwheel game with students to teach early childhood development knowledge.

Allen R. Friedland, M.D., FACP, FAAP Chief, Medicine-Pediatrics; Program Director, Medicine-Pediatrics Residency, lent a hand at the health fair.



Bettina Tweardy Riveros, Esq., chief health equity officer of Christiana Care Health System, dropped by the health fair to read to students.



Health professionals from Christiana Care visited Christina Cultural Arts Center in Wilmington in a health fair.

Sarah Nichols Nagle promoted to vice president, Strategy & Planning



Sarah Nichols Nagle, FACHE, has been promoted to vice president, Strategy & Planning, from her previous post as the director.

Nagle has more than 15 years' experience in strategic planning and business development at Christiana Care Health System. She has managed the market research and planning activities that support executive decision-making,

advance Christiana Care's mission, and guide resource allocation in service line development.

As vice president reporting to Randy Gaboriault, chief information officer and senior vice president of Innovation and Strategic Development, Nagle will lead a new strategy formulation and realization model that will align Christiana Care's planning process with system decision making.

"This unique approach, built on continuous strategy development, will connect the system strategic aims with service line and essential service strategic plans to support the overall goals of the organization," Gaboriault said.

Under Nagle's leadership the Strategy & Planning department facilitates the development of business plans, serves as the new business activity clearinghouse, guides and supports the

development of strategic models of care, and actively collaborates with strategic partners to achieve strategic aims.

As the director of Strategy & Planning she has fulfilled many key responsibilities, including:

- Guiding and shaping the development of the Christiana Care strategic aims and annual operating plan goals.
- Leading the development of the strategic overview that communicates strategy to the Board.
- Driving clinical and business strategy development in partnership with service lines and essential services.
- Being actively involved in geographic access point strategy and campus planning efforts, including the planned Women's and Children's building.

Nagle received a master of health administration degree from the Medical College of Virginia campus of Virginia Commonwealth University in Richmond, and a bachelor's degree in psychology and business and economics from Randolph-Macon Woman's College in Lynchburg, Virginia.

She serves on the board of the Charter School of Wilmington and as chair of the board's Strategic Planning Committee. She is a fellow with the American College of Healthcare Executives and a graduate of the Advisory Board's fellowship program. ●

Himani Divatia named associate director of Med-Peds residency program



Christiana Care Medicine-Pediatrics hospitalist **Himani Divatia, D.O., FAAP**, has been named associate director of the combined Med-Peds residency training program.

Dr. Divatia graduated from the Med-Peds program in 2015 after serving as co-chief resident.

Over her years as a resident, she served as chair, Physician Health and Wellness, Med-Peds section of the American Academy of Pediatrics, secretary of the National Med-Peds Residents' Association, and secretary of the Resident Council.

She received two resident Focus on Excellence awards and was a member of the Patient-Centered Medical Home for Wilmington Hospital Health Center Medicine and Pediatrics team.

She received the Gary Onady Award — the top national Med-Peds award, and the Herman Rosenblum Award for Excellence in Delivering Pediatric Care.

Since joining the Med-Peds faculty and inaugural LEED-R (Leadership Excellence and Education for Residents/Fellows) program, Dr. Divatia has presented national plenary and workshops, been a faculty advisor to Philadelphia College of Osteopathic Medicine students, served on the faculty of the Quality & Safety Council, a leader of the Med-Peds Board Review, a member of the Delaware Chapter of the American College of Physicians planning group, and an organizer of county-wide advocacy events.

Dr. Divatia graduated from Penn State University with BS in biology in 2006 and earned her medical degree at the Philadelphia College of Osteopathic Medicine in 2011.

Her interest and desire to pursue internal medicine-pediatrics originated at a regional specialty meeting held at Christiana Hospital in 2009. ●

OMS and Hospital Dentistry residency welcomes new leaders

The Oral & Maxillofacial Surgery and Hospital Dentistry residency program recently added three new faculty members.



Barry C. Boyd, D.M.D., M.D., FACS, joined the Christiana Care faculty as director for the Oral and Maxillofacial Surgery Residency Program. Dr. Boyd was a clinical associate professor on the faculty at the University of Buffalo for nearly 20 years, where he served as director of oral and maxillofacial surgery pre-doctoral curriculum and clinics, as well as staff oral and maxillofacial surgeon at Erie County Medical Center. He received his D.M.D. degree from the University of Pittsburgh in 1988, followed by a one-year dental general practice residency at Brigham and Women's-Harvard University. He next completed an oral and maxillofacial surgery training program with Allegheny Health Sciences and

medical degree from the Medical College of Pennsylvania, now known as the Drexel College of Medicine, in 1995, followed by an internship in general surgery at Mercy Hospital of Pittsburgh, now UPMC Mercy. ●



