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The Source

THIRD QUARTER 2019
VOLUME 14 | NUMBER 3

MOVING FROM "WHAT YOU THINK" TO "WHAT YOU KNOW"

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Distinguished Care

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***James Bruffey**, M.D., orthopedic spine surgeon, Scripps Green Hospital, La Jolla, California*

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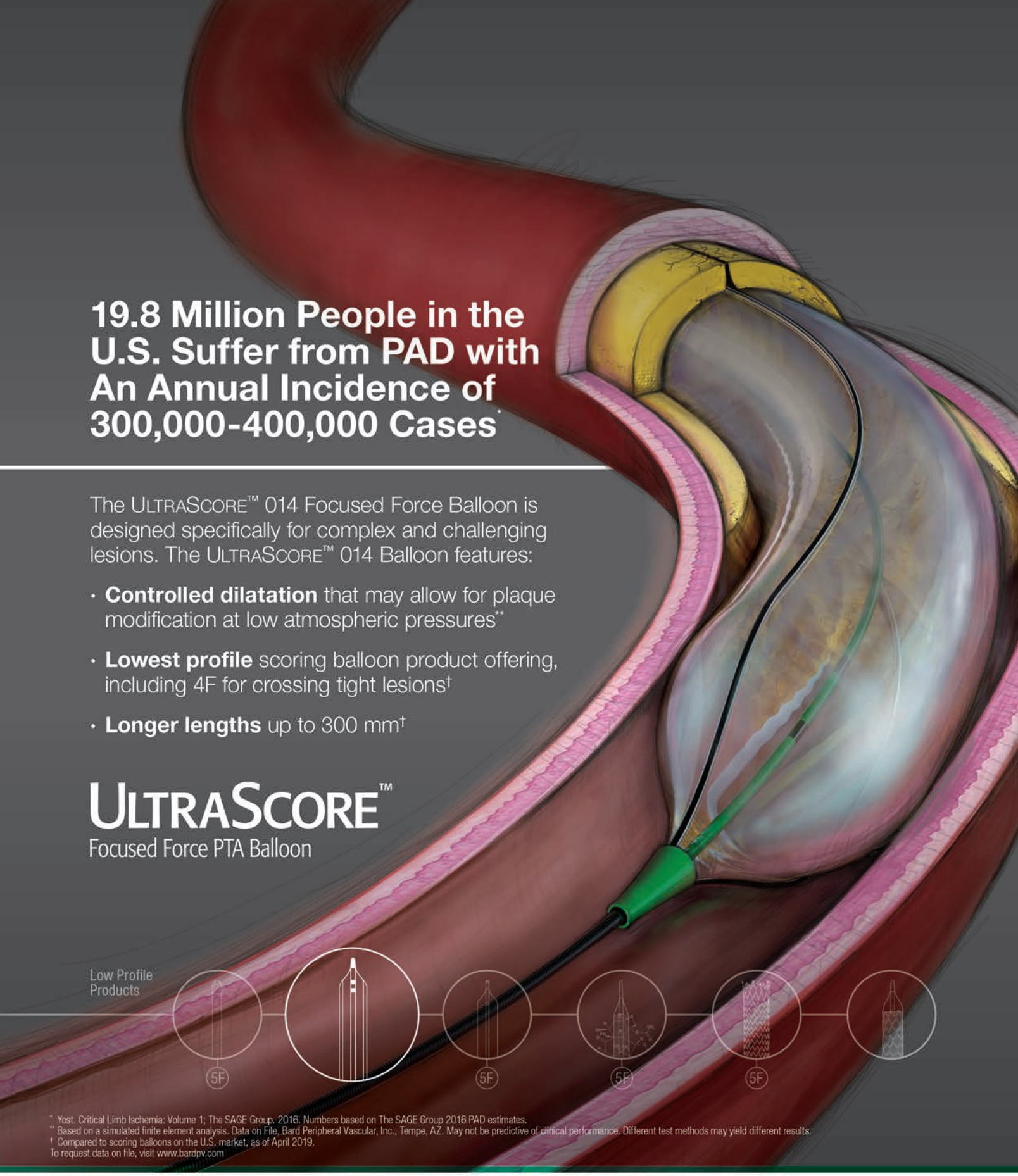

* Yost. Critical Limb Ischemia: Volume 1; The SAGE Group. 2016. Numbers based on The SAGE Group 2016 PAD estimates.
** Based on a simulated finite element analysis. Data on File, Bard Peripheral Vascular, Inc., Tempe, AZ. May not be predictive of clinical performance. Different test methods may yield different results.
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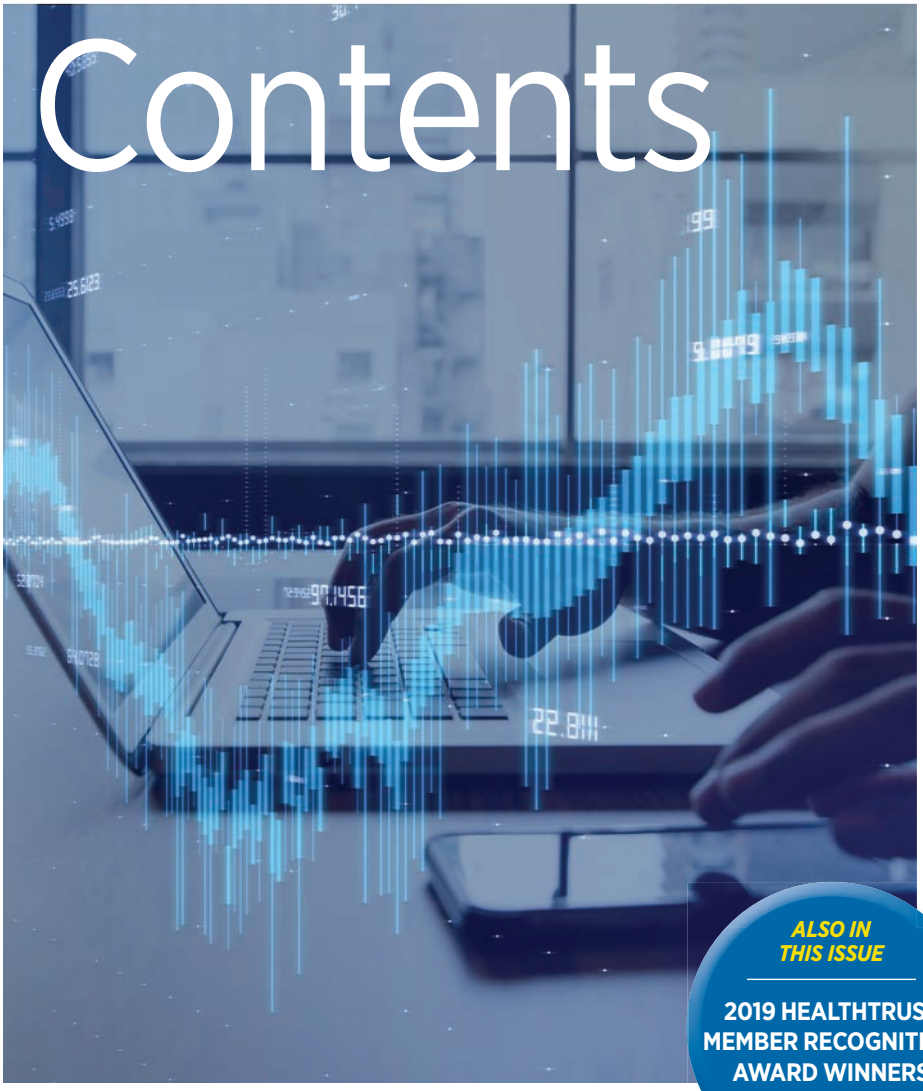

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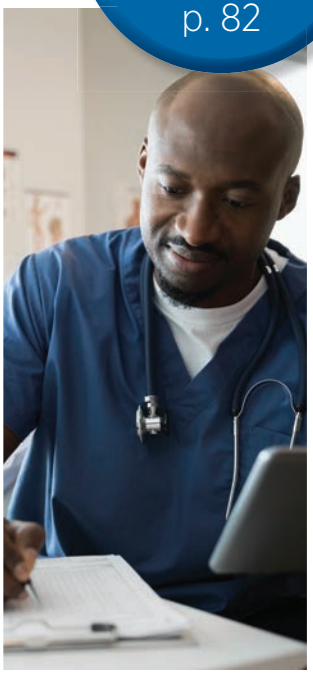

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James Bruffey, M.D.
Photography by
Ian Cummings

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Editorial contributions: You are invited to suggest experts for interviews or article ideas for publication consideration. Preference is given to topics that demonstrate member experiences related to successful clinical initiatives or supply chain best practices; those that impact patient satisfaction or improve outcomes; and those related to new technology, trends or healthcare industry insights. Clinicians, physicians, supply chain leaders, executives and other staff within HealthTrust member facilities are invited to share their expertise as part of upcoming stories. Contact Faye Porter at **faye.porter@healthtrustpg.com** with suggestions. (Note: HealthTrust reserves the right to edit all articles and information accepted for publication.)
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Catalyst Behavior Inspires Change

cat•a•lyst (/'kad(ə)ləst/) *n.*
A person or thing that precipitates an event or changes

As I think about this year's HealthTrust University Conference (HTU) theme, *Be the Catalyst*, I'm reminded how fortunate we are to work in an industry that humbly exhibits countless examples of those who go above and beyond. Whether volunteering to serve in times of life-threatening emergencies or recognizing those who work quietly behind the scenes to champion compliance, cost savings, performance-based or clinical initiatives—impactful changes are made daily in healthcare organizations across the country.

Since 2009, HealthTrust has sponsored an annual member awards process to recognize those who are catalysts for change within their own health systems, their communities and, occasionally, those making a global impact. I am honored to share with you this year's recipients of our Member Recognition awards (*see below*), and I encourage you to read more about their accomplishments in the winner profiles that start on page 82. These teams will be recognized during the August 13 general session at HealthTrust University Conference.

CATALYSTS FOR GREENING HEALTHCARE

Congratulations to HealthTrust members Boston Medical Center and Hackensack Meridian Health–Hackensack University Medical Center—named once again by Practice Greenhealth as two of the top 25 healthcare organizations in the country for their commitment to environmental excellence. Facilities that are part of HCA Healthcare and Hospital Sisters Health System obtained recognition in some areas as well. (*See the list of HealthTrust member winners on page 94.*)

I am also excited to announce HealthTrust's agreement with MindClick, an environmental data solution that provides sustainability attributes on products related to chemicals of concern, optimized packaging and responsible resources. This new relationship will enable to us to further support our members' environmental preferable purchasing and sustainability initiatives. (You can learn more about MindClick in the exhibit hall during HTU and in the Q4 edition of *The Source*.)

Our new contract with Foodbuy, effective this month, will enable HealthTrust member hospitals to meet more of their sustainability requirements, health and wellness and patient satisfaction goals. (*See story on page 30.*)

NEW OPPORTUNITIES FOR GROWTH & PERFORMANCE IMPROVEMENT

Welcome to Boston-based Beth Israel Lahey Health (BILH) as a new member of HealthTrust, beginning Oct. 1. BILH is an integrated care delivery network of 13 hospitals in Eastern Massachusetts, including four academic medical centers and teaching hospitals, eight community and specialty hospitals, and other sites of care.

In Q2 of this year, HealthTrust signed a definitive agreement with Resource Optimization & Innovation (ROi), a recognized leader in healthcare supply

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2019 HEALTHTRUST MEMBER AWARD WINNERS

Outstanding Member
Atlantic Health System
Morristown, New Jersey
Kevin Lenahan; **Steve Albanese**; **Adisa Mesalic**; **Dawn Petronio**, MAS, BSN, RN; **Drew Douglas**

Clinical Excellence
HCA Healthcare Continental Division
Denver, Colorado
Heather Signorelli, DO, FCAP; **Gary Winfield**, M.D.

Operational Excellence
OU Medical Center
Oklahoma City, Oklahoma
April Imel, BSN, RN; **Dee Cross**, MSN, RN; **Renee Landry**; **Casey Woods**; **Michael Cookson**, M.D., MMHC

Social Stewardship – Community Outreach
Scripps Health
San Diego, California
Debra McQuillen, RN, BSN, MAS; **Steve Miller**, RN, MS, FACHE; **Mike Godfrey,** ABC; **Jay Larrosa**, MSN, RN-BC, ACM-RN, PHN, FACDONA

Pharmacy Excellence
Community Health Systems
Franklin, Tennessee
Jerry Reed, MS, RPh, FASCP, FASHP; **Heather Weese**, PharmD, MSHI, BCPS, BCPPS

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1. Anderson, D., et al (2013). Decontamination of Targeted Pathogens from Patient Rooms Using an Automated Ultraviolet-C-Emitting Device. *Infection Control and Hospital Epidemiology*, 34(5), 466-471.
2. Mahida, N, et al (2013). First UK evaluation of an automated Ultraviolet-C room decontamination device (Tru-D). *Journal of Hospital Infection*, 05(005), 1-4.
3. Sexton, D., Anderson, D., et al (2017). Enhanced terminal room disinfection and acquisition and infection caused by multidrug-resistant organisms and Clostridium difficile (the Benefits of Enhanced Terminal Room Disinfection study): a cluster-randomised, multicentre, crossover study. *The Lancet*. 389(10071), 805-814

HealthTrust contract #6629

Executing With Momentum

My team and I are energized by the theme of this year's HealthTrust University Conference—*Be the Catalyst*—as it embodies much of the ground we are breaking with clinical research, education, and data and analytics initiatives.

