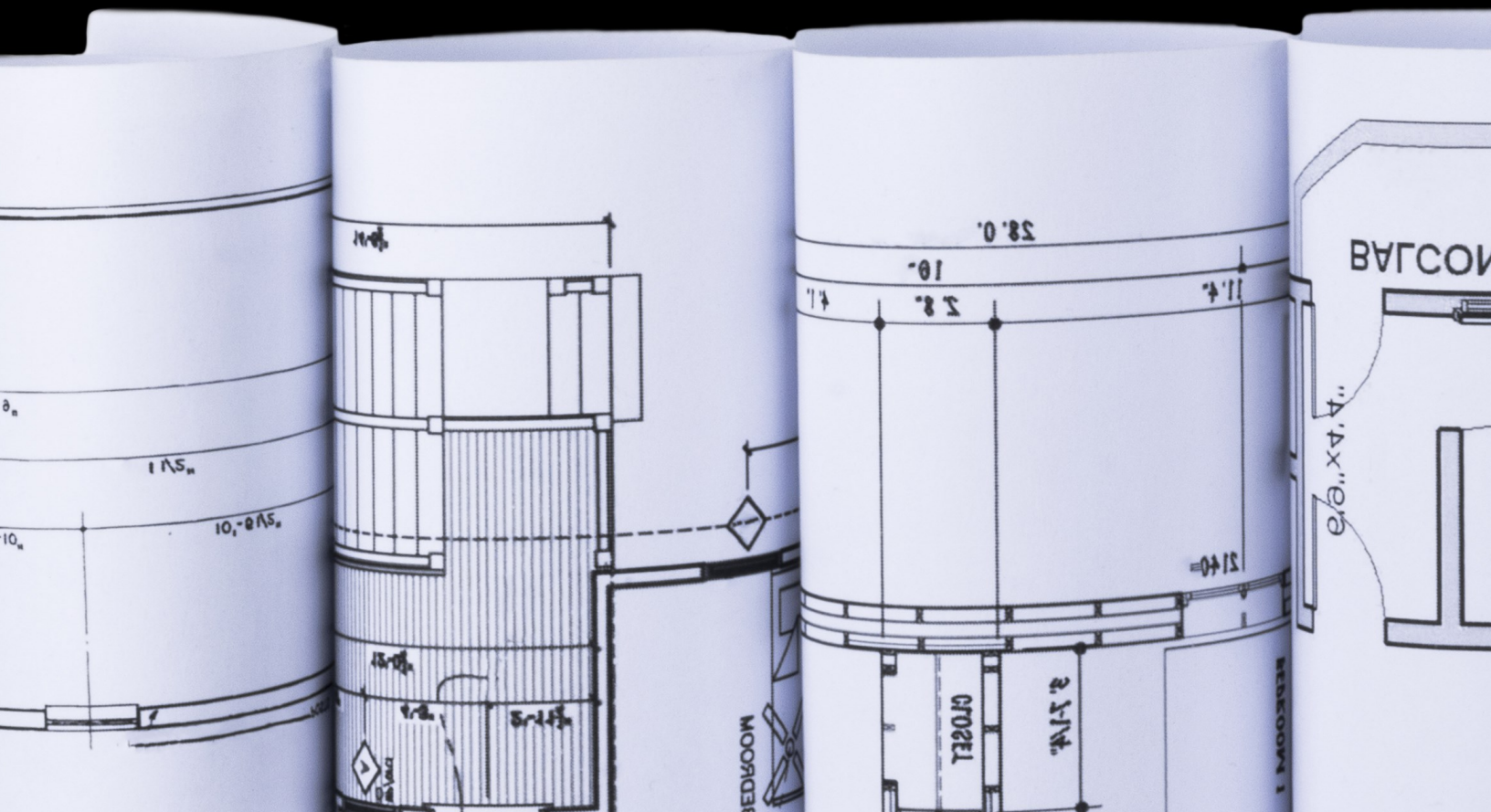
VHHA
MARCH 2018

REVIEW

Virginia's magazine for hospitals and health systems

Health Innovation

— Virginia Hospitals Adapt To Better Serve Patients —



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> **"To best serve patients, the hospital community must remain vigilant in search of these new, innovative strategies."**

We live in rapidly changing times when innovation and advancement help drive achievement. This is certainly true in health care, where our physicians, hospitals, clinical staff, and researchers strive to improve how we deliver care to patients in safe and efficient ways so people can heal and return to their lives. To best serve patients, the hospital community must remain vigilant in search of these new, innovative strategies. They can be as complex as breakthroughs that help bring us closer to finding new treatments or cures for diseases. They can be as fundamental as process improvements and partnerships forged to help improve patient outcomes.

In hospitals across Virginia, there are countless examples of new approaches and strategies to improve acute, psychiatric, rehabilitative, or surgical care. The VHHA Board of Directors gets a sampling of these success stories each time we meet when we hear from our colleagues who share "safety moment" presentations from their hospital or health system that highlight a health care quality or patient safety success story. These presentations often lead to Board colleagues asking questions to gain further insight into how a particular event or process developed and evolved over time. This kind of best practice sharing can inspire new ideas or lead to the implementation of a successful practice at a hospital that might not otherwise have been exposed to the concept. In Virginia, we have many hospitals and health systems that are distinctive unto themselves. But when it comes to improving health care quality and safety, we are on a shared journey to help make Virginia the healthiest state in the nation.