Etern Park, D.D.S., M.D., joined the Christiana Care faculty as associate program director for the Oral and Maxillofacial Surgery Residency Program and section chief for Maxillofacial Oncology. Dr. Park previously was the attending surgeon on the oral and maxillofacial surgery service at Erie County Medical Center (a Level 1 Trauma Center) and

Buffalo Veterans Affairs Medical Center in Buffalo, New York. He also holds academic appointments as assistant professor at University at Buffalo, where he was actively involved in resident education and clinical research. Dr. Park received a dental degree from Columbia University and a medical degree from University at Buffalo. His surgical residency was completed at University at Buffalo. He subsequently completed specialized fellowship in head and neck surgical oncology as well as microvascular reconstructive surgery at Legacy Emanuel Medical Center and Providence Portland Cancer Center in Portland, Oregon. ●



Jeffrey M. Rodney, D.M.D., joined the Christiana Care faculty as associate program director for the General Practice Dentistry Residency Program and section chief for Prosthodontics, Implantology and Maxillofacial Prosthetics. Dr. Rodney was in private practice as a prosthodontist for more than 22 years in New Jersey. He did a fellowship at UCLA

in maxillofacial prosthetics, which involved training in extraoral and intraoral prostheses including orbital, auricular, nasal, maxillary and mandibular prostheses. He also has research and clinical experience in nasoalveolar molding for children born with cleft palate and lip. Dr. Rodney served as a full-time maxillofacial prosthodontist assistant professor on faculty at the University of Michigan health system for two years prior to coming to Christiana Care. He is board-certified and interested in continuing clinical research in his field. ●



Kidney Transplant Symposium focuses on past, present and future

The annual Kidney Transplant Symposium, October 4 at the John H. Ammon Medical Education Center, provided a wide variety of information about the past, present and future of transplants. Speakers at the eight-hour event included Aline Stant, RN, discussing the history of transplantation, John Swanson, M.D., FACS, discussing the future of transplantation, Christy Sentman, RN, speaking on post-transplant perceptions, Stephanie Gilibert, M.D., discussing post-transplant reality, and Velma Scantlebury, M.D., FACS, on the subject of Public Health Service high-risk donors. ●



At the 7th Annual Christiana Care Kidney Transplant Symposium for Nurses and Dialysis Technicians: Ryan Haydu, MBA, administrative director, Velma Scantlebury, M.D., FACS, associate chief of transplant surgery, and Stephanie Gilibert, M.D., medical director of the Kidney Transplant Program.

Residents and fellows build leadership skills through LEED-R program



A regular LEED-R event is the LEED-R Ship Cafe based on “speed dating” a social phenomenon in which people meet multiple potential partners in a fast-paced set up where precious conversation time is limited by a stop-watch. In the LEED-R version, residents/fellows have up to 8 minutes to meet with a range of experienced, system and external leaders to gain as much helpful information as they can.

Twenty-three residents representing 10 residency programs from Christiana Care and Nemours participated in the fourth annual Leadership Excellence Education for Residents/Fellows (LEED-R) Aug. 15-26. The groundbreaking program teaches foundational leadership skills and exposes residents to system leadership strategy through talks by Christiana Care leaders, and self-awareness and reflection exercises.

“Preparing the next generation of physician leaders of our system and community is well worth the effort,” said Allen Friedland, M.D., FACP, FAAP, program director, Combined Internal Medicine-Pediatrics Residency Program.

Dr. Friedland is co-director of LEED-R with Barbara A. Monegan, MA, FABC, director, talent management and leadership development, Institute for Learning, Leadership & Development (iLEAD). ●

Still smoking? Now is a good time to quit

Smoking is bad for our health. No butts about it!

Tobacco is the largest preventable cause of deaths and illnesses in America, according to the American Cancer Society (ACS). Despite the risks, one in five adults in the United States still is a smoker.

Every year, on the third Thursday in November, the ACS sponsors the Great American Smokeout, challenging smokers to give up cigarettes for 24 hours. It's just one day, the first day of what could be the start of a smoke-free life.

Kicking the habit is hard. But you don't have to go it alone. Employee Health offers a Tobacco Cessation Program for employees. And there's no out-of-pocket cost!

The program offers:

- Face-to-face counseling, support and printed resources that individuals can refer to when they need them.
- Group counseling sessions available twice a year. (Dates to be announced.) Medications to help employees enrolled in the Employee Health program to stop smoking.

- Family members who are enrolled in a valid community tobacco cessation program and have primary care provider oversight also can receive paid prescriptions.

At Christiana Care, we are committed to helping employees kick the habit and lead healthier lives. As colleagues committed to health care, it's up to us to be positive role models for each other, our patients and our community.