Member Education, which is part of my team, is proud to deliver 87 presenters in 38 education sessions as part of HTU this year. Its work with a new publisher for *The Source* magazine will debut in Q4. This new partnership will enable us to execute an organizationwide content strategy, including both the magazine and our digital assets to increase HealthTrust's presence as an industry thought leader.

SUPPLY CHAIN LEADERS BECOME PHYSICIANS FOR A DAY

In late June we held our annual hands-on cadaver lab experience. The immersive, daylong event provides a rare opportunity for supply chain professionals and healthcare executives to use surgical tools that are on contract or might be added to the portfolio in the future. This year's focus was on spine and featured a robotics demo to showcase innovation in the spine surgical space.

HealthTrust Physician Advisors conducting the lectures and/or the guided hands-on labs included **Kenneth Little**, M.D., St. Luke's; **Shay Bess**, M.D., HCA Healthcare; **William Payne**, M.D., Franciscan Alliance; and **James Bruffey**, M.D., Scripps Health. (*See feature on Dr. Bruffey on page 54.*) HealthTrust member hospitals Allspire, Centura Health, CHC, CHRISTUS Health, SLHS, Surgery Partners, Tenet and Beaumont Health sent supply chain leaders and healthcare executives to participate in the symposium. (*See photo below featuring all the attendees.*)

YEAR-ROUND FOCUS ON SUPPLIER INNOVATION

Earlier this spring we launched HealthTrust's online Innovation Center. This website is the avenue for suppliers with new technology to present their truly innovative products and services for HealthTrust review year-round. *(See story on page 104.)*

Internal subject matter experts and service line clinical experts from within the HealthTrust membership will determine if those products are clinically acceptable and if the financial and operational impacts are of such value to add them to the HealthTrust contract portfolio.

Both current and prospective suppliers with new technology directly related to patient care, information technology or supply chain management are eligible to submit products for review. Supplier products must meet HealthTrust's new technology definition. Learn more online at **healthtrustpg.com/healthtrust-innovation-center**.

Crystal Dugger, MBA, RN

ADDITION OF CLINICAL SERVICES VP

Crystal Dugger, MBA, RN, joined my team in June as the vice president of Clinical Services. She is responsible for the research and education, data analytics and clinical consulting teams, as well as the ongoing development of clinical offerings benefitting HealthTrust members. Crystal will also work closely with me as a

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I hope you find value in this and all editions of *The Source*. With executive oversight of the publication, receiving your feedback is critical as we evolve the magazine and respond to member requests for content. Members are encouraged to contact us with story ideas or join our reader panel and provide feedback on a quarterly basis. Simply email **thesource@healthtrustpg.com**

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1. LAB-SUPPORT-05-297733
2. Kurz A, Sessler DI, Lenhardt R. Perioperative normothermia to reduce the incidence of surgical-wound infection and shorten hospitalization. *N Engl J Med* 1996; 334: 1209–1215.
3. Melling AC, Ali B, Scott EM, Leaper DJ. Effects of preoperative warming on the incidence of wound infection after clean surgery: a randomised controlled trial. *Lancet* 2001; 358: 876–880.
4. Butwick, A.J., et al., The effect of forced air-warming to reduce hypothermia and shivering for patients undergoing Cesarean delivery. *Anesthesiology*. 2005. p. A593.

SOURCEBOOK

YOUR **Q3 GUIDE** TO LOWERING SUPPLY EXPENSE IN THE OR, MITIGATING DRUG SHORTAGES, MEETING STANDARDS FOR HAZARDOUS DRUG COMPOUNDING, EXPLORING NEW SPINE ROBOTICS, DISCOVERING NEW OPTIONS FOR FOOD SERVICE & CONTRACTING FOR BEVERAGE POURING RIGHTS

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Care in Control

STRATEGIES FOR BETTER SUPPLY EXPENSE MANAGEMENT IN THE OR

The right product in the right place at the right time. Nowhere is this well-known supply chain adage more critical than in the operating room. A 2018 study published in *JAMA* estimates each minute in the OR costs $37, so delays due to missing supplies are costly. Delays can also impact outcomes, especially if a patient is already under anesthesia. Multiple studies have found a link between prolonged duration of anesthesia with higher odds of complications and increased length of stay.

Understandably, clinicians want to ensure they have the appropriate items exactly when and where they need them to avoid delays and the complications that could follow. It's why they sometimes over-order supplies and place them throughout the OR so they're always within reach. When you consider the short shelf life of many products, and the fact that OR supplies are responsible for approximately 40–45% of a facility's supply cost, it becomes clear just how costly and potentially wasteful a strategy like that can be.

"Scrub techs and nurses often want to own the purchasing process to prevent being in a position where a vital surgical item was missing at precisely the wrong time," says **Drew Preslar**, MBA, assistant vice president of HealthTrust's inSight Advisory Services. "But the goal should be to implement sustainable and repeatable processes so there isn't that single point of failure."

STREAMLINING TO REDUCE WASTE

Drew Preslar, MBA

Last spring, leaders at South Bend, Indiana-based Beacon Health System reached out to Preslar's team for help after discovering that its main OR at Elkhart General Hospital was in the system's 95th percentile in supply expense.

Keely Paston, RN, BSN, MBA

A three-day assessment by HealthTrust's inSight Advisory Services–Supply Chain resulted in a number of opportunities to address the issues. "It was clear that we had a lot of work to do," says **Keely Paston**, RN, BSN, MBA, executive director for cardiovascular and surgical services at Elkhart. "We didn't have the right people touching supplies. Without dedicated point people serving as the gatekeepers for supply management and vendor control, it was impossible to control costs."

The supplies were divided between two main supply rooms and a handful of other locations, so the inSight team's first recommendation was to reorganize and streamline the supplies. "We had duplications everywhere, which meant a lot of outdated products," Paston explains.

Now surgical supplies are stored in unique stocking locations, making them easier to locate and manage.

To ensure supplies didn't filter into other locations, HealthTrust also recommended assigning materials management duties to specific employees, which required a restructuring of the entire cardiovascular and surgical service lines.

PUTTING THE RIGHT TEAM IN PLACE

After a six-month implementation of recommendations from inSight Advisory Services, Elkhart General Hospital's main

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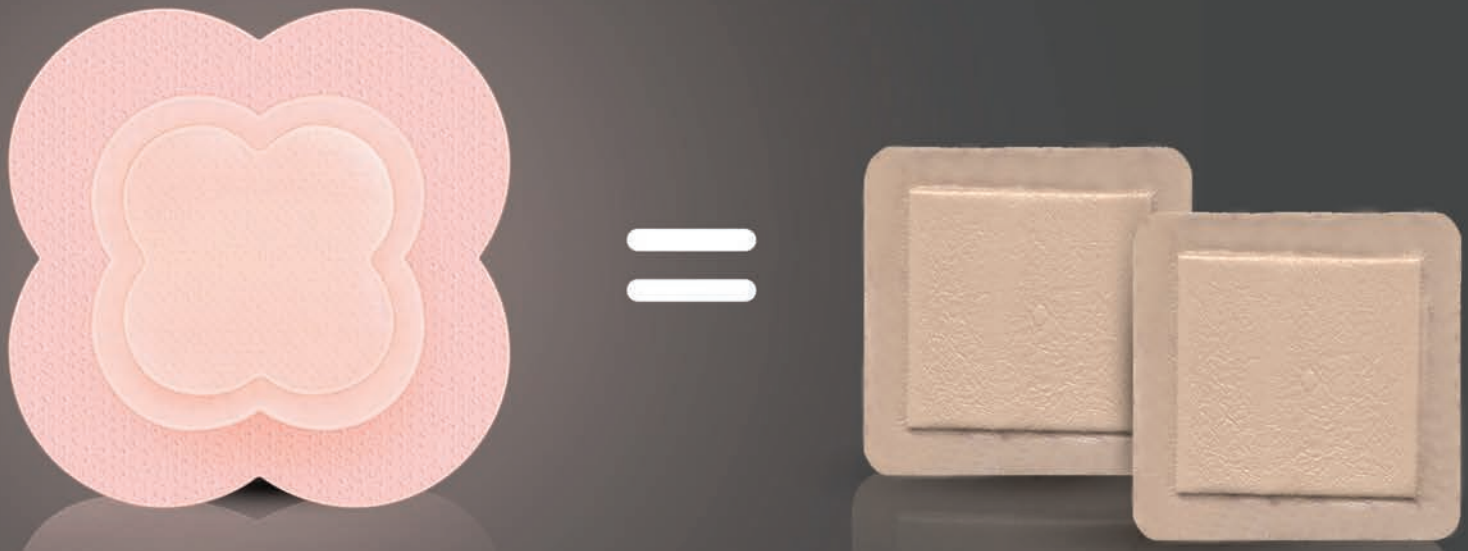

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jeremy.spencer@smith-nephew.com

References: 1. Joy H et al. A collaborative project to enhance efficiency through dressing change practice. Journal of Wound Care. Vol 24. No 7. July 2015 P3-4. 2. Data on File Report GMCA-DOF/08 –April 2016, A. Rossington. Product Performance of Next Generation ALLEVYN LIFE.

Continued from page 10

OR is now made up of a department of surgical support services led by a manager whose direct reports include three material analysts, a clinical informatics nurse, an anesthesia tech, and a dedicated supply manager for the cardiac cath lab and cardiac OR. This team serves as custodians for all supplies coming into the OR. Beacon Health System also hired a director for sourcing, contracting and purchasing, who leads the value analysis committee, which meets monthly to vet new products. Monthly, the surgical support services team identifies expiring products and follows an eight-step disposal process.

"It is so important to have the right structure in place with defined roles and responsibilities related to inventory management," Paston notes. "But it took us a while to get there. It can be a challenge to find people who strike the right balance between understanding both the clinical and material implications."

With the right team in place, Paston turned her attention to consigned items, which HealthTrust identified as another opportunity for cost savings. "Suppliers were bringing in and storing what they wanted, even when things weren't on contract," she says. "HealthTrust opened our eyes to the critical need of having a point person monitor those off-contract activities so we can have better control over the process."

Implementation of these initiatives is ongoing, but the system has already seen improvements in supply management. Supply expense per unit and per staff are decreasing, and the amount of wasted items are being reduced. Paston expects an upcoming initiative around physician preference cards to improve supply expense metrics even more.

GETTING A HANDLE ON PHYSICIAN PREFERENCES

Before becoming an assistant vice president of surgical and specialty services for HealthTrust, **Pat Magnant**, MHA, MT ASCP, worked in HCA Healthcare's West Florida Division, fine-tuning a physician preference card process. Now she is helping to implement this process with other

Pat Magnant, MHA, MT ASCP

HealthTrust members nationwide. After every surgical case, a designated clinician charts the appropriateness of supplies used by marking one of two boxes—changes or no changes—on a physician preference card. The card then goes to the internal clinical control department, where the clinical coordinator reviews it to determine if it's a one-time change or if it should be noted on all cards going forward. Since 2016, when the program began, participating hospitals performed 233,164 cases; 28,500 resulted in a preference card change.

The process may seem simple and straightforward, but Magnant says it has a big impact on supply expense management. Clean preference card data is important to make sure the supplies used were the correct ones. That information then filters down to supply chain, where patient charges reflect what was actually used. It also leads to a reduction in supply waste, as accurate cards ensure the correct supplies are in the room.

"Verifying preference cards guarantees you have everything needed for the case, but you're actually ensuring so much more," Magnant explains. "Patients will receive the care they need and be charged appropriately, physicians are satisfied, and the clinical staff are able to focus on care delivery."

However, the new preference program doesn't mean every requested change is honored. If that happened, supply expense in the OR would be inefficient in other ways. Instead, Magnant adds, part of the process involves working with physicians and clinical resource directors to set their preferences as well as altering the timing of some of those changes, while still remaining flexible.

"We never say everyone has to conform to a standard product," she says. "We understand there are plenty of exceptions."