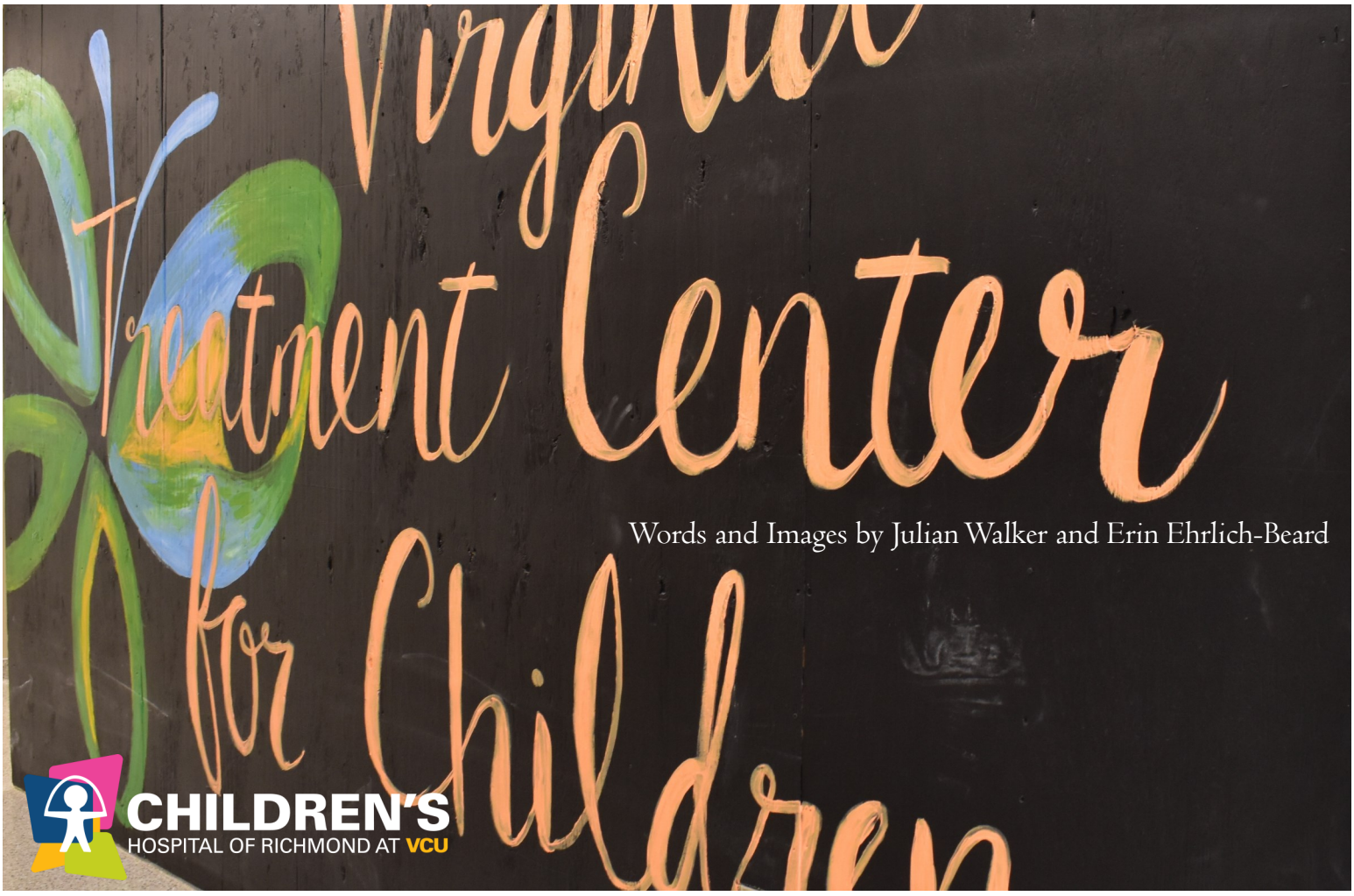
This edition of *REVIEW Magazine* profiles several different innovative approaches and strategies employed by hospitals and health systems around Virginia to improve patient care and outcomes. In the pages ahead, you can read about the new Virginia Treatment Center for Children, the mental health arm of Children's Hospital of Richmond at VCU, that serves the specific behavioral health service needs of children and adolescents. There is a profile of the new Behavioral Health Military Annex at HCA Virginia's John Randolph Medical Center to help address the specific needs of military men and women seeking care. There is a feature on the new *Power Punch* boxing program at Sheltering Arms Physical Rehabilitation Centers that helps patients with Parkinson's disease and related movement disorders regain and maintain movement quality, coordination, and strength. Another column highlights how a community partnership arrangement involving Clinch Valley Medical Center is helping elderly patients with chronic conditions improve their quality of life and self-sufficiency, and reducing readmissions. The examples contained within this edition are but a small sampling of the many ways in which community hospitals and health systems consistently pursue improved efficiency and effectiveness on behalf of the millions of patients we serve in Virginia. Each one of these stories, and so many others, are a testament to that commitment in the Commonwealth and a reminder of all the good and important work happening each day in our community hospitals. We hope you enjoy reading these stories as much as the VHHA team enjoyed learning about each of them to share with a broader audience.

Caring for Our Communities

2018 Annual Report on Community Benefit

VIRGINIA HOSPITAL & HEALTHCARE ASSOCIATION

www.vhha.com/research/2018/01/15/2018-community-benefit-report/



Hope and Healing for Virginia Children

Words and Images by Julian Walker and Erin Ehrlich-Beard

The outside world got its first glimpse of the new Virginia Treatment Center for Children (VTCC) facility in Richmond on a sunny, windswept day in November. Getting to the point of a ribbon cutting ceremony on that brisk and gusty day was years in the making.

"This Brook Road campus has been known for a long time and has a long legacy of caring for children and their families," Deborah W. Davis, FACHE, CEO of VCU Hospitals and Clinics for VCU Health System and VCU Vice President for Clinical Services, said at the celebration in November. "Founded back many decades ago as a children's hospital, we now are co-locating the Virginia Treatment Center because of that legacy."

Davis was among the dignitaries, clinicians, and stakeholders who spoke that November day about the importance of VTCC and the metamorphosis of the new state-of-the-art facility tucked near a highway overpass.

At 119,000 square feet, the new VTCC facility is bright, modern, and open. Murals adorn the walls with scenes of nature and wildlife to instill a sense of serenity and calm. Butterfly imagery figures prominently in the treatment center whose furnishings and color palettes were intentionally chosen to create a comforting atmosphere. The design elements are intended to complement

its clinical purpose – to serve the specific behavioral and emotional health needs of children and adolescents.

The butterfly symbolizes the "change that we strive for in a child, in a nurturing support to help the child emerge and take flight toward their own resilient life," Davis said. "And now we have a facility that will also facilitate that."

The formal move to the new location is scheduled for mid-April. The existing facility was built years ago as a state institution; the new location reflects advances in treatment and design. The VTCC is the mental health arm of Children's Hospital of Richmond at VCU.

Art Therapy Room

The new facility includes a "therapy mall" with individual rooms for occupational, recreational, art, music, and play therapies that line the perimeter of the facility. There are 32 inpatient rooms, each with private bathrooms and accommodations for parents to stay with their children as they receive treatment. There is a half-court gym and recreational areas, gardens, and green spaces. VTCC also is the first Leadership in Energy and Environmental Design (LEED)-accredited children's behavioral health facility in the Commonwealth.

Being involved in the planning and design of the treatment center at a time when "there aren't a lot of new psychiatric facilities, especially for children and adolescents, being built around the country" was a gratifying professional experience for VTCC Executive Director Alexandria "Sandy" Lewis, Ed.D., MPA.

"I am struck by the amount of foresight people, the community, the General Assembly, and the health system had in building this project," added Lewis, who left Illinois in 2012 to join VCU for the opportunity to participate in the VTCC project. "Everyone was involved in the process, including patients and family voices. The result is a truly innovative, healing environment that supports collaboration and innovation."

Patient Room

The need for mental health services, both for adults and children, has been in the spotlight in Virginia. The National Institute of Mental Health estimates one in five children will experience a serious mental health issue, and that 75 percent of them will not receive the care they need.

The new Virginia Treatment Center for Children offers additional capacity for inpatient and outpatient care to meet the treatment needs of more young patients ages 3-26. In 2016, VTCC tended to the needs of nearly 1,000 children requiring inpatient care, and handled more than

7,000 outpatient visits.

"What is before you, behind me, represents a doubling and tripling of our capacity," Marsha D. Rappley, MD, Vice President of VCU Health Sciences and VCU Health System CEO, said during the November ceremony. "We're going to have capacity for more than 30 children to have inpatient services when they need them, and we're going to more than double the number of application visits that we can currently provide."


Ribbon Cutting Ceremony

At its new location, VTCC is expected to see a 300 percent increase in outpatient visits in the coming years. Children across Virginia receive care through VTCC, with about half of patients coming from outside the Richmond region. The new space provides flexibility for new programs and services to meet patient needs.

"Here, they'll be able to do outpatient evaluations, medical management, therapy," added former Virginia Health and Human Resources Secretary Dr. William A. Hazel Jr. "There'll be new services, new programming, and innovations that we badly need."

To Kiva Gatewood, a VTCC Advisory Council member and a mother whose son experienced emotional challenges from a young age, the importance of access to behavioral health services for children can't be overstated.

"Some people don't realize that mental health issues can cause families to split," she said. "So the thing that has been very important about VTCC and my family, and I'm sure in all the families being serviced there, is that you help to keep our kids where they belong, which is with their parents and with their families."