There are lots of effective resources to help people who want to quit smoking.

There's the patch, which releases small amounts of nicotine through the skin to ease the anxiety and restlessness that typically accompany withdrawal. Nicotine gum, lozenges and nasal spray can help people who want to quit over the rough patches, as well.

Chantix is a prescription medication that eases nicotine withdrawal. The drug also blocks the pleasurable effects of smoking, lessening the urge to light up again.

There are many good reasons to quit smoking. First and foremost, living smoke-free will greatly increase your odds for a long and healthy life. You will reduce your risk of lung cancer, emphysema, stroke and heart disease. Your kids will be less likely to develop ear infections and respiratory problems.

If you have tried to quit smoking before and did not succeed, don't be too hard on yourself. A survey by the American Lung Association found that six out of 10 people who quit smoking failed at least once before they gave up tobacco for good.

So why not give it a shot? ●

**TO GET STARTED,
call the Tobacco
Cessation Hotline
at 302-733-1878.**

**Another resource
is the Delaware
Quitline, a free phone
counseling service
provided by the state
that operates 24/7.
The toll-free number is
866-409-1858.**

3rd Annual Heart & Vascular Interventional Services Conference

Nov. 12, 7:30 a.m. – 2 p.m.

John H. Ammon Medical Education Center

Informational sessions feature discussions of technological advances and trends in the Heart & Vascular Interventional Services Department presented by our expert heart and vascular physicians.

Registration fee: \$25 payable by check to Christiana Care Health System. Mail to Julie Tank, Christiana Hospital Heart & Vascular Interventional Services, Room 2866, 4755 Ogletown-Stanton Road, Newark, Delaware 19718. Contact Julie Tank at jtank@christianacare.org or call 302-733-5630 with questions. Christiana Care participants may preregister via the I-Net Education Center. Registrations are not confirmed until full payment has been received.



Writing as Healing

Nov. 14, 1 – 3 p.m.

Helen F. Graham Cancer Center & Research Institute, Room 2205, East Wing, 2nd Floor

A free program open to anyone who wants to explore using expressive and reflective writing techniques, is offered the 2nd Monday of each month from 1-3 p.m. at the at the Helen F. Graham Cancer Center & Research Institute, Room 1107, East Wing. Sessions are led by retired University of Delaware English professor, Dr. Joan DeI Fattore. Occasionally there are guest facilitators. Please visit the web site <https://events.christianacare.org/event/writing-as-healing/all/> to register for the first session you plan to attend or call the Junior Board Cancer Resource Library staff at 302-623-4580.

Value Institute Fall Symposium

Nov. 15, 7 – 9:30 a.m.

**John H. Ammon Medical Education Center.
Videoconferenced to Gateway Conference Center,
Wilmington Hospital.**

“Less Medicine, More Health: 7 Assumptions That Drive Too Much Medical Care.”

Keynote Speaker: H. Gilbert Welch, M.D., MPH, Professor of Medicine, Community & Family Medicine, The Dartmouth Institute; Professor of Business Administration, Tuck School of Business; Professor of Public Policy, Dartmouth College. Register online at [events/christianacare.org](http://events.christianacare.org) or call 800-693-2273.



Healing Through Art

Nov. 17, 3:30 – 6 p.m.

Helen F. Graham Cancer Center & Research Institute, Room 2205, East Wing, 2nd Floor

Upcoming Fall/Winter workshops, with volunteer Wendy Wallace, M.Ed, are on Thursdays Nov. 17, Dec. 1 and Dec. 15, 3:30 – 5 p.m.

Expressive Art, with Georgia Jones, is offered the 2nd Friday of each month (next up: Nov. 11) from 1 – 4 p.m.

Both workshops are free and open to those touched by cancer. Supplies are provided. To register call 302-623-4707 and specify your desired workshops you are signing up for.

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



Free Men's Health Lecture: The Latest Minimally Invasive Surgical Solutions to Your Prostate Problems

Nov. 30, 6:30 – 7:30 p.m.

Helen F. Graham Cancer Center & Research Institute, Suite 1200 Conference Room

Meet urology expert Christopher Mitchell, M.D., director of Robotic Surgery at Christiana Care for a free lecture on the advances of minimally invasive robotic surgery and other solutions for prostate care. Both men and women are invited to attend. Dr. Mitchell is a graduate of the University of Maryland School of Medicine and received his post-graduate training at the Mayo Clinic and at Vanderbilt Medical Center.

Seating is limited. Register today at <https://events.christianacare.org/event/robotic-nov30/>

Women's Health Lecture Headaches and Migraines: Treatment options from our experts

Nov. 30, 6:30 – 8 p.m., Wilmington Hospital, Gateway Conference Center

Jessica Bradley, M.D. and Rosemary Szczechowski, Psy.D., share headache remedies, medications, causes and treatment. Register: events.christianacare.org/womenslectures or call 800-693-2273.