Magnant says the door is never closed with a physician, even if they rejected a request to standardize in the past. "You never know when you're going to be able to convert a doctor," she says. "Maybe you won't be able to convince him to standardize with one category, but he may be open to

Continued on page 15

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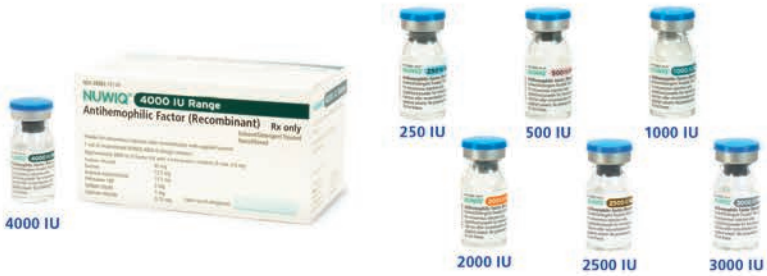

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†In clinical trials of previously treated patients (PTPs) who switched to NUWIQ (N=135), there were zero FVIII inhibitors after ≥50 exposure days and ≥6 months of treatment.

Indications and Usage

NUWIQ® is a recombinant antihemophilic factor [blood coagulation factor VIII (Factor VIII)] indicated in adults and children with Hemophilia A for on-demand treatment and control of bleeding episodes, perioperative management of bleeding, and for routine prophylaxis to reduce the frequency of bleeding episodes. NUWIQ is not indicated for the treatment of von Willebrand Disease.

Important Safety Information

NUWIQ is contraindicated in patients who have manifested life-threatening hypersensitivity reactions, including anaphylaxis, to the product or its components. Hypersensitivity reactions, including anaphylaxis, are possible. Should symptoms occur, discontinue NUWIQ and administer appropriate treatment. Development of Factor VIII neutralizing antibodies (inhibitors) may occur.

Please see Highlights of Prescribing Information on adjacent page for additional important information.

www.nuwiqusa.com

References: 1. NUWIQ full Prescribing Information. Hoboken, NJ: Octapharma USA, Inc.; rev 2017. **2.** Data on file. Hoboken, NJ: Octapharma USA Inc.; 2015.‡ **3.** Lissitchkov T, et al. Haemophilia. 2017;23:697-704.

‡To access this information, please contact Medical Affairs (usmedicalaffairs@octapharma.com or 888-429-4535).

HealthTrust Contract #4861

Date of preparation: 5/2019. NUW-0210-PAD

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HIGHLIGHTS OF PRESCRIBING INFORMATION

These highlights do not include all the information needed to use NUWIQ safely and effectively. See full Prescribing Information for NUWIQ.

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Initial U.S. Approval: 2015

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- On-demand treatment and control of bleeding episodes
- Perioperative management of bleeding
- Routine prophylaxis to reduce the frequency of bleeding episodes

NUWIQ is not indicated for the treatment of von Willebrand Disease.

DOSAGE AND ADMINISTRATION

For intravenous use after reconstitution

- Each vial of NUWIQ is labeled with the actual amount of Factor VIII potency in international units (IU).
- Determine dose using the following formula for adolescents and adults:

  Required IU = body weight (kg) x desired Factor VIII rise (%) (IU/dL) x 0.5 (IU/kg per IU/dL)
- Dosing for routine prophylaxis:
- Frequency and duration of therapy depends on severity of the FVIII deficiency, location and extent of bleeding, and patient's clinical condition.

Subjects	Dose (IU/kg)	Frequency of infusions
Adolescents [12-17 yrs] and adults	30-40	Every other day
Children [2-11 yrs]	30-50	Every other day or three times per week

DOSAGE FORMS AND STRENGTHS

NUWIQ is available as a white sterile, non-pyrogenic, lyophilized powder for reconstitution in single-use vials containing nominally 250, 500, 1000, 2000, 2500, 3000, or 4000 IU Factor VIII potency.

CONTRAINDICATIONS

NUWIQ is contraindicated in patients who have manifested life-threatening hypersensitivity reactions, including anaphylaxis, to the product or its components.

WARNINGS AND PRECAUTIONS

- Hypersensitivity reactions, including anaphylaxis, are possible. Should symptoms occur, discontinue NUWIQ and administer appropriate treatment.
- Development of Factor VIII neutralizing antibodies (inhibitors) may occur. If expected plasma Factor VIII activity levels are not attained, or if bleeding is not controlled with an appropriate dose, perform an assay that measures Factor VIII inhibitor concentration.
- Monitor all patients for Factor VIII activity and development of Factor VIII inhibitor antibodies.

ADVERSE REACTIONS

The most frequently occurring adverse reactions (>0.5%) in clinical trials were paresthesia, headache, injection site inflammation, injection site pain, non-neutralizing anti-Factor VIII antibody formation, back pain, vertigo, and dry mouth.

USE IN SPECIFIC POPULATIONS

Pediatric Use: Lower recovery, shorter half life and faster clearance in children aged 2 - ≤12 years. Higher doses and/or a more frequent dosing schedule for prophylactic treatment should be considered in pediatric patients aged 2 to 5 years.

PATIENT COUNSELING INFORMATION

Advise patients to read the FDA-approved patient labeling (Patient Information and Instructions for Use).

Because hypersensitivity reactions are possible with NUWIQ, inform patients of the early signs of hypersensitivity reactions, including hives, generalized urticaria, tightness of the chest, wheezing, hypotension, and anaphylaxis. Advise patients to stop the injection if any of these symptoms arise and contact their physician, and seek prompt emergency treatment.

Advise patients to contact their physician or treatment center for further treatment and/or assessment if they experience a lack of clinical response to Factor VIII replacement therapy, as this may be a manifestation of an inhibitor.

Advise patients to consult with their healthcare provider prior to traveling. While traveling, patients should be advised to bring an adequate supply of NUWIQ based on their current treatment regimen.

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Continued from page 12

standardizing in another. It takes constant relationship building and negotiating."

REINING IN CUSTOM PACKS

Another area of focus for perioperative, OR and supply chain leaders to cut OR costs and waste is with custom surgical packs. The problem? Any time a system requests a customized pack versus a distributor's standard pack, there's an upcharge. Prior to its standardization program last year, West Orange, New Jersey-based RWJBarnabas Health had 79 custom packs, which represented significant cost.

When the system looked into standardizing custom packs at its acute care hospitals, it found an opportunity for savings—standardizing custom packs in 11 categories carried a projected cost savings of $300,000. Vaginal delivery, which had eight custom packs prior to the standardization project, represented the biggest savings ($80,000), followed by cystoscopy ($50,000) and total knee replacement surgery ($33,000). Cardiac and spine were the only categories they did not address, since those surgeons have certain needs, explains **Gina Gillet**, BSN, RN, CNOR, clinical resource director at Monmouth Medical Center, Southern Campus, part of RWJBarnabas Health.

Gina Gillet, BSN, RN, CNOR

"We tried to follow the 80/20 rule," she adds. "If 80 percent of the physicians used an item, it would go into the pack." But once the standardized packs were in use, Gillet noticed her facility still experienced a lot of waste as well as the need for additional items in two particular categories—total hip and total knee replacement.

"When we discovered that, we reverted back to the original packs and designed custom packs in those categories just for Monmouth," she says. Even though they're single-facility packs, they represented a cost savings of $54,000 over standardized packs.

The standardization process to create custom packs that would satisfy the needs of most required substantial collaboration and took about a year to complete. "We were constantly engaging service line leaders, RNs and surgical techs who had a lot of experience with these types of cases," Gillet explains. "We knew their input would be important since they're the ones who would be using the custom packs. We wanted these new packs to satisfy everyone—physicians, clinicians and materials managers." ●

The experts in this story will discuss strategies for mitigating OR supply expense during a panel at the 2019 HealthTrust University Conference on Tuesday, August 13. For more information, check the 2019 HTU Conference app.

Shortage Solution

HEALTHTRUST'S NEW SIMS PROGRAM ADDRESSES PAIN POINTS OF DRUG SHORTAGES

The market for generic injectables continues to be plagued by prolonged drug shortages on mission critical medications. This serves to threaten patient safety and the ability of medical professionals to consistently provide quality care. In addition, healthcare providers are forced to manage unpredictable medication prices, creating unnecessary hurdles in delivering cost-effective care.

In order to mitigate these concerns for its members, HealthTrust Pharmacy Services is launching the Supply Interruption Mitigation Strategies (SIMS) program. SIMS will enable HealthTrust to protect against supply interruptions and sudden, often severe, price increases.

"Shortages keep health systems scrambling for mission-critical drugs," says **Mark Parmenter**, PharmD, regional director of pharmacy, clinical and ancillary services at Scripps Health. "Not only is it difficult to keep certain drugs in stock, but pricing goes up with the lack of availability. Shortages take a lot of time from a systems perspective, with many resources going toward trying to source drugs as opposed to doing other things to assist patients."

Mark Parmenter, PharmD

As a member of the operations committee for the HealthTrust SIMS project, Parmenter has helped identify the top drugs to target first and compile a wish list of products to target in the future. "We're expecting the HealthTrust SIMS program to not only alleviate some of the shortages for the individual products identified in this first roll-out, but when we complete agreements for additional products, it will be a significant improvement to pharmacy operations," he says.

The first SIMS product will be the antibiotic Cefazolin in 1 gram vials, which has experienced shortages recently.

"The Cefazolin shortages have only served to highlight the importance of this product, regardless of whether you work at an

Continued on page 18

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ambulatory surgery center or a hospital," says HealthTrust CMO **John Young**, M.D., MBA, CPE, FACHE. "HealthTrust is pleased to be able to bring this SIMS product to market—especially at a time when the need for a drug shortage solution is paramount."

John Young, M.D., MBA, CPE, FACHE

More details about the program and future mission-critical drugs on the SIMS product list will be discussed at August's HealthTrust University Conference and in future issues of *The Source*.

GREATER TRANSPARENCY & SECURITY

HealthTrust can provide this kind of security thanks to its committed GPO business structure and its innovative contracting, Young adds. Just as the FDA places a Risk Evaluation Mitigation Strategy (REMS) program on products that require additional safety mechanisms to ensure appropriate use, HealthTrust can apply its SIMS contracting strategy to mission-critical products.

Benefits that will accrue to members and suppliers include:

- **Firm pricing:** Establishing a stable, competitive price through the life of the contract.
- **Safety stock:** Dedicated product reserves (oftentimes up to 90–120 days' worth) available only to HealthTrust members to help augment supply in case of a shortage.
- **Creation of a unique HealthTrust SIMS National Drug Code (NDC) number for members:** A unique NDC, just for HealthTrust members, to make ordering products and managing drug shortages easier.

The SIMS program is based on bringing greater transparency and partnership to the supply chain, explains **Mark Walsh**, PharmD, HealthTrust's director of clinical pharmacy strategy. "We have identified market predictors and pain points that combine to create cycles of drug shortages and accompanying price increases. The HealthTrust SIMS program aims to break that cycle," he adds.

Mark Walsh, PharmD

The SIMS program is based on the quality, viability and sustainability of manufacturers' supply chains coupled with HealthTrust's innovative contracting. "We feel this approach gives us benefits and additional protections that are not available if volume is divided among multiple manufacturers," Walsh says.

In order to be considered for a SIMS contract, manufacturers must provide detailed information about the supply chain for each product. Mapping out the supply chains will enable HealthTrust to identify the optimal supply chain for mission critical products, which often includes manufacturing and API redundancies, geographic diversification and the quality profile of the vendors supplying critical products along the supply chain.

In the past, manufacturers often claimed their supply chain had redundancies when a product could be run on multiple lines in a single manufacturing location. This local redundancy still makes them vulnerable to shutdowns for issues such as regulatory concerns or natural disasters.

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In 2017, for example, the shutdown of a single plant interrupted the supply production of more than 130 presentations of drugs, Walsh explains. Under the SIMS program, HealthTrust will strive to partner with suppliers that demonstrate true manufacturing redundancy at geographically distinct plants.

API SCRUTINY

HealthTrust will also consider the quality and redundancy of a manufacturer's sources of API—Active Pharmaceutical Ingredient—in deciding whether to award a SIMS contract, Walsh says. Because a large number of API suppliers are located in China and India, the perception, until recently, is that they are under a lower level of FDA scrutiny. Recent examples of serious quality control concerns at these locations have resulted in vulnerabilities to the supply chain of mission-critical medications.

There are fewer API providers than drug manufacturers, so a supply interruption can have far-reaching effects. To qualify for a SIMS contract, Walsh explains that manufacturers must have either multiple API providers or the potential to make their own API—also known as vertical integration.

SIMS contracts will require safety stocks for members and a unique NDC number. In traditional contracts, if a drug is in short

Continued on page 20

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Continued from page 18

supply, it is often allocated to purchasers from the wholesalers based on historical purchasing patterns.

A safety stock is a mechanism that the SIMS program employs to create a buffer for its membership to either weather a short-term supply interruption or provide a runway for HealthTrust to implement additional strategies to address projected long-term supply issues. The unique SIMS' NDC allows for the safety stock to be allocated directly to HealthTrust members either through standard wholesalers or through its controlled channel relationship.

In return for such assurances from manufacturers, SIMS contracts with manufacturers will last five years instead of the usual three. This is possible because of HealthTrust's committed GPO model.

"Our members are making commitments to purchase a specific volume of products over time, and we will monitor pull-through," Walsh explains. Suppliers can plan purchasing and production schedules further out, which will help them control costs and weather market changes.