Common Area

"What this new building represents is the beginning of a new era in children's mental health care," Gatewood added. "A brighter day. A brighter experience. A place where families can be comfortable. They're already in an uncomfortable situation, but for a family to be able to be in one of the most unthinkable situations with their child, and then to meet such great people that bring you in and provide you, not only with medical care, but emotional care. I really am so excited for the opening of this new building, for the work that's been done, and just for caring people."

Words and Images by Julian Walker and Erin Ehrlich-Beard

A community is often defined by its people and leading employers.

By that measure, it's fair to say the Tri-Cities of Petersburg, Colonial Heights, and Hopewell – Fort Lee U.S. Army Base is situated between them – are military communities through and through.

Residential development patterns, business types and locations, even local land use planning seem to account for the presence of Fort Lee, a fixture in the area since 1917.

The same is also true of health care treatment services.

In recognition of that, one local hospital recently established a Behavioral Health Military Annex unit to meet the particular mental health needs of active duty men and women in the armed forces.

The facility is, in the words of John Randolph Medical Center CEO Joe Mazzo, "a dedicated unit specialized in the treatment of active military men and women who suffer from post-traumatic stress disorder, with a specialized therapy."

The Hopewell-based hospital formally opened the eight-bed unit last November as "one of the only active duty, acute behavioral health programs that is solely and specifically for the military," added Timothy Palus, former HCA Regional Vice President for Behavioral Health.

The decision to establish the unit for military personnel to supplement an existing 32-bed adult behavioral health unit at John


Ribbon Cutting

Randolph was inspired by observed patient needs and a local kinship with Fort Lee.

"We've been averaging around five-to-six active duty patients on our (adult) unit as it is," Palus explained, adding that "we also were seeing and feeling that there were some very unique treatment needs that we needed to have some thoughts for specific to the military."

Establishing the new unit for inpatient treatment is also "in line with some of the work that we've done around our outpatient services to be able to support a natural transition in an outpatient environment where they can go back into their normal work life but also incorporate that treatment modality," added former John Randolph Chief Nursing Officer Frankye Myers.

Hospital leaders worked with Fort Lee officials to identify specific treatment needs for service men and women. Therapy for post-traumatic stress disorder (PTSD) and related traumas were pinpointed as the most pressing patient needs.

"We did some research. We knew there was trauma. We knew there was PTSD. And we found out there was a specialized treatment, but nobody offered it," said John Randolph Behavioral Health Services Director Lisa Castro.

In retrospect, identifying the need was less taxing than implementing a plan to address it.

A military treatment complex in San Antonio, TX is widely viewed as a venue for soldiers experiencing emotional and behavioral health challenges to receive care. For soldiers in Virginia needing treatment, though, that distance can present logistical issues, to say nothing of treatment capacity considerations.

After some exploration, staff at John Randolph discovered training for treating patients with "prolonged exposure" to trauma such as PTSD is available through the University of Pennsylvania's Perlman School of Medicine at the Center for the Treatment and Study of Anxiety.

With the necessary approvals in-hand, a John Randolph therapist was dispatched to UPenn for the training. While not without cost, the decision was an easy one.

"We owe it to our military to provide this service," Castro said.

The Tri-Cities, located about 30 miles south of Richmond, are "interwoven" with Fort Lee, observed Hopewell Assistant City Manager Charles E. Dane, who lauded John Randolph for establishing the military treatment unit and for its previous expansion of adult mental health treatment capacity.

Military veterans indeed are part of the fabric of the Tri-Cities. More than nine percent of the three localities' combined total population are veterans. That's generally consistent with statewide trends. Virginia is one of just four states – Alaska, Montana, and Wyoming are the others – whose adult populations are at least 10 percent veterans, according to the U.S. Census Bureau.


Behavioral Health Services Director Lisa Castro

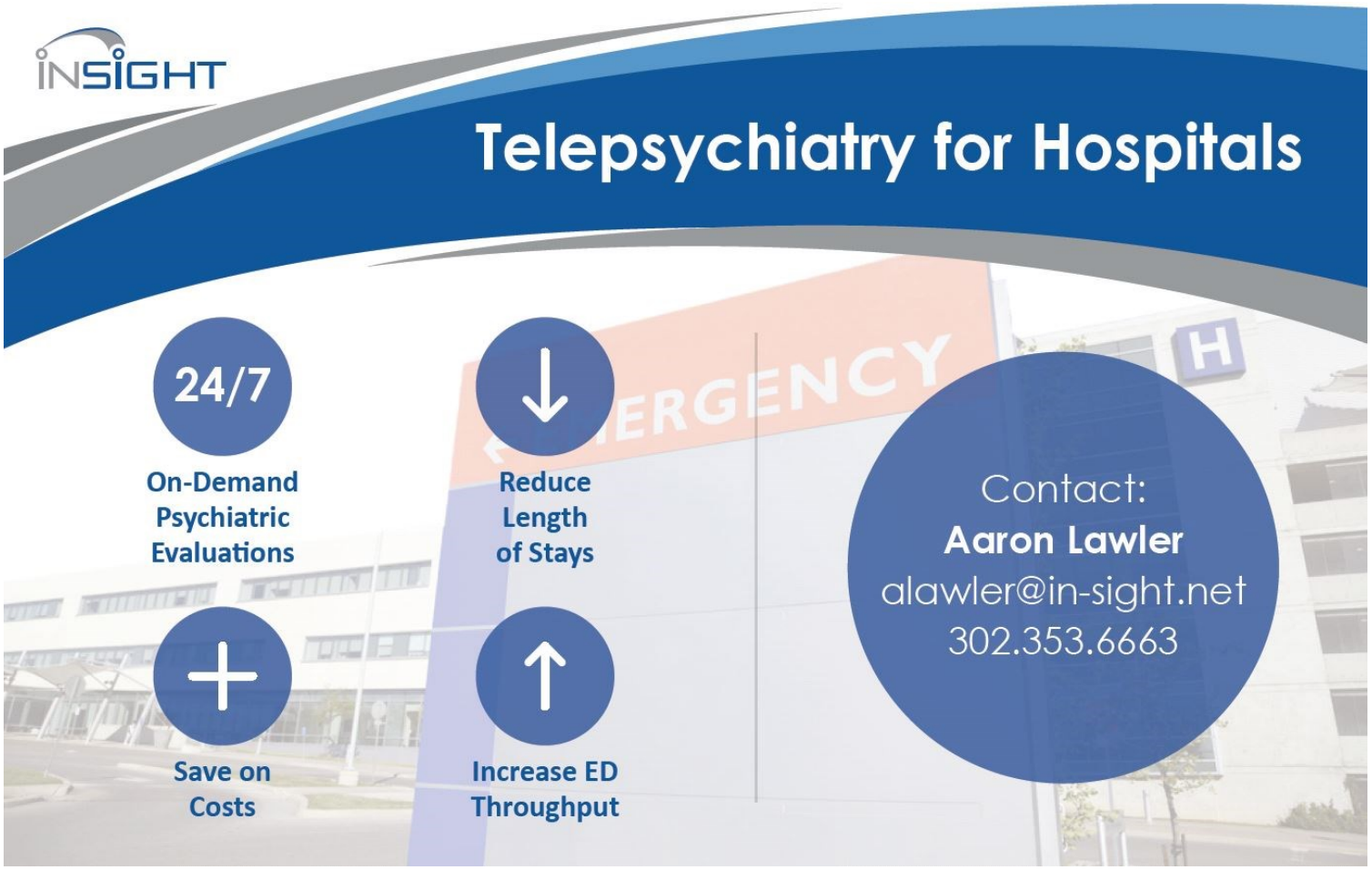
Fort Lee is a bustling installation designated as an Army Sustainment Center of Excellence that serves as a training base for military supply, subsistence, maintenance, munitions, and transportation. Its average daily population exceeds 27,000, a number that includes members from all military service branches, their families, civilians, and contractors. And each year, 70,000 troops pass through Fort Lee's classrooms, making it the Army's third-largest training site.