Affordable Care Act Information & Enrollment



Need Help with Health Insurance for Yourself or Your Family? Certified, bilingual Marketplace Guides from Westside Family Healthcare can help you enroll in a plan before January 31, 2017 to receive coverage in 2017.

Dec. 8, 2016 – 4 – 7 p.m., Wilmington Hospital Lobby

Jan. 12, 2017 – 4:30 – 7 p.m., Helen F. Graham Cancer Center at Christiana Hospital - West Entrance

For more information, call 302-320-6586 or healthguides@christianacare.org

SAVE THE DATE FOR THESE 2017 EVENTS!

Nutrition Myths and Facts: Truth about the hottest trends

Jan. 19, 2017, 6:30 – 8 p.m.

Wilmington Hospital, Gateway Conference Center

Alyssa Atanacio, RD, LDN, shares facts about GMOs, organic foods, eating for your body type and more. Register: events.christianacare.org/womenslectures or call 800-693-2273.

Perioperative Perspective: Latest Trends and Practices

Feb. 25, 2017, 7 a.m. – 3:15 p.m.

John H. Ammon Medical Education Center

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



Publishing

Tracy Bell, RN, Barbara Dean, RN, Amy Mackley, MSN, APN, Gina Moore, Cheryl Swift, Dina Viscount, David A. Paul, M.D., Stephen A Pearlman, MD, MSHQS, et al. "A Quality Improvement Initiative for Delayed Umbilical Cord Clamping in Very Low-Birth-weight Infants." *BMC Pediatrics BMC series.*

Neal D. Goldstein, Ph.D., MBI, Stephen C. Eppes, M.D., Bailey C. Ingraham, MS, and **David A. Paul, M.D.** "Characteristics of Late Onset Sepsis in the NICU: Does Occupancy Impact Risk of Infection." *Journal of Perinatology.* September 2016.

Ursula Guillén, M.D., et al. "Development of a Video Decision Aid to Inform Parents on Potential Outcomes of Extreme Prematurity." *Journal of Perinatology.* 2016 Aug 18.

Matthew K. Hoffman, M.D., MPH, et al. "Racial/Ethnic Disparities in Measures of Self-reported Psychosocial States and Traits during Pregnancy". Eunice Kennedy Shriver National Institute of Child Health Human Development nuMoM2b Network, Bethesda, M.D., *American Journal of Perinatology.* August 2016.

Bailey Ingraham, MS, Kristen Miller, Dr.PH., MSPH, Alberto Iaia, M.D., Michael B. Sneider, M.D., Shabbir Naqvi, M.D., Kimberly Evans, CRA, MS, RT (R) (M), Vinay Gheyi, M.D., and Kert Anzilotti, M.D., MBA. "Reductions in High End Imaging Utilization with Radiology Review and Consultation." *Journal of the American College of Radiology.* September 2016.

Stephen Meng, M.D., and Edward M. Goldenberg, M.D. "The Clinical Utility of Coronary Artery Calcium Score." *LipidSpin – Summer 2016.*

Kristen Miller, Dr.PH., MSPH, Carol Briody, MT (ASCP), CIC, Donna Casey, BSN, MA, RN, FABC, NE-BC, Jill K. Kane, BSN, RN, CCRN, Dannette Mitchell, MSN, APRN, ACNS-BC, CCRN, Badrish Patel, M.D., Carol Ritter, MSN, RN, CCRN, CNML, Maureen Seckel, MSN, APN, ACNS-BC, CCNS, FCCM, Sandy Wakai, MSN, RN, CCRN, and Marci Drees, M.D., MS. "Using the Comprehensive Unit-based Safety Program Model for Sustained Reduction in Hospital Infections." *Journal of Infection Control.* September 2016.

Jamie M. Rosini, Pharm.D., BCPS and **Laura Zizza, Pharm.D.** "Clinical queries: Administration for Refractory Ventricular

Fibrillation or Pulseless Ventricular Tachycardia". *Nursing2016.* October 2016.

Pan Wu, Ph.D., et al. "Differences in the Protective Effect of Breastfeeding on Child Over-Weight and Obesity by Mother's Race." *Maternal and Child Health Journal.* September 2016.

Presentations

At the American Society for Radiation Oncology annual meeting, September 2016, Boston:

- **Viroon Donovanik, M.D.,** et al. "Initial Report of NRG Oncology/RTOG 0232: A Phase III Study Comparing Combined External Beam Radiation and Transperineal Interstitial Permanent Brachytherapy with Brachytherapy Alone for Selected Patients with Intermediate Risk Prostatic Carcinoma."