"The most important criteria in judging the success of a SIMS contract will be, 'Do members have the drugs they need, when they need them at the expected price,' " Walsh adds.

ONGOING MEMBER INPUT

HealthTrust members were heavily involved in compiling an initial list of 76 drugs they consider most important for SIMS protections, Walsh explains. Members discussed and voted on the most appropriate drugs for their needs.

"The list was organically generated by our members," Walsh notes. "This enables us to negotiate with a vetted list of products, which increases the confidence of manufacturers in agreeing to our contract requirements. The list will continue to evolve from ongoing member input."

The SIMS list includes the high-demand, high-use drugs utilized in anesthesia, surgery and critical care that are essential to members' operations. In some cases, there are no adequate substitutes, or the supply of substitutes may be inadequate. Patient care and safety is a primary concern in all cases. Changing therapy or using unfamiliar products can increase the risk of medical errors or result in less effective treatment.

The SIMS list is a different approach than many others are taking in the market. Instead of trying to only address drugs that have experienced shortages and pricing instability, HealthTrust's SIMS program is looking to proactively identify those mission-critical products which, whether or not they have had issues, are products that its members simply do not want to ever be without.

HealthTrust has been testing and refining the SIMS program approach for several years. There are others in the marketplace also trying to solve the shortage problem. Walsh adds, "But I believe that as a result of HealthTrust's committed model and how we function as a group purchasing organization as a whole, we're set up for success in ways that none of the other entities who are trying to do this are." ●

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PRECAUTIONS (Continued)

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HealthTrust Contract #2758

PROTECTING PEOPLE

PHARMACY DEPARTMENTS PREPARE FOR NEW & REVISED COMPOUNDING STANDARDS

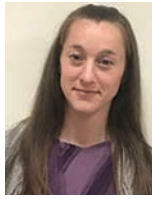
Pharmacy leaders have had more than three years to prepare for new standards surrounding the compounding of hazardous drugs. USP 800, *Hazardous Drugs—Handling in Healthcare Settings*, the newest chapter from U.S. Pharmacopeia governing drug handling, was publicized in February 2016 and is scheduled to go into effect on Dec. 1, 2019.

Complicating the transition is the fact that sweeping revisions to USP 797, *Pharmaceutical Compounding—Sterile Preparations*, are also going into effect on the same day. Because these revisions were just released on June 1, 2019, not everyone is ready.

"Most people should have had a clear runway for how to implement USP 800 standards, but one of the issues is that USP 797 revisions will go live the same day and were just released at the beginning of summer 2019," says **Mark Walsh**, director of clinical pharmacy strategy at HealthTrust. "The competing timelines of implementation have created challenges."

Mark Walsh, PharmD

In some cases, changes required for compliance with 800 and the revised 797 involve overlapping requirements, so it would seem prudent and logical to handle both at the same time. However, even for those who are still trying to determine whether 797 revisions will affect their pharmacies, it's best to take broad steps to become compliant with USP 800.



Erika Anderson, CPhT, CSPT

"Complying with the USP 800 standards is the responsible thing to do for the safety of your staff and patients," says **Erika Anderson**, CPhT, CSPT, division program manager of pharmacy compounding at CHI Franciscan's Pacific Northwest Division in Tacoma, Washington. "USP 797 is about protecting the products, and USP 800 is all about protecting people."

IMPLEMENT ENGINEERING CONTROLS

For most facilities, the most urgent change required by USP 800 involves the new specifications for engineering controls in the locations where pharmacists compound and where hazardous drugs are stored. For instance, for facilities to manipulate National Institute for Occupational Safety and Health (NIOSH) Table 1 drugs, they must have at least a containment segregated compounding area that meets certain specifications, such as at least 12 air changes per hour, specific temperatures and a containment primary engineering control.

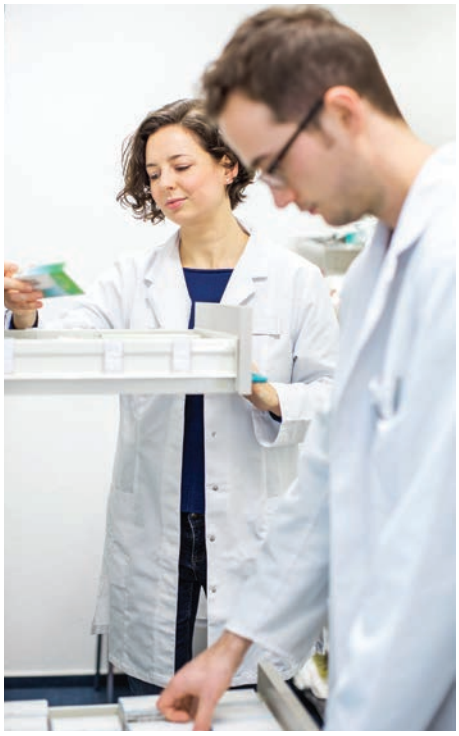
In most cases, complying with the new requirements means undertaking expensive, lengthy construction projects. "Even retrofitting existing spaces is expensive and time sensitive," Anderson says.

Each state's Board of Pharmacy has a different approach to the new guidelines. In Washington state, for instance, pharmacies are required to follow USP compounding requirements. "On Dec. 1, if we're not compliant, we can't handle hazardous drugs," Anderson says.

Healthcare facilities in states that require compliance should have the new engineering controls in place or be working toward them. USP 800 applies not only to pharmacies, but also to any healthcare entity that handles hazardous drugs, including doctor's offices administering chemotherapy drugs.

ASSESS THE RISKS

At CHI Franciscan's Pacific Northwest Division, Anderson and her team started working on compliance a couple of years ago. They started by developing a checklist of requirements based on the new standards, then visiting each facility and measuring it against their compliance checklist. From that exercise, the team



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was able to develop a list of gaps where the system was not yet compliant with USP 800, she says.

After updating facilities to comply with engineering controls, the next priority was to develop the hazardous drug list and assessments of risk for each applicable drug. Anderson and her team made a list of every applicable hazardous drug and dosage form used in their facilities, and they established an individual Assessment of Risk (AOR) document for each one.

"These documents detail how you will protect people when shipping, handling, unpacking, storing, manipulating, removing, administering and disposing of the drug," she explains. "By including strategic processes for keeping everything contained, you can create alternative ways of avoiding risk."

Different drugs present different levels of risk, so the AOR explains how to handle a particular drug, including engineering requirements, personal protective equipment (PPE) and other requirements. The team relied on information available from the NIOSH and other resources to develop their strategies and AOR documents. Writing thoughtful, well-researched AORs for each drug based on its individual level

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of risk took the team about 16 months, Anderson says.

When the AORs were completed, the team created a chart that categorizes drugs with similar handling instructions. They also created easy handling guides for hospital personnel to refer to when handling different types of drugs. With a quick glance, a nurse, pharmacist or other healthcare worker can easily review how to handle a drug such as a chemotherapy agent, as well as which PPE to use and other requirements.

KEEP STAFF INFORMED

A final crucial component of USP 800 compliance involves training staff on the new policies and procedures. As with any rollout, it's important for frontline staff to be informed about the level of protection the changes offer, Walsh says.

"You can have the greatest facility with all the proper engineering controls and available PPE, but if people aren't trained to use it effectively, safety and compliance goes out the window," Anderson adds. "Training needs to be robust, so that people understand the 'why' behind the changes."

Because USP 800 covers all aspects of hazardous drug handling, from receiving products through administration and disposal, individuals working at all stages of the process must be included in the training. For example, when it comes to intravenous administration of chemo, USP 800 requires a closed-system drug transfer device (CSTD) when the dosage form allows. This ensures safer connection and disconnection.

"When using CSTDs during administration, the risk of unintentional disconnection or a hazardous drug spill is significantly reduced," Anderson explains. "But they must be trained effectively and understand why they need to use the devices.

"The easier you make it, the more likely people are to comply," she adds. The easy-to-access handling guides mean that staffers don't have to remember every detail of how to handle each drug. And, the reference guides offer a quick refresher without losing too much time on the job.

As the guidelines' deadline approaches, HealthTrust's Pharmacy Services team urges members to be proactive.

"Even if you're waiting to get confirmation on some USP 797 changes, USP 800 is coming," Walsh says. "Its recommendations, such as policy changes and training, should be worked on now. These are foundational components that are important to put in place." ●

For the latest updates, visit ***www.usp.org/compounding***.

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SPEEDING UP FOR SPINE

NEW SPINE ROBOTICS PLATFORMS AIM TO HELP SURGEONS NAVIGATE COMPLEX PROCEDURES

Since the introduction of the da Vinci surgical system nearly 20 years ago, robotics has revolutionized surgery for patients undergoing everything from hysterectomies to coronary bypasses. The promise of this technology has finally arrived for spine surgery.

Medical device companies are debuting a new collection of robotic-assisted tools designed to help surgeons improve the precision, safety and consistency of complex spine procedures.

Today, few spine surgeons use robotic-assisted technology in the operating room, but that's expected to change in the years ahead due to the rapid development of this technology as well as the rising demand for minimally invasive back surgery among aging Americans. (*See article on page 54.*) The spinal robotics market is projected to grow to $320 million by 2026, according to a 2019 report by Transparency Market Research. A 2016 survey by RBC Capital Markets revealed that more than one in four spine surgeries could be performed using a surgical robotic system within the next decade.

Above: HealthTrust Physician Advisor Shay Bess, M.D., provides a demonstration of a traditional approach to spine surgery at the recent HealthTrust Cadaver Course for Executives.

The use of robotics in surgery has evolved significantly since the release of the da Vinci robot in 2000. The da Vinci is an active robot with arms attached to a 3D camera and surgical instruments inside the patient's body that are manipulated by a surgeon across the room. It was initially approved for general laparoscopic surgery, but it is now widely used in urologic, gynecologic, cardiac, colorectal and thoracic procedures.

Innovators began experimenting with robotic technologies for orthopedic surgeries nearly 15 years ago with the release of navigation-based systems such as the MAKO robotic arm. First primarily used for joint replacement procedures, robotics for

CHRIS GUILLEN

spine surgery has begun developing more rapidly in recent years.

HOW SPINE ROBOTS WORK

Spine robots act as guides, helping surgeons position their tools for the precise placement of screws and implants. Associated software produces virtual 3D images of a patient's spine from CT and MRI scans. This enables surgeons to map out details of the surgery in advance—from the right size of instruments to the best trajectory for inserting hardware into bone.

During surgery, these platforms work like a GPS, allowing surgeons to track their instruments against virtual landmarks of the patient's spine and make precise calculations about next steps. A robotic arm, mounted to the operating table or the patient's vertebrae, syncs with a digital blueprint of the surgical plan and guides surgeons as they place screws and implants into the spine. If the patient breathes or moves slightly, most robots can sense changes in position and adjust accordingly.

This technology improves accuracy and safety during surgery and reduces the amount of imaging required throughout the procedure, decreasing radiation exposure for patients and operating room staff. These robotic tools can also help make spine surgeries more efficient and successful, especially in minimally invasive procedures.

"One of the biggest challenges in spine surgery is reproducibility," says **Brent Ford**, clinical director, HealthTrust inSight Advisory–Medical Device Management. "Surgeons want to use their instruments and implants in a comparable manner and without change to that cadence. But that can be hard when operating on patients with so many different kinds of physiques and anatomies."

The navigational expertise of these systems can help surgeons improve planning, prepare for challenges they may face during surgery and develop more of a streamlined process for each procedure. "This helps surgeons avoid obstacles that can slow them down and provides support in the final stretch of surgery," Ford says.

The Mazor X Robotic Guidance System for Spinal Surgery from Medtronic

KEY PLAYERS

Several companies are vying for market share in the spine robotics space, but the most prominent is Mazor Robotics, an Israeli-based firm purchased by Medtronic in 2018 for $1.6 billion. In 2004, the company introduced SpineAssist, the first robotic-assisted platform for spine surgery, followed by a more sophisticated Renaissance Guidance System for spine and brain surgery in 2011. Mazor and Medtronic formed a strategic alliance in 2016 to develop the Mazor X, which combined its robotic navigation capabilities with analytical tools, precision guidance, optical tracking and intraoperative verification.

In January 2019, Medtronic launched the Mazor X Stealth Edition, designed to help surgeons visualize and plan robotic spine procedures beforehand and execute them with increased predictability and precision.

Another anticipated innovator is Globus Medical, whose robotic navigation platform ExcelsiusGPS was conceived by Johns Hopkins neurosurgeon Theodore White for minimally invasive spine procedures. Like many surgeons, White relied on multiple X-rays taken during surgery to place screws with minimal incisions and adjustments. Noticing how his hands tended to drift when looking to images on the screen for guidance, White began using a touch screen to plan the best pathway for screw

"ONE OF THE BIGGEST CHALLENGES IN SPINE SURGERY IS REPRODUCIBILITY. SURGEONS WANT TO USE THEIR INSTRUMENTS AND IMPLANTS IN A COMPARABLE MANNER AND WITHOUT CHANGE TO THAT CADENCE."