Fort Lee 392nd Army Band

Having behavioral health beds at the nearby community hospital means more than just access to treatment for people who need it, added Dane. It also frees up municipal police officers to focus on their primary public safety duties. Prior to the addition of more behavioral health beds at John Randolph, Dane shared, city police officers responding to mental health calls who took people in crisis into custody often spent hours searching for an available psychiatric bed.

The responsibility of transporting behavioral health patients, sometimes at great distance, to an available bed, took Hopewell officers away from patrolling city streets "doing the work they are supposed to do," Dane said.

"This new facility . . . is going to help us and the community tremendously," Dane added at the ceremony celebrating the new unit. "We're grateful for our soldiers. It's nice that John Randolph recognizes that they need to provide support and safety for the same people who have been providing support and safety for us, sometimes at the expense of their health, and mental health, as well."



The Virginia Hospital Shared Services Corporation, also known as VHHA Shared Services, delivers an array of products and resources to help Virginia hospitals and health systems improve their clinical, financial, and operational performance. Members of Virginia's hospital community are encouraged to visit Shared Services online to learn more about the range of available products and services, and select vendor partners who can deliver breakthrough performance in areas needed by today's dynamic Virginia health care organizations.

Visit http://vhhaservices.com or contact David Jenkins at (804) 965-1350 or djenkins@vhha.com to learn more.

In Memoriam: Kevin Shimp

The October 2017 issue of REVIEW included a feature article profiling VCU Health's daily safety huddle protocols. Among those interviewed for that article was Kevin M. Shimp, VCU's Patient Flow Director. We are saddened to report that Kevin passed away in February. Below is Kevin's obituary, which is reprinted here with permission from Bliley's.

Dr. Kevin Mark Shimp, 44, born in Woodstown, NJ, currently of Shacklefords, VA, beloved husband of Jill Casey (Snead) Shimp and devoted father of Logan William and Casey Elizabeth, departed this Earth way too soon on February 10.
Kevin was Director of Patient Flow at VCU Health System - a position he created drawing the plan on a napkin, then making sure it came to fruition.

Prior to that, he was an accomplished and incredibly well-respected Nurse Manager in Acute Care Surgery at VCU. He had two bachelor's degrees, a master's from UVA and most recently a doctorate of nursing from JMU.

He and Jill met while stationed at Madigan Army Medical Center in Washington State and married in 1994. It was in the army that Kevin obtained his LPN and began his nursing career.

While working fulltime and obtaining these degrees, he also found time to give back - coaching his son's Little League and his daughter's softball teams, earning Man of the Year in 2011 for the Leukemia Lymphoma Society, raising money for ASK Childhood Cancer Foundation and serving in many roles for the Virginia Nurses Association including vice president.

Living life to the fullest, Kevin spent his free time traveling and enjoying sports with his best friend Brian "Bubba" Snead. Kevin was an avid VCU fan known by many for his outlandish Pharaoh head dress landing ESPN appearances often.

Most of all, Kevin was a devoted and dedicated family man. He and his brown-eyed girl, Jill, bought their dream home in Shacklefords on the York River in 2016; they entertained family and friends there most every weekend. This September, Kevin, Jill, Casey and Logan took the trip of a lifetime to Italy.

Kevin was preceded in death by his father John "Pop" Shimp and his mother, Jean "G.G." Shimp. In addition to his wife and children, he is survived by his grandmother Betty "Gram" Kroll, brother, Todd (Cheryl) Shimp, a mother-in-law, sisters-in-law, aunts, uncles, cousins, nieces, and dog, Charlie.

A memorial celebration of his life was held on Feb. 20, at the VCU Siegel Center. #shimpinainteasy

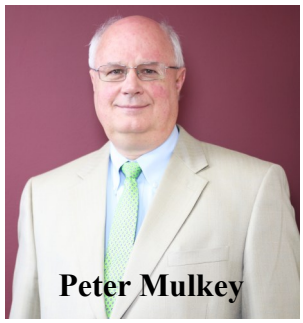
In lieu of flowers, the family asks that donations be made to ASK Childhood Cancer Foundation. **https://www.askccf.org/**

VCU Health

Partnering for Patients

By Peter Mulkey, CEO, Clinch Valley Medical Center

When it comes to caring for patients, we share a common goal: helping people heal and regain their quality of life. Because each patient's condition is unique, each outcome will be specific to that particular patient and his or her circumstance. Even so, there are models of care many of us employ in our hospitals and health systems that we have found to be effective for patients experiencing similar health challenges. When we identify those successful strategies and best practices, it is incumbent on each of us to share those discoveries with each other for the benefit and well-being of the patients we serve in local communities across the Commonwealth.



Peter Mulkey

Clinch Valley Medical Center

At Clinch Valley Medical Center, we have developed an effective partnership with the Appalachia Agency for Senior Citizens (AASC) that helps us bridge the gap, so to speak, for patients between hospitalization and the transition home. Creatively enough, we call this our "Bridge Program." AASC is a private non-profit organization that functions to improve the quality of life for the elderly through social services, and charitable and educational efforts. The agency's Planning and Service Area covers the counties of Russell, Buchanan, Dickenson, and Tazewell in Southwest Virginia. Because of its interaction with elderly patients, AASC serves as a watchful eye on patients through hospital visits and home assessments occurring within 48 hours of discharge.

One patient whose story helps illustrate the value of this partnership is a 64-year-old woman with several chronic conditions who had nearly a dozen inpatient admissions at Clinch Valley during a seven-month period in 2016. This woman had been diagnosed with coronary artery disease, hepatitis C, cirrhosis, hypothyroidism, hypertension, congestive heart failure and chronic obstructive pulmonary disease, and type 2 diabetes. She was referred to the Bridge Program, and several problems that were barriers to improved health and quality of life for this patient were identified.