- **Christopher D. Koprowski, M.D.,** et al. "Impact of Incidental Cardiac Radiation on Cardiopulmonary Toxicity and Survival for Locally Advanced non-Small Cell Lung Cancer: Reanalysis of NRG Oncology/RTOG 0617 with Centrally Contoured Cardiac Structures."

- **Adam Raben, M.D.,** et al. "Patient-Reported Outcomes (PROs) in NRG Oncology/RTOG 0436: A Phase III Trial Evaluating the Addition of Cetuximab to Paclitaxel, Cisplatin, and Radiation for Esophageal Cancer Treated Without Surgery."

Muge Capan, Ph.D., et al. "Getting to Patients Before They Die." *Mayo Clinic Transform Symposium 2016.* Rochester, Minnesota. September 2016.

At the Society of Medical Decision Making Annual North American Meeting, Vancouver, Canada in October 2016:

- **Muge Capan, Ph.D., Stephen Hoover, MS, Justin Glasgow, M.D., Ph.D., Susan Mascioli, MS, BSN, RN, CPHQ, NEA-BC,** and **Eric Jackson, M.D., MBA.** "Validation and Integration of a Predictive Warning System Combining."

- **Muge Capan, Ph.D., Nisha Nataraj, Ph.D., Liana Lin, Ph.D., Ryan Arnold, M.D.,** et al. "Evaluation of the Impact of Comorbidities and Pre-Existing Conditions on Sepsis Presentation."

At INFORMS 2016 Annual Meeting, Nashville, Tenn. November 2016.

- **Muge Capan, Ph.D., Stephen Hoover, MS, Justin Glasgow, M.D., Ph.D., Susan**

Mascioli, MS, BSN, RN, CPHQ, NEA-BC, and **Eric Jackson, M.D., MBA.** "Validation and Implementation of Early Warning System to Synthesize Acuity, Clinical Judgement, and Workload."

- **Muge Capan, Ph.D.** "Applications of Health Systems Analytics."

Claudine Jurkowitz, M.D., MPH, Richard Caplan, Ph.D., Sarahfaye Heckler, MPH, James T. Laughery, and **Edward Ewen, M.D.** "Trends in the Timing of a Second GFR after a First GFR Lower than 60 in a Primary Care Setting." *American Society of Nephrology: Kidney Week Annual Meeting.* November 2016.

Robert Witt, M.D., at the American Academy of Otolaryngology-Head & Neck Surgery. San Diego. Sept. 2016:

- American Thyroid Association Guidelines: Molecular Testing, Ultrasound, and Neuro-Monitoring. Moderator.

- A Practical Overview of Thyroid Molecular Testing using Ultrasound. Instruction course.

Appointments

Edward M. Goldenberg, M.D., has been appointed as Secretary of the Northeast Lipid Association and has advanced to clinical professor of Medicine at Sidney Kimmel Medical College.

The Professional Advancement Council announces the following new RN III nurses:

Kate Armstrong, BSN, RNIII, CCRN, Wilmington ICU, **Katherine Crawford, MSN, RN III, CCRN,** 3E MICU, **Lauren Duddy, BSN, RN III, CEN, PCCN, CSSU,** **Greta M. Endres, BSN, RN III, PCCN, CVCCC,** **Brandon Hoskins, BSN, RNIII, CEN,** Christiana ED, **Nora Jingeleski, BSN, RN III, RN-BC,** 4 West Wilmington Hospital, **Amy Llewellyn, BSN, RN, CCRN,** 3E MICU, **Donna Loughheed, MSN (c), BSN, RN, CEN, SANE-A,** Christiana ED, **Jamie Murray, BSN, RN, CNN,** Hemodialysis, **Margaret Ann Rafal, MSCC, RN III, P-MHN-BC,** 3N Wilmington Hospital, **Elizabeth Shearon, BSN, RN III, RN-BC,** 5A, **Kelly Vanhorn, BSN, RN III, CNOR,** Christiana OR.

Awards

Roshni T. Guerry, M.D., medical director, Inpatient Supportive and Palliative Medicine, was named a DBT Top 40 Honoree by Delaware Business Times.