Brent Ford | Clinical Director, inSight Advisory-Medical Device Management | HealthTrust

placement and a robotic arm for the execution.

Other leading spinal robotics developers include Zimmer Biomet, which acquired its robotic navigation technology from the French firm Medtech and recently received FDA approval for its ROSA One Spine platform; Johnson & Johnson's DePuy Synthes, which is working with Google's life sciences unit to bring greater visualization, instrumentation, data analytics, machine learning and connectivity to robotic surgery capabilities; and Stryker, which is expected to eventually adapt its MAKO robot for spine surgery.

Over the next few years, many of the current systems on the market will become less cumbersome and more efficient—and many are already implant-agnostic, which adds to their ease and flexibility, Ford says. This summer, HealthTrust showcased demonstrations of these top platforms at its annual cadaver lab for member executives.

"We wanted to provide members with a comparison of these technologies to help them learn more about this market, why their physicians are asking about it, and what distinguishes one platform from another," Ford explains.

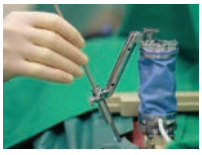
The ExcelsiusGPS Robotic Navigation Platform from Globus Medical

Though early clinical trials of these navigational tools have shown potential for reducing human error and patient complications compared to freehand and fluoroscopic surgical techniques, investing in spine robotics at this stage is a bit of a gamble for many hospitals because of the expense and training required for proper implementation. But it makes sense for hospitals to start learning about this technology now so they can be competitive in the future, Ford notes.

"Everyone is curious about spine robotics," he says. "Physicians want to learn more about bringing it into their facilities, so they can be cutting-edge. Patients are also more educated and may look to choose a hospital based on its ability to offer access to technologies like these." ●

ROBOTICS TIMELINE

2000: Intuitive Surgical releases the da Vinci robot, the world's first robotic-assisted surgical system, for use in general laparoscopic procedures.



2004: Mazor Robotics introduces SpineAssist, the first robotic-assisted platform for spine surgery, and receives FDA approval to market it in the United States.

2011: Mazor Robotics releases a more sophisticated navigation-based robotics system for spine and brain surgeries.

2013: Stryker buys MAKO Surgical, acquiring its MAKO Rio robot for partial knee and total hip replacements and increasing robotics in the orthopedic market.

2016: Mazor Robotics launches its Mazor X system for spine procedures, distributed by Medtronic; Zimmer Biomet acquires Medtech with plans to adapt its robotics navigation and preplanning technology from brain surgery to spine procedures.

2017: Globus Medical receives FDA approval for its robotics navigation platform for spine surgery, ExcelsiusGPS, initially developed by a Johns Hopkins neurosurgeon.

2018: Medtronic acquires Mazor Robotics and releases the Mazor Stealth to improve the precision and predictability of its spine robotics platform.

2019: Zimmer Biomet receives FDA approval for its ROSA ONE Spine platform for minimally invasive spine surgeries.

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FOOD FOR THOUGHT

NEW FOODBUY CONTRACT OFFERS MEMBERS GREATER TRANSPARENCY & SUSTAINABLE OPTIONS

It's difficult to imagine a greater pillar of health and wellness within a community than a hospital. Because healthcare professionals are considered trusted authorities, hospitals and healthcare systems are held to high patient and consumer expectations when it comes to serving up healthy, yet delicious food options.

Increasingly with the millennial generation's interest in protecting the environment, sustainable food options have now entered into that equation. Deeming certain foods healthy and sustainable isn't just about the inherent nutritional value—it also takes into consideration the agricultural practices and how the food is produced, processed and distributed.

"About three or four years ago, our members became highly interested in sustainable foods," says **Sam Potter**, MHS, RD, BS, senior director of support services under strategic sourcing at HealthTrust. "They wanted more education around local food, farm-to-table options and clean labeling to educate their staff and apply that knowledge to their interaction with patients."

It was this urging for greater options from members that helped bring about HealthTrust's December 2018 decision to switch to a new food service provider: Foodbuy. The Foodbuy contract will be live on Aug. 1, 2019.

In addition to greater options, the Food & Nutrition Board also had to find a supplier that offered financial value, operational support, and technology and information transparency, adds **Guy Wagner**, MBA, vice president of strategic sourcing, commercial products for HealthTrust.

Guy Wagner, MBA

"Overall, Foodbuy will provide our members with more resources to better manage their overall food operations, including additional financial value and savings over our current program," Wagner explains.

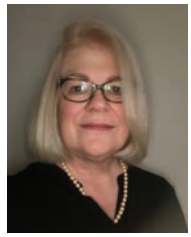
"In terms of operational support, Foodbuy is bringing additional resources in the areas of account management and culinary expertise. Once we go live, members will have real-time, online visibility and incredible reporting technology, including tracking for sustainable purchases," he adds.

Foodbuy's state-of-the-art tools and access to sustainability-minded suppliers and distributors will help members better meet the needs of patients and remain competitive amid the industry's growing environmental consciousness.

TRANSPARENCY IN ACTION

Potter says that one thing members continued to ask for was transparency, both regarding the food itself and what they could save at their time of order. "Foodbuy has an extensive sustainable portfolio at the point of order that offers everything from the name of the product to the SKU information

Continued on page 32



"OUR MEMBERS BECAME HIGHLY INTERESTED IN SUSTAINABLE FOODS. THEY WANTED MORE EDUCATION AROUND LOCAL FOOD, FARM-TO-TABLE OPTIONS AND CLEAN LABELING TO EDUCATE THEIR STAFF AND APPLY THAT KNOWLEDGE TO THEIR INTERACTION WITH PATIENTS."

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1. Dare et al. Impact of Accelerate Pheno™ Rapid Blood Culture Detection System on Laboratory and Clinical Outcomes in Bacteremic Patients. IDWeek 2018.
2. Sheth et al. Identification (ID) and Antimicrobial Susceptibility Testing (AST) on Antibiotic Therapy and Outcomes for Patients with Bacteraemia/Candidaemia. ECCMID 2019.
3. Seddon et al. Role of Early De-escalation of Antimicrobial Therapy on Risk of *Clostridioides difficile* Infection following *Enterobacteriaceae* Bloodstream Infections. *Clin Infect Dis*. 2018.

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Continued from page 30

and even a photo. But, even better, they have a link that our members can now use to identify which items have a clean label or are considered sustainable, GMO-free or antibiotic-free," she notes.

With the help of different vendors, including Gordon Food Service, US Foods and Sysco, Foodbuy also has the capacity to offer members the option to buy local products through different initiatives that exist from coast-to-coast. Similarly, if members are interested in serving farm-to-table products, Foodbuy can also support them by working with its rolodex of direct partners offering related programs.

"It's important to offer our members options that align with their values," Potter says. "Buying local and offering sustainable options is a big part of that. There's also been a lot of discussion in healthcare over the last few years about limiting the use of antibiotics and keeping animals healthier."

HealthTrust member Hackensack Meridian Health–Hackensack University Medical Center in New Jersey started an initiative three years ago to serve 100% antibiotic-free meat. And, according to Practice Greenhealth, Hackensack Meridian Health is not alone—more than 400 other U.S. hospitals are trying to move toward the same goal.

Over the past decade, many hospitals and healthcare systems have prioritized such a switch in light of the rise in superbugs, or antimicrobial-resistant pathogens. Each year, more than 2 million antimicrobial-resistant infections occur in the U.S. that result in 23,000 deaths, according to the Centers for Disease Control and Prevention (CDC).

There's an industrywide acknowledgement that routinely administering antibiotics to farm-raised animals increases the prevalence of these superbugs. Experts also underscore the overuse of antibiotics in agriculture, often pointing to research from the CDC that estimates 80% of all antibiotics sold in the U.S. are used in animals to promote growth and prevent infection. Similarly, the Food and Drug Administration reports that more than 20 million pounds of antibiotics are used in agriculture every year.

Foodbuy also offers a paper category, so members who currently use Styrofoam in cafeterias will be able to choose from a wide variety of products that are compostable and better for the environment. To assist with member hospitals' health and wellness goals, an additional back-end resource is Foodbuy's Webtrition platform. This web-based ingredient, recipe and menu-management tool can store recipes, nutritional information and help support inventory control.

DATA CRUNCHING

To achieve financial stewardship, hospitals need to ensure they're getting a high-quality product at the right price, whether that product happens to be sustainable or not. Foodbuy's back-end operational support systems and state-of-the-art technology can make that happen, explains **Brett Rogers**, director of strategic sourcing, food and nutrition for HealthTrust.

Brett Rogers

"The Foodbuy program's user interface will provide members with lots of data to help support and inform their underlying business strategies," Rogers says. "Their tech tools give a higher value decision point to the end user."

Specifically, the access to data could help inform a member organization's long-term strategy to buy local produce or antibiotic-free chicken through the tracking of sustainable purchases. For members whose healthcare organizations span multiple states, this new intelligence could prove particularly useful in seeing how different menus in different locations can impact savings or tracking of healthy food initiatives.

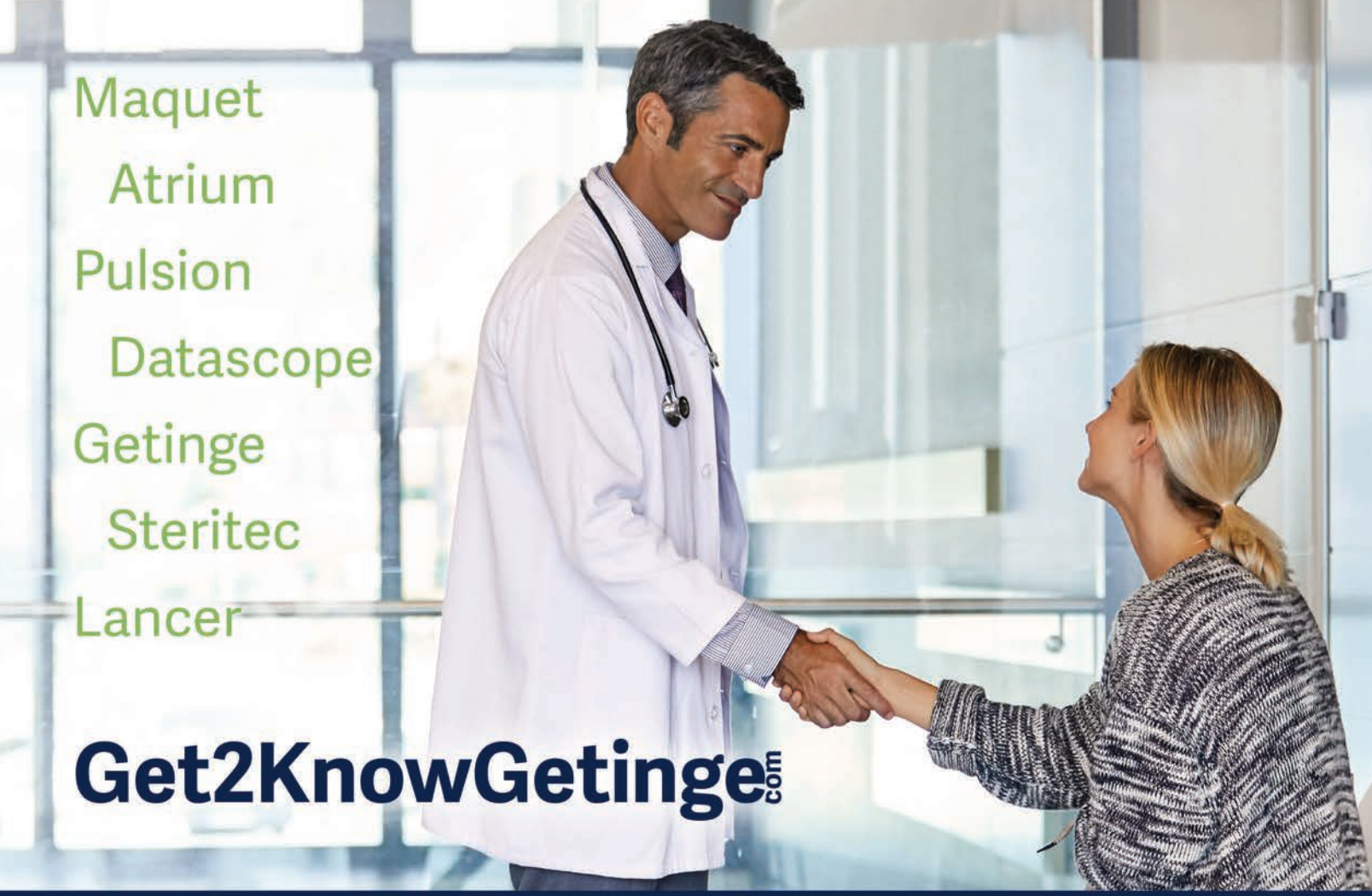
Potter notes that these reporting tools could also help drive compliance or highlight areas where one market may be compliant at 85% where another may be compliant at 95%.

"They'll be able to dig into the details of those purchases and identify alternative stocked products that can better fit their contracted menus, delivering additional financial savings and improving patient and client satisfaction," Potter explains.