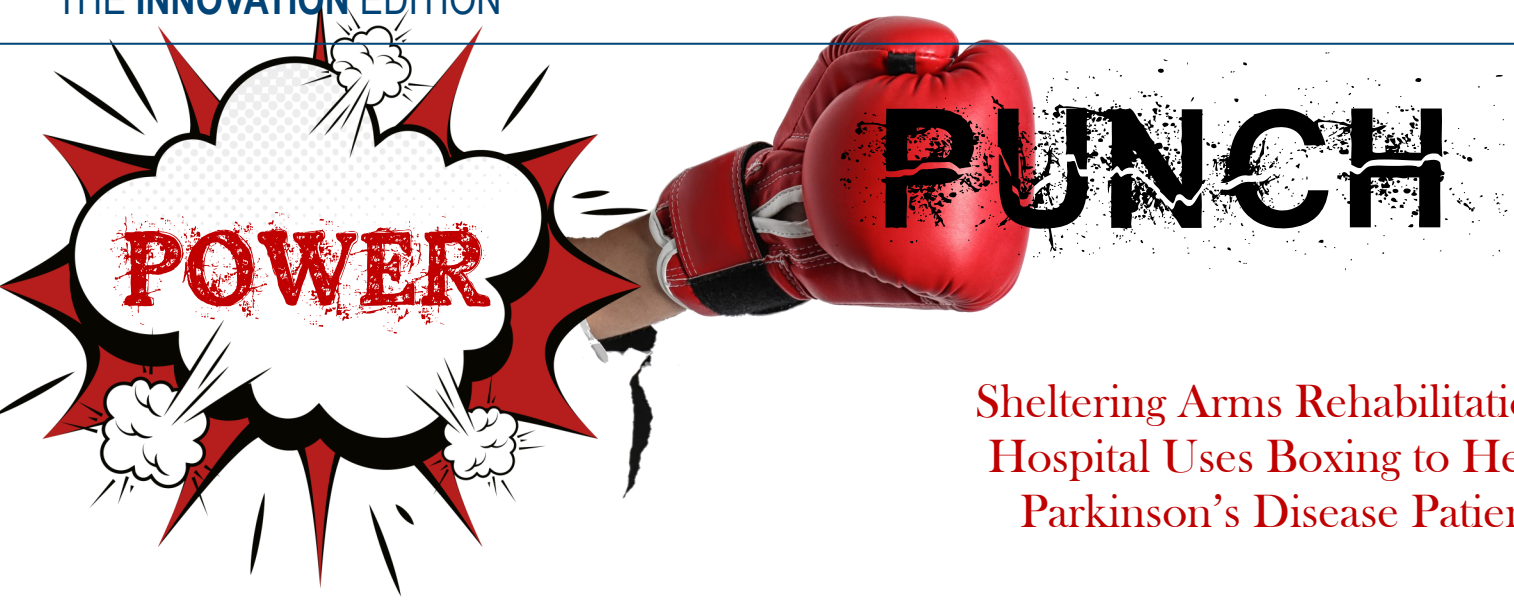
She didn't fully understand her numerous health issues and their implications for her day-to-day quality of life or her physical well-being, which in turn caused her to need assistance with basic daily activities. She couldn't afford the 16 medications prescribed for her, and she was dependent on continuous oxygen support, but she refused to use an at-home Bilevel Positive Airway Pressure (BiPAP) machine.

Having identified the issues and barriers that stood in the way of helping this patient achieve improved health, the AASC team that has "eyes and ears" on patients in their homes worked to develop an intervention plan to put this woman on the path to better health. For instance, it was determined that the patient's reluctance to use the BiPAP machine was attributable to her difficulty in properly positioning it on her face. So AASC devised a solution: Mounting a downward facing mirror to her bed so she could watch herself as she placed the BiPAP mask on her face, and remove it safely. Meals appropriately conformed to the diabetic dietary restrictions were initially delivered to her home because the woman was unable to cook for herself. To monitor her diet, logs tracking the patient's blood pressure, blood sugar levels, and weight were then shared with her doctor so any necessary adjustments could be made.

To address the woman's physical limitations and lack of conditioning, a home exercise program was developed by physical therapy specialists. A re-evaluation of her Medicare Part D was also conducted to help address the cost of medications she needed but had trouble affording. A primary care provider closer to the woman's residence was identified, which also helped her comply with the health improvement plan that was developed. A connection with a durable medical equipment provider located closer to her home was also established as another means to support the patient. And in-home assessments were conducted by the AASC team at sufficient frequency to enable prompt responses to issues as they arose.

This work represents a significant investment in an individual patient. But the effort has produced substantial results for that patient, and for others. Through the work of the Bridge Program, the patient did not have a single hospitalization in 2017, lost 70 pounds, reduced her medication usage by 50 percent (and is enrolled in a new Medicare Part D plan which has reduced her patient co-pay by 83 percent), consistently uses her BiPAP machine, and is independent in her daily living. Given her newfound health and mobility, the patient now happily calls herself "the engine that could."

This individual patient story is a gratifying example of the value and benefits of Clinch Valley's community partnership with AASC as we work toward improved patient safety outcomes. This story is also a microcosm of how intervention work and hospital engagement with community-based partners can help many of our patients. At Clinch Valley, we have seen a substantial decline in 30-day hospital readmissions from a rate of 11.8 percent in 2014 to 7.8 percent in 2017. This decline has coincided with our work with the AASC team. And like the "Little Engine That Could," we are chugging upward toward continued readmission reduction. All aboard!



Sheltering Arms Rehabilitation Hospital Uses Boxing to Help Parkinson's Disease Patients

Words and Images by Julian Walker and Erin Ehrlich-Beard

Jab. Jab. Punch. Good. Keep that rhythm.

Again. Jab. Jab. Punch.

Carmelo Vasquez is shadow boxing, and working up a sweat, as he gently exhorts his pugilism pupils.

Perspiration glistens on Vasquez's brow in the glow of fluorescent lamps suspended above the physical therapy space at the Sheltering Arms Physical Rehabilitation Centers facility located in the heart of Richmond.

The air is filled with the slaps of colliding leather, the faint sound of disco-inspired '80s songs, and the encouraging voice of Vasquez, a Sheltering Arms fitness specialist.

Standing in front of him are eight older men exerting themselves in a workout that surely would wind people decades younger.

Carmelo Vasquez (right) Boxes with a Patient

At Vasquez's urging, the men mimic his motions pantomiming punches, shifting side-to-side, twisting and rotating their bodies into boxing stances.

These Gentlemen Jim aren't training for a prize fight, though. Their opponent is Parkinson's disease and related movement disorders as participants in Sheltering Arms' relatively new *Power Punch* program.

Nearly a year after it began as a pilot program, the class has proven effective for patients and popular enough that Sheltering Arms is adding a second class at the Richmond facility to accommodate interest and considering expansion to other locations.

"The program is a long-term maintenance, group wellness class for people with Parkinson's disease or Parkinson-isms," which are typified by "other conditions where people may move slowly or have difficulty getting up from a chair, things that overlap with Parkinson's disease," explained Robert "Bobby" Hand, DPT, a Sheltering Arms certified clinical specialist and physical therapist who oversees *Power Punch*.

"So anyone with these symptoms or characteristics may benefit from large amplitude movements, functional exercise, and the community nature of the class," Hand added.

Parkinson's disease is a neurodegenerative disorder affecting certain nerve cells in the brain that are integral to the transmission of signals that control movement. It is a progressive condition whose symptoms can include tremors, stiffness or rigidity, slow movement, and difficulty walking. There is no cure. According to the National Institutes of Health, more

than 50,000 people in the United States are diagnosed with Parkinson's each year. About 1 million Americans have the disease, and worldwide, the Parkinson's Foundation estimates more than 10 million people are living with the disease.

Incidences of the disease increase with age. Treatments vary depending on patients and their symptoms. They can include medication, surgical therapy, and lifestyle changes such as exercise, which research studies have shown can have significant benefits for Parkinson's patients.

That includes, of all things, boxing.

Rock Steady Boxing is a non-profit program widely credited as an originator of using non-contact boxing training techniques as an effective Parkinson's treatment. The program was founded in 2006 by Scott C. Newman, a former Marion County, IN, prosecutor who developed Parkinson's at age 40. Following his diagnosis, Newman discovered that high-energy boxing workouts improved his physical well-being and daily functions.

Since then, the model has spread far and wide.

Bobby Hand, the Sheltering Arms clinical specialist, encountered it at the University of Pennsylvania's Dan Aaron Parkinson's Rehabilitation Center, a specialty clinic for Parkinson's patients.