University of Delaware School of Nursing recognizes distinguished alumni

The University of Delaware’s School of Nursing’s 50 Stars program recognizes UD alumni who have distinguished themselves as clinical leaders, researchers, educators, mentors, policy makers, innovators and holistic health advocates and have had a substantial impact on the health of our neighbors, local communities, country, and global communities. Nurses currently employed at Christiana Care Health System who are among the university’s program honorees announced in June include:

Sharon Anderson, MS, BSN, RN, FACHE, Lynn E. Bayne, Ph.D., NNP-BC, Patricia Blair, MSN, RN, ACNS-BC, CEN, Melanie Chichester, BSN, RN III, RNC-OB, CPLC, Michelle Collins, MSN, RN-BC, ACNS-BC, Linda Laskowski-Jones, MS, APRN, ACNS-BC, CEN, FAWM, Michelle Savin, MSN, NNP, Maureen Seckel, MSN, CCRN, FCCM, Tamekia L. Thomas, MSN, RN, PCCN, ACNS-BC, Clare Szymanski, CNM, Kristopher T. Starr, MSN, JD, NP, CEN, CPEN, and Ronald R. Castaldo, CRNA. ●

PHARMACY SERVICES

THERAPEUTIC NOTES

Changing the way we define sepsis By Jennifer Murray, PharmD

Published in February 2016, new consensus definitions known as “Sepsis-3” have redefined the way we identify sepsis.¹ The main two objectives of the assembled task force were to update the definitions to differentiate sepsis from uncomplicated infection and to align with our current understanding of the underlying pathobiology. Sepsis is now defined as “life-threatening organ dysfunction caused by a dysregulated host response to infection.”

One key concept introduced by the authors was that presence of organ dysfunction should always be considered in patients presenting with infection and infection should be considered in those presenting with organ dysfunction of unknown cause. In order to quantitatively describe organ dysfunction the Sequential Organ Failure Assessment (SOFA) score was identified by the task force. The SOFA score encompasses several organ systems with scores of 0-4 points each based on surrogate measures of their function. (Table 1) A change in the SOFA score by ≥2 points from

baseline (with baseline assumed to be zero for those without organ dysfunction prior to infection) has been proposed to be the measure for organ dysfunction within the sepsis definition. A SOFA score of ≥2 is estimated to have a mortality risk of 10% in general inpatients with suspected infection. Since the SOFA scoring system requires laboratory markers, the quick SOFA (qSOFA) score is meant to be used for prompt assessment at the bedside in non-intensive care unit patients where a positive score is indicated by having ≥2 of 3 criteria. For the qSOFA score, these criteria are respiratory rate ≥22 breaths/minute, altered mentation, or systolic blood pressure ≤100 mmHg. It is important to note that the qSOFA score does not define sepsis, but is a predictor of poor outcomes and helps to quickly identify sepsis patients then the SOFA score can be used once laboratory data returns.^{1,2} These scoring systems for organ dysfunction are only meant for characterizing a septic patient is not meant to be a guide for management.¹

TABLE 1: SEQUENTIAL [SEPSIS-RELATED] ORGAN FAILURE ASSESSMENT SCORE¹

Respiration	PaO ₂ /FiO ₂ (mmHg)	≥400	<400	<300	<200 with respiratory support	<100 with respiratory support
Coagulation	Platelets (x10 ³ /μL)	≥150	<150	<100	<50	<20
Liver	Bilirubin (mg/dL)	<1.2	1.2 - 1.9	2.0 - 5.9	6.0 - 11.9	>12.0
Cardiovascular		MAP ≥70 mmHg	MAP <70 mmHg	dopamine <5* or dobutamine (any dose)	dopamine 5.1 - 15* or epinephrine ≤0.1* or norepinephrine ≤0.1*	dopamine >15* or epinephrine >0.1* or norepinephrine >0.1*
CNS	Glasgow Coma Scale Score	15	13-14	10-12	6-9	<6
Renal	Serum creatinine (mg/dL) Urine output (mL/day)	<1.2	1.2-1.9	2.0-3.4	3.5-4.9 <500	>5.0 <200

*Catecholamine doses are given as mcg/kg/min for at least 1 hour

CONTINUED

THERAPEUTIC NOTES | CONTINUED

The new definitions have stepped away from a reliance on systemic inflammatory response syndrome (SIRS) criteria in order to become broader and capture the non-inflammatory responses associated with sepsis. The previous definition of sepsis was presence of ≥ 2 SIRS criteria with suspected infection. These criteria included 4 components: temperature, elevated heart rate, respiratory rate, and white blood cell count. (Table 2) While no longer part of the sepsis definition, these criteria will continue to play a role in diagnosing infection in general.