Members will also be able to see pricing details that aren't currently available, including the flat cost of an item and back-end incentives like rebate offers for buying in bulk. Per line item, members will be able to know how much they saved in a specific category month over month.

"The Foodbuy platform turns data into information that members can use to optimize what they're buying. Essentially, all the same data will be there based on their ordering, but it's the back-end package that sets it apart," Wagner explains. ●

GETTY IMAGES



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GENERATING REVENUE THROUGH BEVERAGE POURING RIGHTS

Setting up an exclusive relationship with a beverage company could generate a surprising amount of revenue for your healthcare facility.

Beverage companies often pay substantial amounts of money for the exclusive right to market and sell their beverage brands at either a single facility or several within a health system. While strategic beverage partnerships or pouring rights agreements (PRAs) have long been common among colleges and universities, a growing number of health systems are getting into the game.

"The demographics and buying patterns have changed for beverage companies so they're starting to focus on different segments than they have in the past and diversify their portfolio," explains **Brett Rogers**, HealthTrust director of strategic sourcing, food and nutrition.

Brett Rogers

About one-third of all U.S. hospital systems currently have a beverage deal, according to Enliven, LLC, which negotiates beverage deals for HealthTrust members **(Contract No. 39956)**, as well as other healthcare organizations, restaurants and airports.

"Enliven drives right to the levers that create value for the member," Rogers says. "All it does is negotiate beverage deals, so it understands the various selling tactics a beverage company may use to capture or re-sign business."

Tim Richardson

Arrangements can be customized for a healthcare organization to generate revenue, save money and meet specific needs, explains **Tim Richardson**, CEO of Enliven.

"The hospital will pay less for the product and save money," he adds. "They'll also get increased rebates and marketing dollars as a result of this partnership. Typically, retail sales also go up because the hospital doesn't have to merchandize and market—the beverage partner is in that business for them."

CHOOSING A BEVERAGE COMPANY

Coca-Cola or Pepsi? The two biggest players in the game generally represent the greatest number of arrangements.

But that doesn't mean other companies should be ruled out. A challenger like Keurig Dr. Pepper might be able to provide the best choice—and pricing deal—for an organization. Keurig Dr. Pepper is becoming stronger in some markets and offering legitimate competition, especially in Texas, Richardson notes.

To determine the best deal for your organization, Richardson advises to avoid rushing through the RFP process and spending time discussing preferences and biases. The multiple options offered by beverage companies can be overwhelming. While Enliven negotiates terms for each deal to provide competitive advantages for a member's organization, Richardson encourages clients to pay close attention to the details of the proposals.

Depending on the circumstance, where a health system is coming from and where they're going, the savings can be quite substantial and realized quickly.

> "THE HOSPITAL WILL PAY LESS FOR THE PRODUCT AND SAVE MONEY. THEY'LL ALSO GET INCREASED REBATES AND MARKETING DOLLARS ... TYPICALLY, RETAIL SALES ALSO GO UP BECAUSE THE HOSPITAL DOESN'T HAVE TO MERCHANDIZE AND MARKET—THE BEVERAGE PARTNER IS IN THAT BUSINESS FOR THEM."
>
> **Tim Richardson** | CEO | Enliven

HOW EXCLUSIVE IS EXCLUSIVE?

It's common for an organization to express some hesitancy at first when deciding whether to make an exclusive deal with only one beverage company, Richardson acknowledges.

Sometimes, administrators worry that employees, patients and other visitors will complain when they can no longer purchase a particular beverage on campus because the organization signed an exclusive PRA with a competing company. "If we choose Pepsi," the reasoning goes, "what about the loyal Diet Coke drinker?"

When an organization signs a PRA with a beverage company, they're not just getting traditional carbonated soda. They're also getting a wide array of other beverages, including flavored waters, teas, juices, sports drinks and bottled coffees. These kinds of drinks are growing in popularity, as carbonated soft drinks are losing market share.

Many hospitals are moving to "healthier beverage" programs and eliminating sugary drink options from their offerings. In fact, water and flavored water account for more than 60% of the bottled beverages consumed on hospital campuses, according to Enliven. "The proposals will offer many other brands and flavors than most people are used to," Richardson says.

Continued on page 36

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Continued from page 34

An organization can always request customizations to its PRA. Exceptions, known as carve-outs, include scenarios such as Coca-Cola and Pepsi products being offered in the physician's lounge and in a few vending machines on campus, and the hospital gift shop carrying a wider variety of beverages. Such conditions should be spelled out in the RFP so the beverage companies can offer a tailored proposal.

Richardson worked with one healthcare organization that wished to sell soda from a local bottler along with the products from the larger corporation in its facilities. The organization simply included its desire for a carve-out in the RFP.

GOOD FOR THE BOTTOM LINE

Ultimately, your team will have to make the choice that's right for your organization. But many hospitals are pleased by how much their organization benefits. A deal could generate savings of 30%—or more.

"Every time we do a pouring rights deal, volumes have always gone up, year over year," Richardson says.

Enliven recently assembled a cost analysis for one healthcare organization, which estimated an annual net savings of $297,000 a year, or about $1.4 million over the course of a five-year deal. "This was a conservative estimate; other health systems have saved even more," Richardson says.

Enliven offers standard-length contracts for HealthTrust members, but this can vary by organization if a different term fits their strategy better, Rogers explains.

More than a decade ago, an organization might agree to a 10-year deal. Today, five-year deals are more common, as some organizations are reluctant to make a longer-term commitment. "But the longer term you agree to, the greater the economic benefit of the deal," Richardson adds. ●

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1. J. Girotto et al, International Journal of Surgery, 2010
2. Surgeon Contribution to Hospital Bottom Line, A. Resnick et al, Ann Surg. 2005 Oct; 242(4): 630-639.

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The Quest for Tangible Value in Healthcare

When it comes to healthcare, payers are increasingly focused on value—both in the delivery of healthcare and in the products that enhance patient outcomes. An area not often thought of in terms of the importance of value is the creation of a stoma.

A surgical stoma on the abdomen is often part of the treatment for trauma or colon or bladder cancer, and sometimes part of the management of inflammatory bowel diseases such as ulcerative colitis or Crohn's disease. The days following ostomy surgery are tenuous for patients as the surgical site heals. Complications such as leakage of stool or urine around the stoma can occur. The application of a stomal barrier and pouch is designed to create a seal around the stoma to protect the skin and collect the effluent. However, swelling, scarring and leakage can sometimes cause the tell-tale signs of a preventable condition known as a peristomal skin complication (PSC)—red, irritated and/or broken skin.

A PSC, whether a one-time event or reoccurring, can be very painful and impact the ability to keep an ostomy barrier secure. The skin barrier not performing as expected is just one problem. Other PSC-related issues include odor, embarrassment and social isolation, which can create a negative impact on a patient's quality of life.

Approximately 75%[1] of patients who have an ostomy will develop a PSC at some point.

In the healthcare setting, high-cost treatments targeting high-risk patient populations or capital investments that keep a hospital competitive are generally prioritized as high-value areas. But there are other areas that may have a significant impact not only on direct costs, but also on readmissions. Recent studies[2,3] show a link between individuals who come to the hospital for the creation of a stoma and a PSC. What's more, these individuals with a PSC are associated with higher cost of care and higher readmission rates[2,3].

Innovation Leads the Way

In 2017, the *International Journal of Technology Assessment in Health Care* (33:2 (2017), 168-175.) published *Exploring Patent Activity and its Potential Association with Healthcare Outcomes: A Case Study of Ostomy Products in Sweden* in which the authors showed an association between the performance of ostomy barriers and cost outcomes. The study revealed that innovative companies in the area of ostomy products held the majority of the patents versus those companies not bringing new patents to the table. The article suggested that patent activity may provide a measure of innovation. In fact, over the two-year study period, the products from high patent activity companies were statistically significant in not only having lower resource utilization, but also statistically significant in an overall lower ostomy cost of care.

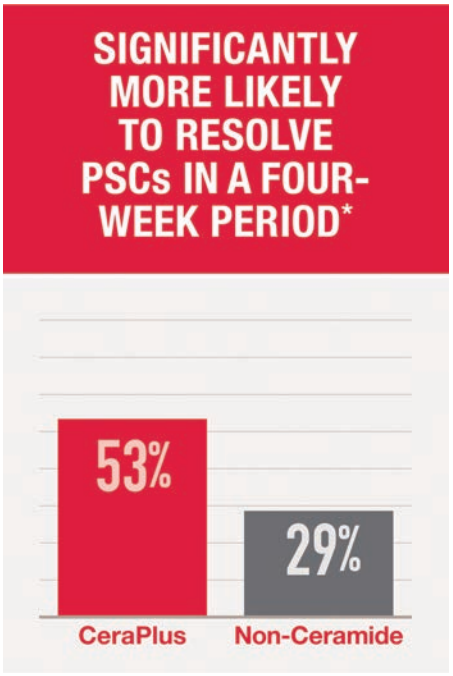
The CeraPlus skin barrier is infused with ceramide, the skin's naturally occurring protection against dryness. Ceramide is found in the outermost layer of skin, the stratum corneum, and helps link the cells together to form a waterproof protective barrier.

The Value of a Ceramide-Infused Skin Barrier

Hollister Incorporated has been at the forefront of developing innovative ostomy products to minimize the occurrences of PSCs. In 2018, the *Journal of Wound Ostomy Continence Nursing* published a randomized, controlled double-blinded clinical trial of the Hollister CeraPlus ostomy skin barrier with Remois Technology†. The trial (the ADVOCATE study) set out to demonstrate the value of the CeraPlus skin barrier, as well as compare its performance to Hollister skin barriers without ceramide. The trial included 153 ostomy patients from 25 global sites enrolled within 12 weeks of their initial ostomy surgery. Both patients and wound ostomy continence (WOC) nurses were blinded to the product being used in order to reduce bias in the research methods. The study allowed the WOC nurses in the trial to administer their standard practice of care and choose the appropriate barrier size, shape and convexity level for each patient. After that, however, only the barrier type (the CeraPlus skin barrier or control

CLINICALLY MEANINGFULLY REDUCTION IN PSCs

15%



barrier) were determined by randomization. At the conclusion of the two-year trial, the CeraPlus skin barrier user group demonstrated a reduction in cost of care (the primary end point) and improved patient outcomes (secondary end point). Results included:

- 14% reduction in stoma-related care costs
- Significantly more likely to resolve PSCs in a four-week period*
- Significantly more were very satisfied with: overall performance, prevention of leakage and prevention of itching*
- Clinically meaningfully reduction in PSCs (15%)

For more information on the CeraPlus skin barrier and to learn how this innovative product can help your ostomy practice and improve patient outcomes and satisfaction, please contact Key Account Manager **Lisa Clarke** at **lisa.clarke@hollister.com**.

**Statistically significant results*

References:
1) Smith AJ, Lyon CC, Hart CA. "Multidisciplinary Care of Stoma Problems in Stoma Patients." *British Journal of Nursing* 2002;11(5):324-330.
2) Taneja, Charu; Netsch, Debra; Rolstad, Bonnie Sue; Inglese, Gary; Lamerato, Lois; Oster, Gerry. "Clinical and Economic Burden of Peristomal Skin Complications in Patients With Recent Ostomies." *Journal of Wound Ostomy Continence Nursing* 44(4):350-357, July/August 2017
3) Taneja, Charu; Netsch, Debra; Rolstad, Bonnie Sue; Inglese, Gary; Eaves, Deanna; Oster, Gerry. "Risk and Economic Burden of Peristomal Skin Complications Following Ostomy Surgery." *Journal of Wound Ostomy Continence Nursing* 46(2):143-149, March/April 2019.
4) Colwell J.; Pittman, J; Raizman, R., Salvadalena, G. "A Randomized Controlled Trial Determining Variances in Ostomy Skin Conditions and the Economic Impact (ADVOCATE)." *Journal of Wound Ostomy Continence Nursing* 2018;45(1):37-42.

HealthTrust Member Success Story

In spring 2018, a Denver, Colorado-based medical center switched their ostomy product formulary to the Hollister CeraPlus pouching system. The hospital performs approximately 70 ostomy surgeries every year and has two WOC nurses—one staffed in acute care and one staffed in outpatient. Since switching their product formulary last year, the hospital has seen:

- **Increase product wear time for patients**
- **Decrease in product usage, which translates to less product costs being absorbed by the health system**
- **Decrease in peristomal erythema and breakdown (fewer PSCs)**
- **Maintenance of peristomal skin health**
- **Overall patient satisfaction**

"Having used multiple products in the past, the Hollister CeraPlus skin barrier has been the best quality I've seen. Our patients have experienced better skin health and a decrease in overall product usage, which results in financial savings."

—**WOCN** at a 280+ bed hospital in Colorado

The CeraPlus skin barrier is a contracted product option (#889) for HealthTrust member hospitals. Visit www.hollister.com/healthtrust to learn more about the science and evidence behind the CeraPlus skin barrier.