"Having seen the first hand benefits of it, I wanted to instill something [at Sheltering Arms] that was similar but we could put our own twist on it," he said.

After some planning and fine-tuning, the *Power Punch* program launched in May 2017 as a three-month pilot program with weekly sessions "to gauge community interest and benefit."

Before-and-after walking and balance measure tests were conducted on program participants to determine its effectiveness. The results, Hand said, have been positive.

"I think the greatest change we saw was either the maintenance or the improvement with their endurance through some of our physical therapy outcome measures. The class also addresses balance and functional mobility," he added. "For example, getting up and down from a chair, or up and down off the floor...We've seen reduced fall risks and reduced numbers of reported falls for the individuals in the class."

Although the program is a small component of Sheltering Arms' offerings, it demonstrates the hospital's "commitment to a continuum of care" through therapy programs that help "maintain gains and keep people in the community," Sheltering Arms spokeswoman Stephanie Sulmer added.

Bobby Hand (right) Boxes with a Patient

During class with Vasquez, the Sheltering Arms fitness specialist, the senior sluggers spar, bob, and weave. They punch, dodge, and evade at angles. They block and counter. They mimic the arm and leg motions of jumping rope. In their own way, these boxers come close to floating like butterflies and stinging like bees.

And from the look and sound of things, they're having a blast – circuit training elements of the workouts are punctuated by elated whoops from men in the class.

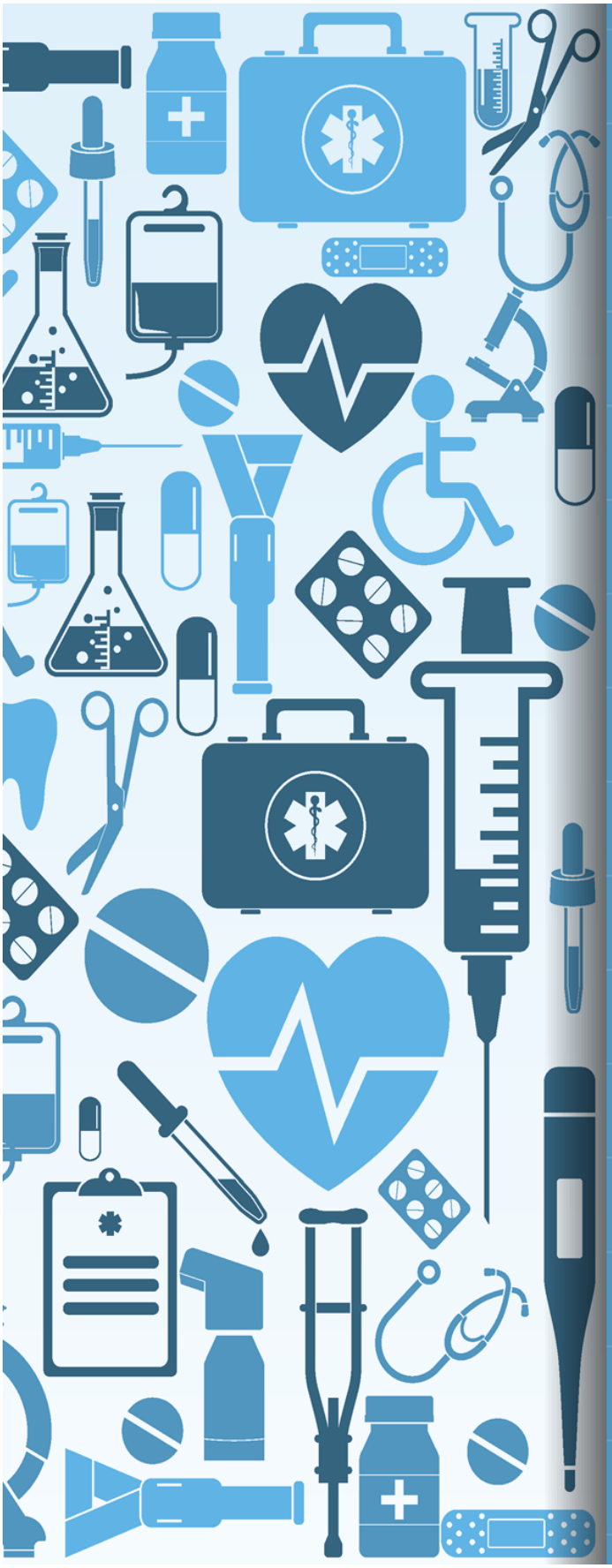
"They really enjoy it," Vasquez said of his training crew. "And they develop a real camaraderie."

The benefit of the boxing moves, as part of a physical therapy program, is that they can help retrain people living with Parkinson's how to maximize their movements to compensate.

"What happens with Parkinson's disease, it's almost as if a signal is being carried improperly. So people may still have the ability to lift their arms all the way up overhead, for example. But when they try and move with that same energy that they're familiar with, it produces a dampened movement," Hand explained. "So we teach them that 'Your new 100 percent is 120 percent effort.' So an exaggerated movement and exaggerated force to restore normal movement mechanics."

The bigger lesson for older people living with Parkinson's is to be active, Hand noted.

"It doesn't have to be boxing. It can be boxing. It can be dancing. It can be playing a drum. As long as they are doing something that reinforces these movements with purpose. So that they understand the difference between exercise where it's movement with a purpose, and activity like playing with your grandkids. Both are important, but ultimately you need to be exercising to maintain your gains."



VHHA Shared Services Member Resources

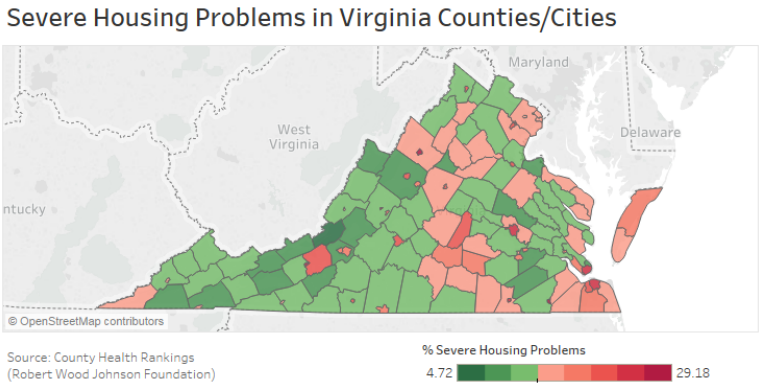
Airgas Puritan Medical	Medical specialty gas supplier.
ARMSRx Pharmacy Consultants	Pharmacy Benefit Management (PB) Program.
Baker Healthcare Consulting	Medicare-wage index services.
Care Logistics	Care coordination experts offering reliable operations to improve patient throughput.
CommerceVantage	Enhanced Accounts Payable (AP) Offerings.
Cordant Health Solutions	Opioid and heroin abuse resources to identify patients at risk for abuse or diversion.
FairCode Associates	Provides specially trained physicians for improved clinical coding documentation.
HealthcareSource	Applicant tracking and onboarding.
Health Providers Insurance Alliance (HPIA)	Offers a range of property/casualty, professional and general liability, and other insurance products.
InfiniTrak	Resources for FDA Drug Supply Chain compliance.
InfoArmor ATI (Advanced Threat Intelligence)	Cybersecurity solution delivering actionable threat intelligence alerts on malware, ransomware, etc.
John Hancock	Long-term care insurance provider.
KII Consulting	Provides identify theft and privacy management solutions for hospitals and employees.
Merritt Hawkins	Permanent physician staffing and recruitment.
NAVEOS (formerly DSH Management Solutions)	Specializes in maximizing federal and state DSH revenue, and 340B qualification/retention.
Qualivis (formerly Healthcare Staffing Services)	National provider of health care workforce solutions with more than 100 agencies selected through RFP process.
Reliability Center Inc.	Help organizations achieve high reliability goals.
Shiftwizard	Automated staff scheduling with real-time productivity management.
Staff Care	Leading provider of Locum Tenens.
Truven Health Analytics (an IBM Company)	Clinical decision support, benchmarking, and real-time surveillance to optimize care delivery.
VA Hospital Careers	Cost-effective, online job posting resource for VHHA members.
Verified Credentials	Background screening services.
Vizient (formerly Novation)	Group Purchasing Organization offering supply chain expense reduction and consulting services.
Winthrop	Leading health care technology acquisition company providing financing of hardware, software, and technology.