With a new definition for sepsis, a new definition for septic shock has also been proposed. Septic shock is now defined as “a subset of sepsis in which underlying circulatory and cellular/metabolic

abnormalities are profound enough to substantially increase mortality.” Functionally, this can be identified by a patient with persisting hypotension requiring vasopressors to maintain mean arterial pressure (MAP) ≥ 65 mmHg and having a serum lactate >2 mmol/L despite adequate volume resuscitation. These two criteria demonstrate both cellular dysfunction and cardiovascular compromise in order to reflect more severe illness and higher risk of mortality than sepsis. Additionally, as “severe sepsis” had previously been defined as sepsis plus organ dysfunction or tissue hypoperfusion, this classification is now irrelevant, leaving just two classifications: sepsis and septic shock. (Table 2). ●

TABLE 2: COMPARISON OF NEW AND OLD SEPSIS DEFINITIONS AND CRITERIA^{1,3}

Old Definitions	SIRS Criteria (Systemic Inflammatory Response Syndrome)	Sepsis	Severe Sepsis	Septic Shock
	2 or more of the following: <ul style="list-style-type: none"> • Temperature $>38^\circ$ or $<36^\circ$ C • Heart Rate >90/min • Respiratory Rate >20/min or PaCO₂ <32 mmHg • White Blood Cell count $>12,000$/mm³ or $<4,000$/mm³ or $>10\%$ immature bands 	SIRS + Infection	Sepsis + Organ Dysfunction or Tissue Hypoperfusion	Severe Sepsis + Hypotension despite volume resuscitation
New Criteria	Quick SOFA (qSOFA) Score <i>For rapid assessment of organ dysfunction</i>	Sepsis	Septic Shock	
	2 or more of the following: <ul style="list-style-type: none"> Altered mentation Respiratory rate ≥ 22/minute Systolic blood pressure ≤ 100 mmHg 	Suspected infection + SOFA score ≥ 2 (See Table 1 for Calculation)	Sepsis + the following: <ul style="list-style-type: none"> • Hypotension (MAP <65 mmHg) requiring vasopressors • AND Serum lactate >2 mmol/L despite adequate volume resuscitation 	

References:

1. Singer, Mervyn, et al. “The Third International Consensus definitions for sepsis and septic shock (Sepsis-3).” JAMA. 2016; 315(9): 801-810.
2. Surviving Sepsis Campaign. “Surviving Sepsis Campaign Responds to Sepsis-3.” Published March 1, 2016. <http://www.survivingsepsis.org/SiteCollection-Documents/SSC-Statements-Sepsis-Definitions-3-2016.pdf>
3. Dellinger, R et al. “Surviving Sepsis Campaign: international guidelines for management of severe sepsis and septic shock, 2012.” Intensive Care Med. 2013; 39:165–228.

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.

FORMULARY UPDATE | SEPTEMBER 2016

FORMULARY ADDITIONS

Medication – Generic/Brand Name	Strength/Size	Use/Indication	Comment
Naltrexone injectable suspension/ Vivitrol	380 mg vial supplied as a kit	Treatment of opioid use disorder	Prescribing limited to physician & nurse practitioner members of the Department of Psychiatry and Behavioral Health service line.

CHRISTIANA CARE MEDICATION POLICY CHANGES

Revised Kcentra® Prescribing Policy	Trauma attending physicians were added to the list of approved prescribers that also includes board eligible or board-certified attending Middletown Emergency Department physicians, hematologists and critical care physicians.
Ketamine Administration	Ketamine was designated a level C medication for purposes of administration. Ketamine administration also can be continued on C6B when provided for palliation of symptoms after initiation on a Level C unit.
Ordering dextrose and lipids for adults as components of parenteral nutrition	Dextrose and lipids shall be ordered in grams per day when ordered as components of adult parenteral nutrition.

REVISED THERAPEUTIC INTERCHANGE

Salmeterol /Serevent	Salmeterol 50 mcg oral inhalation BID → Arformoterol (Brovana) 15 mcg via nebulizer BID
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FORMULARY DELETIONS

Benzyl peroxide gel	Removed because of infrequent use.
Biafine wound dressing emulsion	Removed because of infrequent use.
Cholestyramine Light	Removed because of infrequent use. Cholestyramine remains on the Christiana Care Formulary.
Clarithromycin extended-release tablet	Removed because of infrequent use. Immediate-release tablets remain on the Christiana Care Formulary.
Dimenhydrinate tablets	Removed because of infrequent use.
Dofetilide 250 mcg & 500 mcg capsules	Removed because of infrequent use. The 125 mcg capsule remains on the Christiana Care Formulary.
Interferon alfa 2b injection	1 million unit, 2 million unit & 10 million unit doses removed because of infrequent use. The 50 million unit & 100 million unit vials remain on the Christiana Care Formulary.
Mupirocin intranasal ointment	Removed because of infrequent use. Mupirocin ointment remains on the Christiana Care Formulary.
Piroxicam	Removed because of infrequent use.
Sulfacetamide 10% ophthalmic ointment	Removed because of infrequent use.
Thiothixene 5 mg & 10 mg capsules	Removed because of infrequent use. Other capsule strengths remain on the Christiana Care Formulary.
Thyroid hormone 120 mg tablet	Removed because of infrequent use. Other tablet strengths remain on the Christiana Care Formulary.
Trace elements for neonates	Removed because there is no longer a need.