Moving From "What You Think" to

"What You Know"

THE IMPORTANCE OF DATA-DRIVEN DECISION-MAKING

Google "clinical informatics," and a number of definitions are revealed. The American Medical Informatics Association and HIMSS (Healthcare Information and Management Systems Society) define it similarly, indicating that clinical informatics—aka health informatics—is the study of using technology and data analytics (or the application of informatics) to improve patient care plans or the effective delivery of care services.

In healthcare, many disciplines within the field have access to mounds of data and analytics that are often used for a variety of purposes. On the supply side, data has traditionally been mined and utilized to help drive standardization, eliminate unnecessary variation and lower costs.

"The prevalence of a clinically integrated supply chain is the result of today's focus on value-based care initiatives," says HealthTrust's Chief Medical Officer **John Young**, M.D., MBA, CPE, FACHE. "Achieving the triple aim (intersection of cost, quality and outcomes), requires that previously disparate sources of data come together in response to the new reality of reimbursement models, which are directly tied to patient outcomes. This type of analysis is also key to reducing unwanted variations in care, lowering costs and improving the patient experience."

John Young, M.D., MBA, CPE, FACHE

"Success in this new reality requires an ability to harness data to understand, predict and manage clinical and operational performance," says **Ed Hickey**, MBA, HealthTrust AVP & data scientist. "Those who do it well will be able to bring new data sources to bear which may accelerate medical research, improve clinical and financial risk projections, reveal new operational efficiencies, or more closely tailor clinical decisions to a patient's biology and disease state.

Ed Hickey, MBA

"The retail, marketing, manufacturing and transportation industries—even politics—have already incorporated big data techniques into their operating models, and a number of health systems are incorporating it into their research and other initiatives such as population health," he adds.

WHAT IS 'BIG' DATA?

"Big" data is just another way of referring to analytics, offers Hickey. Both glean intelligence from data and translate it into a business advantage. However, big data is most often viewed from the characteristics of volume, velocity and variety, he adds.

Volume is essentially the amount of data that exists. Velocity—data in motion—is perhaps even more important than volume, as it can become a competitive differentiator. By gathering information in real time, a company can be much more agile than its competition. The third characteristic is the variety of forms big data can take. Think about all of the messages, images and videos shared through social media, GPS signals from cell phones and satellites, passive readings from sensors, etc. Unlike information generated from traditional systems, much of this data is unstructured and unwieldy to store and process, Hickey suggests.

Continued on page 44

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Please see full Prescribing Information, including Warnings, Precautions, and Important Safety Information for this product at the WGCC website.

References: 1. CALCIUM GLUCONATE IN SODIUM CHLORIDE Injection [package insert]; Approved Drug Products with Therapeutic Equivalence Evaluations 39th Edition (Orange Book); https://www.fda.gov/media/71474/download 2. On file WG Critical Care, LLC. To request data on file, please contact Customer Service at 1-888-493-0861 or CustomerService@wgccrx.com

SA118

U.S. Patent Number 10, 130, 646

wgccrx.com

WG CriticalCare

Continued from page 42

Big data and analytics bring vast opportunities, but they also present organizational challenges across a number of areas, including technology and culture.

Technology is a central challenge in using big data. A strong technology foundation entails multiple components, starting with an infrastructure capable of capturing, centralizing and storing a wide range of data. There are then analytical applications that enable people to track key performance indicators, visualize trends and ask questions of the data.

A company's culture needs to evolve to become more data-driven and insight-based:

- Moving away from acting on instinct and "What do we think?" to instead asking, "What do we know?"
- Connecting people who understand the problems with those who can mine the data for solutions
- Encouraging decision-makers to be overruled by data (e.g., a senior leader conceding when evidence disproves a hunch)
- Asking consistently "What does the data say?" and "How confident are we in the results?"

DATA IS CENTRAL TO PERFORMANCE

Surprisingly, too often in healthcare, decision-making is not data-driven. A 2016 PwC Global Data and Analytics survey indicated nearly two-thirds of both healthcare and other industry respondents characterized decision-making in their organizations as being "rarely" or "somewhat" data-driven.

Typically, Hickey explains, three types of analytics are utilized to understand, predict and manage operational performance:

Descriptive analytics – dashboards, scorecards and alerts are used to illustrate what happened in the past, but not why it happened or what might change

Predictive analytics – past data is used to model future outcomes (e.g., which patients have the greatest propensity to readmit)

Prescriptive analytics – techniques such as optimization or A/B testing are used to help inform how to do certain activities (e.g., advising a physician on which drug(s) to prescribe for a patient with a certain condition)

"Data-driven organizations typically use more predictive and prescriptive analytics," Hickey says. The PwC survey revealed, however, that the majority of healthcare organizations are heavily concentrated on the use of descriptive analytics.

HEALTHTRUST'S CLINICAL DATA SOLUTION EVOLVES

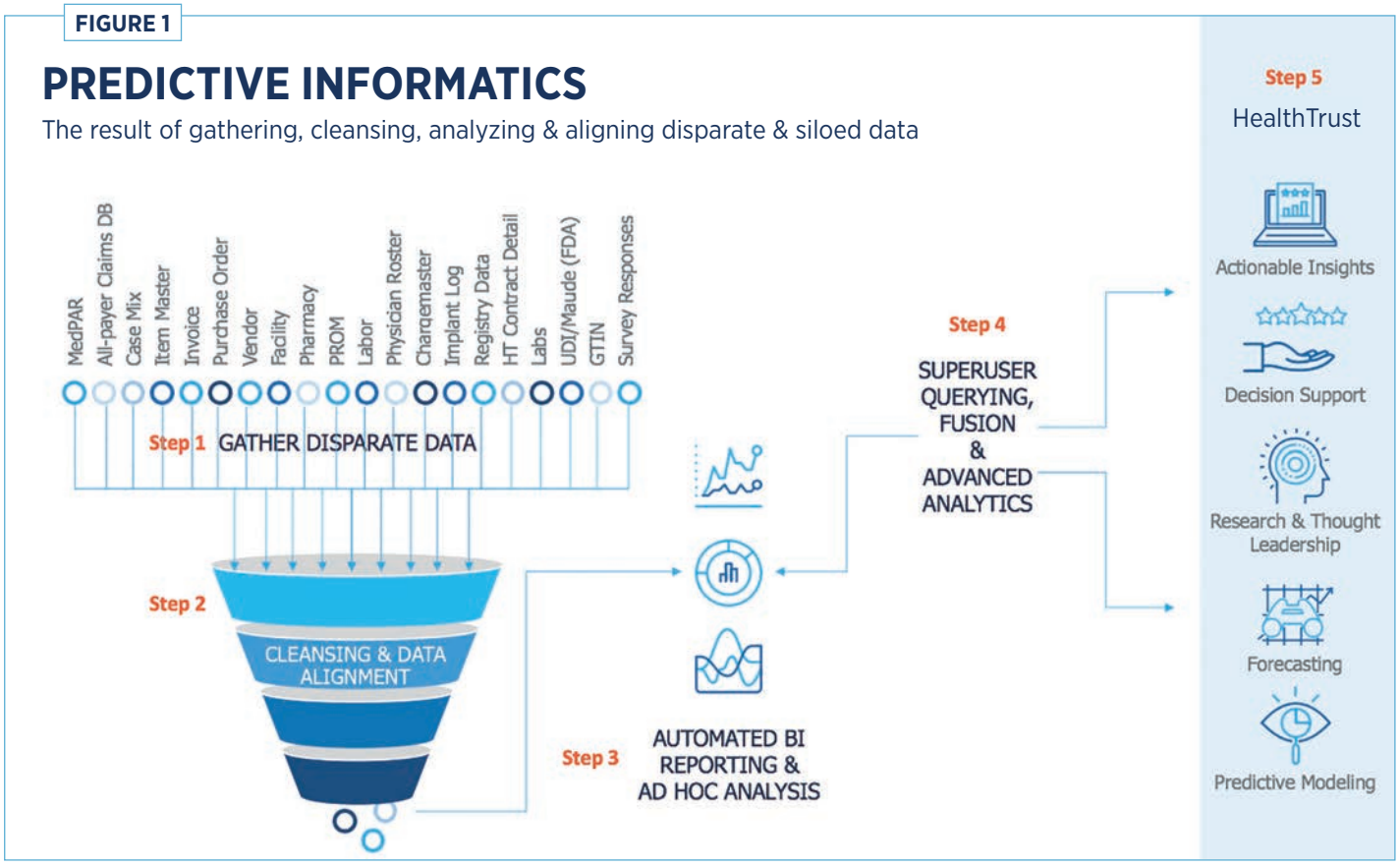
In an effort to further its members' ability to achieve the triple aim and provide superior care at a lower cost, HealthTrust is utilizing predictive analytics to advance its clinical informatics offering.

Hickey says, "We are increasing the ability to gather data that is oftentimes disparate and siloed (*see Figure 1*), cleanse and align it, and apply more sophisticated analyses and automated business intelligence reporting through dashboards featuring information requested by HealthTrust members.

"Initially, our focus will be to provide clinical informatics for orthopedic, spine and cardiovascular service lines as well as

Continued on page 47

FIGURE 1



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von Willebrand Factor/Coagulation Factor VIII Complex (Human)

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THE POWER OF BALANCE

With a 1:1 balance of VWF and FVIII, and proven efficacy in minor and major bleeding[1], wilate® gives you the power to control VWD with low recommended loading and maintenance dosing.[2*]

***Based on the Recommended Dosing Guide for wilate®. See Dosage and Administration, section 2.1 of Full Prescribing Information.**

Indications and Usage

wilate® is a von Willebrand Factor/Coagulation Factor VIII Complex (Human) indicated in children and adults with von Willebrand disease for on-demand treatment and control of bleeding episodes, and for perioperative management of bleeding. wilate® is not indicated for the treatment of hemophilia A.

Important Safety Information

wilate® is contraindicated in patients with known hypersensitivity reactions, including anaphylactic or severe systemic reactions, to human plasma-derived products, any ingredient in the formulation, or components of the container. Anaphylaxis and severe hypersensitivity reactions are possible. Thromboembolic events may occur. Monitor plasma levels of FVIII activity. The most common adverse reactions (≥1%) in patients with VWD were hypersensitivity reactions, urticaria, and dizziness. The most serious adverse reactions in patients with VWD were hypersensitivity reactions.

Please see accompanying Highlights of Prescribing Information for additional important information.

References: 1. Berntorp et al. Haemophilia. 2009;15:122-130. **2.** wilate® full Prescribing Information. Hoboken, NJ: Octapharma; rev 2016.

HealthTrust Contract #4861

Date of preparation: 3/2019. WIL-0192-COT

octapharma®
For the safe and optimal use of human proteins

HIGHLIGHTS OF PRESCRIBING INFORMATION

These highlights do not include all the information needed to use WILATE safely and effectively. See full prescribing information for WILATE.

WILATE, von Willebrand Factor/Coagulation Factor VIII Complex (Human) Lyophilized Powder for Solution for Intravenous Injection Initial U.S. Approval: 2009

RECENT MAJOR CHANGES

Indications and Usage 8/2015

INDICATIONS AND USAGE

WILATE is indicated in children and adults with von Willebrand disease for:

- On-demand treatment and control of bleeding episodes
- Perioperative management of bleeding

WILATE is not indicated for treatment of hemophilia A

DOSAGE AND ADMINISTRATION

For Intravenous Use Only

- Use the following formula to determine required dosage:
  Required IU = body weight (BW) in kg x desired VWF:RCo rise (%) (IU/dL) x 0.5 (IU/kg per IU/dL)
- Adjust dosage and duration of the substitution therapy depending on the severity of the VWD, on the location and extent of the bleeding, and on the patient's clinical condition
- Dosing recommendations:

Type of Hemorrhages/Surgery	Loading Dosage (IU VWF:RCo/ kg BW)	Maintenance Dosage (IU VWF:RCo/ kg BW)	Therapeutic Goal
Minor Hemorrhages	20-40 IU/kg	20-30 IU/kg every 12-24 hours	VWF:RCo and FVIII activity trough levels of >30%
Major Hemorrhages	40-60 IU/kg	20-40 IU/kg every 12-24 hours	VWF:RCo and FVIII activity trough levels of >50%
Minor Surgeries (including tooth extractions)	30-60 IU/kg	15-30 IU/kg or half the loading dose every 12-24 hours for up to 3 days	VWF:RCo peak level of 50% after loading dose and trough levels of >30% during maintenance doses
Major Surgeries	40-60 IU/kg	20-40 IU/kg or half the loading dose every 12-24 hours for up to 6 days or more	VWF:RCo peak level of 100% after loading dose and trough levels of >50% during maintenance doses

In order to decrease the risk of perioperative thrombosis, FVIII activity levels should not exceed 250%.