Research Corner: In-Depth Data Analysis

Words and Images by VHHA Analytics Team

Updated Legislative Dashboards Include 'Housing Security' Metrics (March 2018)

VHHA's Community Health Legislative Dashboards, which track key health care metrics in localities corresponding to the Commonwealth's 100 House of Delegates and 40 state Senate districts, have recently been updated online. A previous Research Corner column introduced "food security" as a new metric to provide a more complete picture of community health. This Research Corner column highlights another important determinant of health that has been incorporated into the interactive dashboard tool online: housing security. The relationship between housing security and health outcomes is not new. As far back as the 19th century, public health officials focused efforts on addressing crowded and poorly sanitized residences as a means to reduce infectious diseases.[1] Good health largely depends on having access to homes that are safe and free from physical hazards. Adequate housing provides people with a sense of privacy, security, stability, and safety. In contrast, poor housing conditions are associated with a wide range of health conditions including respiratory infections, asthma, lead poisoning, injuries, and mental health issues. Each year in this country, 13.5 million non-fatal injuries occur in and around the home.[2] The importance of housing security on overall health is a key reason for the inclusion of a "Severe Housing Problems" metric in the updated VHHA Community Health Legislative Dashboards. The online tool's health indicators section now includes rates and rankings for social determinants of health alongside traditional health indicators such as rates for obesity and heart disease mortality. Severe Housing Problems is defined as the percentage of households with at least one or more of the following housing problems: housing unit lacks complete kitchen facilities; housing unit lacks complete plumbing facilities; household is severely overcrowded;[3] or household is severely cost-burdened.[4] In Virginia, 467,140 households (15 percent) have a severe housing problem, according to the latest data. The map graphic identifies Virginia localities situated above, and below, the median percentage of households with severe housing problems. Advocacy and support for policies that ensure access to affordable and safe housing is one way to improve public health in Virginia.



[1] National Center for Biotechnology Information, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1447157/
[2] National Center for Biotechnology Information, https://www.ncbi.nlm.nih.gov/pubmed/15782447
[3] Severe overcrowding is defined as more than 1.5 persons per room
[4] Severe cost burden is defined as monthly housing costs (including utilities) that exceed 50% of monthly income

Opioid Prescription Volume Declining (Jan. 2018)

Awareness of prescribing behavior across the Commonwealth is a key first step in understanding opioid availability. Due to the availability of prescription claims data[1] in the Virginia All-Payer Claims Database, we can answer questions about prescription volume, refills, and which clinical specialty areas are responsible for dispensing the greatest volume of opioids. And with the addition of 2016 data, the database has enough information to identify prescription volume trends. For this analysis, the VHHA Analytics Team reviewed claims for individuals covered by Medicaid and commercial insurance for 2015 and 2016. APCD prescription claims data show that during 2015 and 2016, approximately 2.5 million prescriptions were written for 677,000 patients, averaging out to roughly 3.7 prescriptions per patient. Records show significantly fewer refills occurred after an initial refill, and the available data

reveals that family practice physicians and non-physician practitioners write the largest percentages of opioid prescriptions. Beginning in January 2015, the monthly volume of opioid prescriptions written was 111,739. By December 2016, the monthly volume declined to 95,011. It is important to note that seven of 106 substances were excluded from the analysis, thereby reducing the total prescription volume from 5.5 million to 2.5 million.[2] These seven substances were excluded due to their common use in treating opioid addiction.[3] It is also noteworthy that a large number of prescriptions (326,641) were not identified as having a refill (value shows as "null"). About twice that many prescriptions were refilled at least once. Data show significantly fewer refills occur after the first refill, which could be where the changes noted in trending occur. Additional research is needed to test that hypothesis. Family practice physicians account for the largest percentage of physicians writing opioid prescriptions, though non-physician practitioners (including those in specialty practices) write nearly as many prescriptions. While there is a natural tendency to assume that most prescriptions are given to emergency room patients, the data shows such assumptions are inaccurate. What's most encouraging in the data analyzed is the trend line showing that prescription volumes fell between 2015 and 2016. Looking ahead, projections based on the positive changes from 2015 to 2016 lead us to surmise that 2017 data will show the volume of prescriptions continued to decline last year. We will revisit this subject later this year when 2017 prescription claims data becomes available.

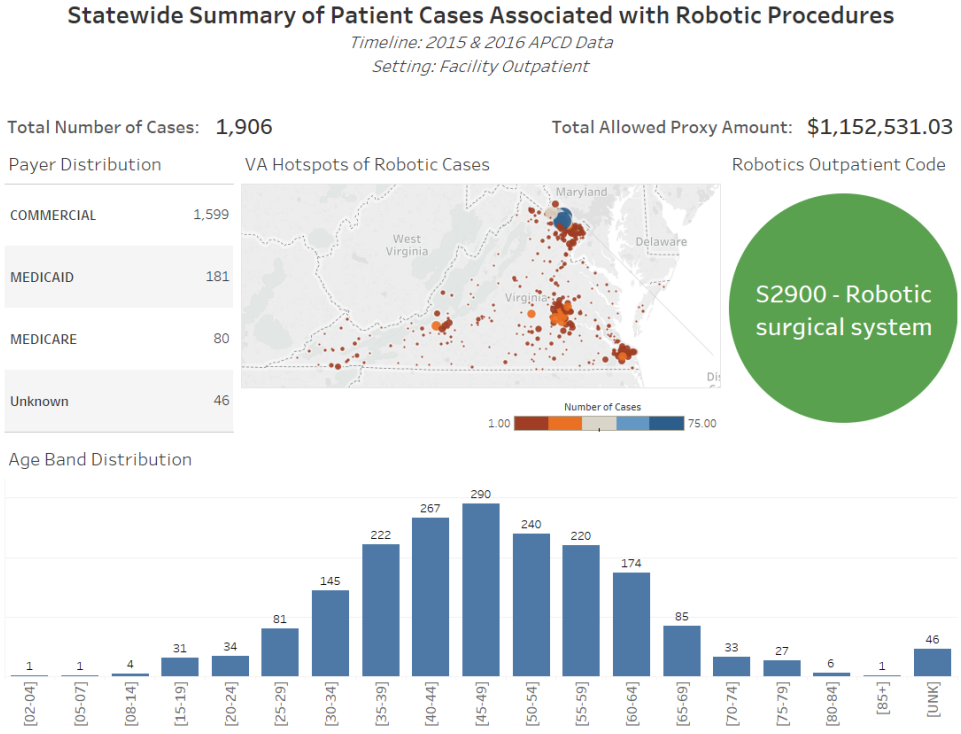
[1] VHI estimates that approximately 50 percent of commercially insured and 100 percent of Medicaid residents of Virginia are represented in the Virginia APCD.