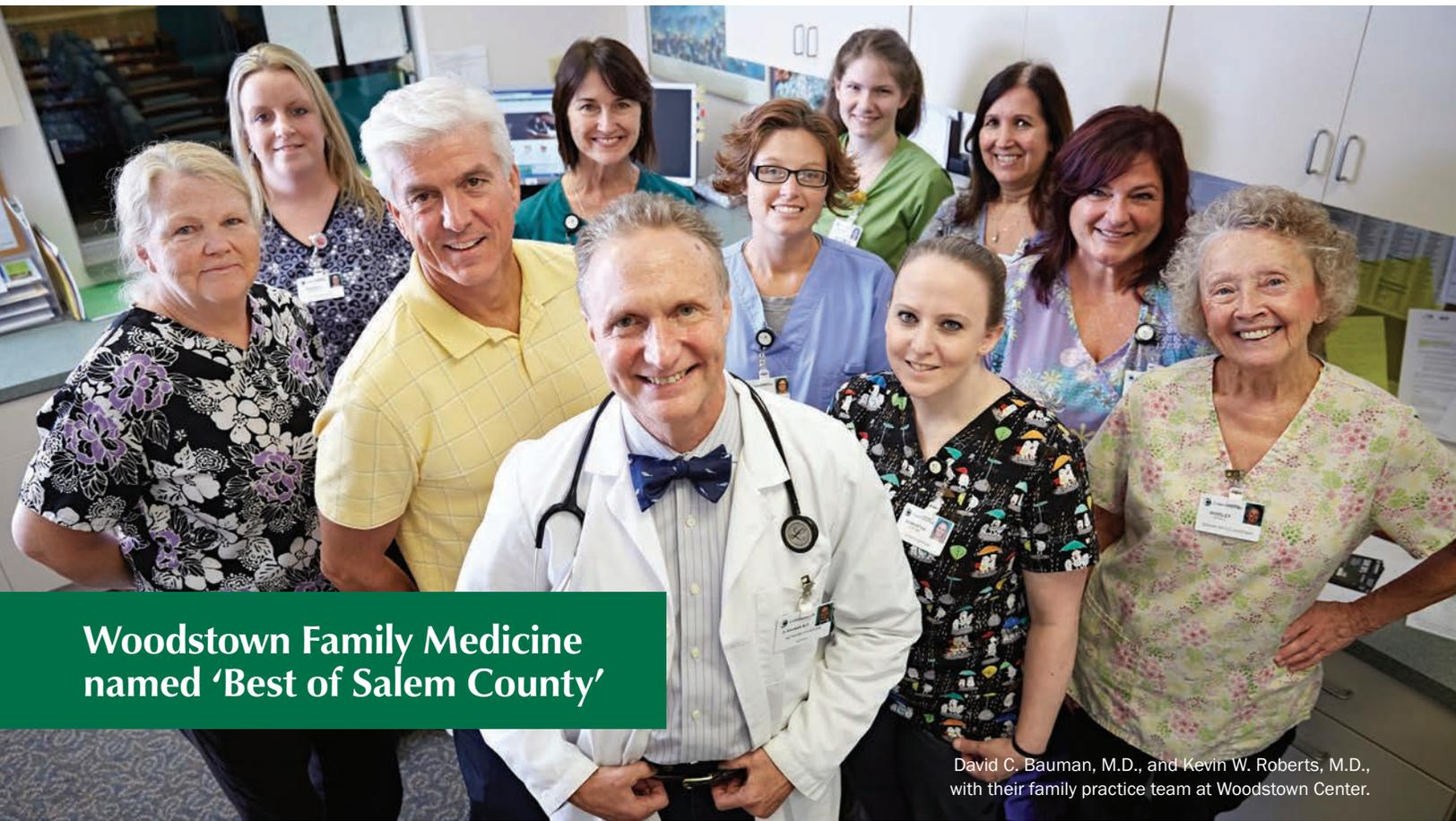


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Woodstown Family Medicine named 'Best of Salem County'

David C. Bauman, M.D., and Kevin W. Roberts, M.D.,
with their family practice team at Woodstown Center.

Christiana Care's Family Medicine practice in Woodstown, New Jersey, was named Best Physician Practice in the "Best of Salem County," an annual contest sponsored by the Salem County Chamber of Commerce, the South Jersey Times and the County of Salem, New Jersey. "This contest is really about customers letting the business owners know they are appreciated for their hard work, service and great products," said Jennifer Jones, executive director of the Salem County Chamber of Commerce. Christiana Care Family Medicine at Woodstown Center offers primary medical care for adults and children. ●