[2] Excluded from APCD Analgesic/Opioid drug classifications: Buprenorphine HCL, Buprenorphine HCL/Nalaxon, Dolphine, Methadone HCL, Methadone HCL Intensol, Methadose, Suboxone.

[3] National Institute on Drug Abuse, January 2018, https://www.drugabuse.gov/publications/research-reports/medications-to-treat-opioid-addiction/overview

Availability of Robotic Surgery Linked to Population Concentration (Jan. 2018)

The first robotic surgery on record was performed in 1985 when a robotic arm was used to take a brain biopsy. In the 30-plus years since, robotic surgical systems have evolved from computer-assisted models to modern controller-controlled robotic systems that replicate the surgeon's exact movements through robotic instruments working on a patient. Robotic surgery has become a viable option in neurological, urological, gynecological, cardiothoracic, and many other general surgical procedures. The benefits of robotic surgery for patients include cutting precision and miniaturization. These two characteristics lead to shorter hospitalizations, reduced pain and discomfort, faster recovery time, smaller incisions, lower infection rates, fewer readmissions, reduced blood loss, and minimal scarring.[1] Studies on the long term effects of robotic surgery compared to traditional open cavity surgery don't appear to exist. However, the technology has enabled certain procedures to occur at ambulatory surgical centers. In many cases, that can mean an overnight hospital stay is no longer required for recovery. Technological innovation in health care is an important driver of cost growth. Robotic systems have high fixed costs – equipment prices range from $1-$2.5 million per unit.[2] In the case of procedures that had previously been performed as open surgery, some of the new costs are offset by reductions in post-operative costs (no overnight stay) and by productivity gains when patients recover more rapidly and can return to work and their lives sooner. While faster recovery is possible with robotic surgery, it comes at a higher cost because of the technology's fixed costs. The chart below shows the distribution of robotic surgery done in ambulatory surgery centers around the state between 2015 and 2016. Due to high fixed costs, robotic systems need to be operating sev-



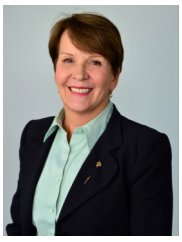
eral times daily to recoup up-front expenses. It is not surprising then that the availability of robot-assisted surgery is primarily available in urban areas where population and commercial insurance are more prevalent. The majority of patients receiving robotic surgery are between the ages of 35 and 59 (mainly working adults).

[1] https://robotenomics.com/2014/06/05/the-cost-effectiveness-and-advantages-of-robotic-surgery/

[2] Ibid.

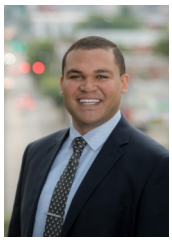
About the Authors

Jay Andrews serves as Vice President of Financial Policy for VHHA, joining the organization in November 2010. With VHHA, Jay develops and provides rate analysis on Medicare and Medicaid and works on other policy related budgetary and legislative issues. He is a graduate of Virginia Tech with a degree in Accounting and obtained his CPA certificate in 1987.



Barbara Brown is VHHA's former Vice President of Data and Research, a role in which she oversaw VHHA's analytical, workforce, and community health programs. She previously worked in risk management for a multi-state malpractice insurer, at a health research institute, and as editor of a national nursing journal. Her clinical practice work was as a pediatric nurse practitioner and neonatal intensive care nurse.

Ian T. Oommen is an Analyst for VHHA's Data and Research department. Prior to joining VHHA full-time, Ian was an intern at the Association while earning his undergraduate degree at VCU, where he served on the executive board for the South Asian Student Association and Delta Epsilon Psi service fraternity. Along with Ian's pre-health background, he has a strong knowledge base in information technology such as web development, programming, infrastructure, systems analysis, and design.



David Vaamonde is VHHA's Vice President of Data and Research. His primary research interests include readmission reductions, health economics, and the integration of data science to health care. David earned his bachelor's degree in Biochemistry and a Master of Public Health from the University of Virginia, which he attended as a Bayly-Tiffany Scholar.

VHHA Analytics: Harnessing the power of big data through modern technology tools has been shown to help organizations across industries substantially improve operational efficiency. By applying this philosophy to health care through the VHHA Analytics online portal, the VHHA Data and Research Team has developed an interactive data analysis tool to give hospital officials greater insight on enhancing performance, reducing costs, better serving patients, and effectively communicating health care issues. The tool's features enable users to access an array of detailed and customized, hospital-specific and regional and state trend reports. Available data covers topics including 30-day readmissions, quality and patient safety, performance improvement, and much more. To learn more about VHHA Analytics, view video tutorials, and request a demo, visit https://sites.google.com/view/vhhaanalytics/video-tutorials.

Virginia Hospital & Healthcare Association

2018 Annual Meeting

The Williamsburg Lodge · April 25-27

http://www.vhha.com/programs/conferences/vhha-spring-conference/

Great Things Are Happening In Virginia Hospitals!

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Virginia Ranked In The Top 10 Nationally For Health Care Quality

"The Commonwealth of Virginia was rated among the top 10 states for health care quality in the latest annual National Healthcare Quality and Disparities Report. The report is mandated by Congress to provide a comprehensive overview of the quality of health care received by the general U.S. population, as well as disparities in care experienced by different ethnic and socioeconomic groups. Among all states, Virginia ranked ninth overall with a score of 62.5 out of 100 for the most recent data year."

Dozens Of Virginia Hospitals Earn "A" Grades For Patient Safety And Satisfaction From National Ratings Organizations

"Dozens of Virginia hospitals earned top marks for exceptional patient safety performance in the Fall 2017 Hospital Safety Grade scores from the Leapfrog Group. In all, 41 Virginia hospitals received 'A' grades from Leapfrog, a national health care patient safety ranking organization. In the current rankings, eight Virginia hospitals were recognized for receiving an 'A' grade 12 consecutive times. The new Leapfrog results place Virginia among the top five states with the highest percentage of 'A' grade hospitals."

Focused Efforts By Virginia Hospitals Result In The Lowest Early Elective Delivery Rate In The Nation

"Over the past four years, Virginia has reduced its EED rate from 8 percent to 1.3 percent, ranking the Commonwealth first in the nation in reducing EEDs, according to federal Hospital Compare data for 2016. Virginia previously had been ranked 24th in the nation on EED rate based on Hospital Compare data in 2014. Research has shown that babies carried to full term after 39 weeks of gestational age have improved birth outcomes leading to lasting positive effects on lifelong health."

http://bit.ly/VHHAGreatThings

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Join the VHHA Hospital Grassroots Network. Register to be an advocate for health care in your community. Through our online grassroots member mobilization tool, **Muster**, VHHA will send updates and Action Alerts throughout the year, and periodically ask you to send an e-mail to your state delegate or senator to seek their support on important health care issues. The messages are drafted for you, and taking action can take less than one minute. Action Alerts are sent to Hospital Grassroots Members on the most important legislative issues that our hospitals face. Legislators need to hear from people in their districts to understand the local impact of their votes in Richmond. If you previously received VHHA's VoterVOICE e-mail alerts, you are already registered for the Hospital Grassroots Network. Your voice is important. Sign up online today at https://app.muster.com/250/supporter-registration/.