DOSAGE FORMS AND STRENGTHS

WILATE is available as a sterile, lyophilized powder for reconstitution for intravenous injection, provided in the following nominal strengths per single-use vial:

- 500 IU VWF:RCo and 500 IU FVIII activities in 5 mL
- 1000 IU VWF:RCo and 1000 IU FVIII activities in 10 mL

CONTRAINDICATIONS

Do not use in patients with known hypersensitivity reactions, including anaphylactic or severe systemic reaction, to human plasma-derived products, any ingredient in the formulation, or components of the container.

WARNINGS AND PRECAUTIONS

- Anaphylaxis and severe hypersensitivity reactions are possible.
- Thromboembolic events may occur. Monitor plasma levels of FVIII activity.
- Development of neutralizing antibodies to FVIII and to VWF, especially in VWD type 3 patients, may occur.
- WILATE is made from human plasma and carries the risk of transmitting infectious agents.

ADVERSE REACTIONS

The most common adverse reactions (≥1%) in clinical studies on VWD were hypersensitivity reactions, urticaria, and dizziness.

USE IN SPECIFIC POPULATIONS

Pregnancy: no human or animal data. Use only if clearly needed.

Lactation: There is no information regarding the presence of WILATE in human milk, the effect on the breastfed infant, and the effects on milk production.

Pediatric Use: No dose adjustment is needed for pediatric patients as administered dosages were similar to those used in the adult population.

Geriatric Use: Although some of the subjects who participated in the WILATE studies were over 65 years of age, the number of subjects was inadequate to allow subgroup analysis to support recommendations in the geriatric population.

PATIENT COUNSELING INFORMATION

- Advise the patients to read the FDA-approved patient labeling (Patient Information and Instructions for Use).
- Inform patients of the early signs of hypersensitivity reactions including hives, generalized urticaria, tightness of the chest, wheezing, hypotension, and anaphylaxis. If allergic symptoms occur, advise patients to discontinue the administration immediately and contact their physician to administer appropriate emergency treatment.
- Inform patients that undergoing multiple treatments with WILATE may increase the risk of thrombotic events thereby requiring frequent monitoring of plasma VWF:RCo and FVIII activities.
- Inform patients that there is a potential of developing inhibitors to VWF, leading to an inadequate clinical response. Thus, if the expected VWF activity plasma levels are not attained, or if bleeding is not controlled with an adequate dose or repeated dosing, contact the treating physician.
- Inform patients that despite procedures for screening donors and plasma as well as those for inactivation or removal of infectious agents, the possibility of transmitting infective agents with plasma-derived products cannot be totally excluded.

To report SUSPECTED ADVERSE REACTIONS, contact Octapharma USA Inc. at 1-866-766-4860 or FDA at 1-800-FDA-1088 or *www.fda.gov/medwatch*.

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Revised: September 2016

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Continued from page 44

pharmacy. We will expand into additional specialties as member demand increases," Young explains.

HealthTrust is increasing its clinical informatics capabilities to:

- Consume and collate data from disparate sources in a variety of formats and disseminate it in uniform and user-friendly dashboards
- Deliver analytics to members across multiple platforms, including web-based and mobile applications
- Customize member dashboards to meet specific and unique needs
- Provide added value through predictive analytics and artificial intelligence
- Contract with an experienced partner to offer best practices and enhanced capabilities related to data security, data consumption, scalability and customer support. The goal is to be innovative, flexible and capable of meeting the evolving needs of the HealthTrust membership

At least two levels of dashboard access will be available to HealthTrust members, including key performance indicators and performance benchmarking at the IDN, division, regional and facility levels. An additional level of access will offer subscribers provider-level benchmarking and customizable dashboards.

As was indicated on page 6 of the Q2 edition, a collaboration of Physician Advisors, internal subject matter experts and HealthTrust members (representing pharmacy and traditional provider service lines), was held at the end of 2018. Participants offered their insights on renovating HealthTrust's clinical data and analytics solutions by identifying and prioritizing key performance indicators for each specialty and by outlining the data sources and dashboard requirements. The day ended with a number of mock-up wireframes completed, along with a wish list describing an ideal state for such considerations as data preferences, filtering capabilities, functionality and mobile accessibility. HealthTrust member feedback will continue to shape the design and user experience of the informatics solutions moving forward.

Future editions of *The Source* will provide more information on HealthTrust's clinical informatics as the solution launches. **S**

"INITIALLY, OUR FOCUS WILL BE TO PROVIDE CLINICAL INFORMATICS FOR ORTHOPEDIC, SPINE AND CARDIOVASCULAR SERVICE LINES AS WELL AS PHARMACY. WE WILL EXPAND INTO ADDITIONAL SPECIALTIES AS MEMBER DEMAND INCREASES."

John Young, M.D., MBA, CPE, FACHE | Chief Medical Officer | HealthTrust

The Value of VIGILANCE

NEW APPROACHES TO HEALTH SYSTEM CYBERSECURITY

In May 2017, the WannaCry ransomware cryptoworm began attacking computers around the world, encrypting data and demanding ransom payments. In a matter of hours, WannaCry encrypted hundreds of thousands of computers in more than 150 countries, knocking hospitals, government systems, railway networks and private companies offline.

GETTY IMAGES

For many enterprise cybersecurity professionals, WannaCry marked a turning point. **"This event changed our strategy and operations for how to protect our network infrastructure,"** says **Darren Vianueva**, vice president of shared services operations and technology sourcing at Trinity Health's Michigan headquarters in Detroit. "It erased all the lines drawn between departments and led to a shift in thinking that cybersecurity and protecting the environment was every colleague's responsibility. It changed the way enterprise security, supply chain and clinical engineering work together."

Darren Vianueva

Like Trinity Health, a number of healthcare organizations are now approaching cybersecurity from an enterprise standpoint, but there's still work to be done. "In the digital age, with so many connected devices across the hospital, an enterprise data security strategy is essential for all healthcare organizations," says **Kent Petty**, CHCIO, chief information officer at HealthTrust. "A number of healthcare organizations don't have an enterprise strategy, and this leads to security issues."

The Case for an Enterprise Data Security Strategy

The WannaCry ransomware attack proved to professionals across healthcare systems that cybersecurity is crucial. When the attack shut down appointment schedules and health systems worldwide, the affected hospitals had to turn away all patients except emergency cases. It helped frontline workers see firsthand that cybersecurity is important well beyond the IT department.

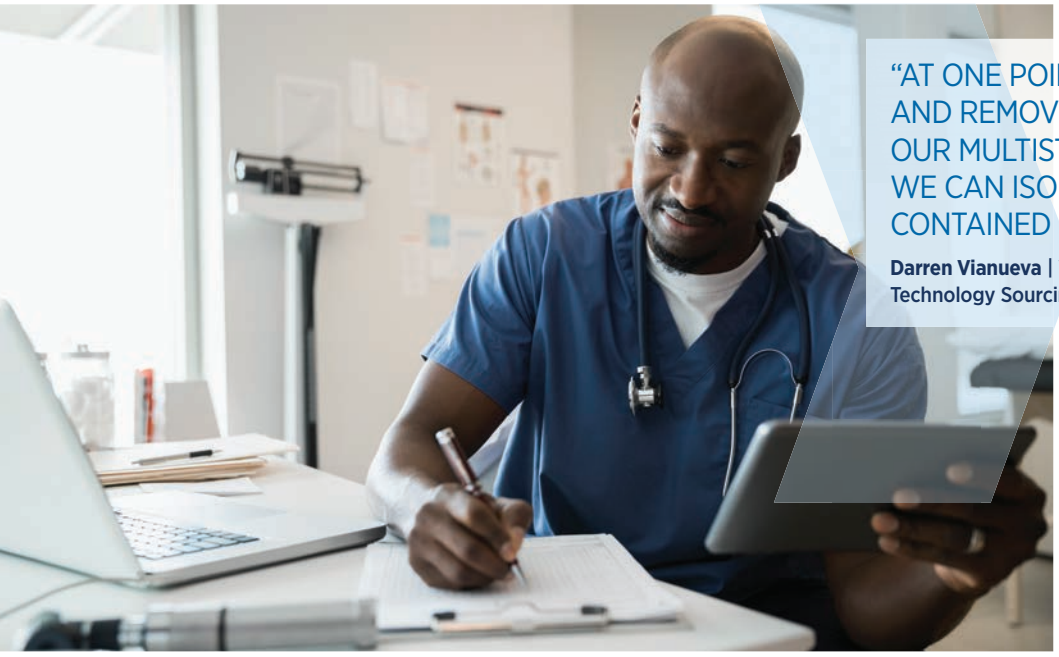
The possibility of shutting down operations isn't the only reason that staff across an organization should be aware and alert. There's also an increasing need to protect employee and patient information. "Healthcare data continues to be very valuable on the black market," Petty says.

In fact, stealing medical records has become a multibillion-dollar underground business, with such records estimated to be up to 20 times more valuable than a credit card number, according to the InfoSec Institute. Because cybercriminals can sell patient healthcare data at a premium, hospitals remain key targets for cyberattacks. With stolen records, hackers can make phony insurance claims, order prescription drugs or buy equipment to resell on the black market—the options are as endless as they are profitable.

Kent Petty, CHCIO

Finally, the concept of the Internet of Things (IoT)—the interconnection of computing devices into physical devices and everyday objects—means there are exponentially more access points for cybercriminals to penetrate a hospital's network. As healthcare facilities adopt more connected medical devices and equipment, and as more healthcare workers use mobile devices to access the network remotely, the risks increase. For example, some smart watches offer electrocardiogram monitoring, and increasing numbers of handheld devices are being used at the bedside to monitor patients and retrieve patient data. Even Amazon, Google, Apple, Microsoft and other companies are getting in the game with artificially intelligent voice assistants that allow patients to check medication and receive medical advice while at home.

"Think of healthcare as a big circle; in the middle is a core network but outside circle after outside circle represents all the connected devices," Petty says. "Mobile devices and other connected devices create a lot of exposure, which creates vulnerability. We depend on those devices for health diagnostics, so we need them. But the large amount of data and large number of devices create immense risks."



"AT ONE POINT, IT TOOK US A WEEK TO LOCATE AND REMOVE AN INFECTED DEVICE ACROSS OUR MULTISTATE HEALTH SYSTEM. TODAY, WE CAN ISOLATE A DEVICE AND HAVE IT CONTAINED OFF NETWORK IN AN HOUR."

Darren Vianueva | Vice President of Shared Services Operations & Technology Sourcing | Trinity Health

Building a Plan That Works

Protecting patient health information, employee data and facility assets from cyber terrorists requires a detailed enterprise cybersecurity plan. Petty recommends three components:

1 **Asset management plan.** An asset management plan ensures that facility leaders have governance on all of their technology, including the network, medical devices and electronic health records (EHR). If a problem occurs, they have a complete inventory, including all IV pumps, heart monitors and other devices.

An asset management plan should also include details for patching and upgrading each device, as well as rules for controlling access. For instance, if an employee resigns or is terminated, his access to the network or devices should be removed immediately.

At Trinity Health, four teams— Enterprise Information Systems, Clinical Engineering, Information Systems and Supply Chain Management—created a single approach focused on protecting the system's digital environment. The collaboration developed a new, comprehensive asset management plan that has helped improve response to adverse events. "At one point, it took us a week to locate and remove an infected device across our multistate health system," Vianueva says. "Today, we can isolate a device and have it contained and off network in an hour."

Continued on page 52

A Watchdog

HealthTrust Supplier Initiatives Strengthen Medical Device Security

The sheer number of connected medical devices in use at hospitals adds a significant cybersecurity risk. With so many open entries to hospital networks, blocking cybercriminals "is like trying to keep termites out of your house," says **Kent Petty**, CHCIO, chief information officer at HealthTrust. "You plug one hole, and they can easily find another."

Kent Petty, CHCIO

To avoid compromising security, it's vital to ensure that all connected devices are protected. For all medical devices under contract with HealthTrust, the GPO provides due diligence to ensure cybersecurity. "Our main goal is to provide valuable information to help members make informed business decisions about the products they purchase," says **Terry Moon**, assistant vice president of strategic sourcing, IT and cybersecurity at HealthTrust.

Terry Moon

At the point of contracting with a service provider, HealthTrust conducts a formal security risk assessment on medical devices and supplies. "If they're doing everything right, there are parts of the contract on which we'll allow more flexibility and freedom," says **Marc Sammons**, director of security sourcing at HealthTrust. "If there are some ways they could make their products more secure, we'll make the contract stricter."

Marc Sammons

Each HealthTrust contract includes a robust information security agreement detailing security expectations for every connected medical device. Once a contract is in place, the HealthTrust team keeps track of any vulnerabilities in the devices and notifies members immediately of any potential issues. "Suppliers who find a vulnerability in their products are contractually obligated to notify us before it becomes public," Sammons says.

HealthTrust's cybersecurity team partners with suppliers on an ongoing basis to improve security on contracted devices. For instance, the team recently met with Medtronic representatives to discuss product vulnerabilities and how to mitigate them.

Looking ahead, HealthTrust leaders plan to build a platform that would allow members to automatically collect all available cybersecurity information about every product in the GPO catalog. "We'd like to be able to get information to members without any delays," Moon says. "Our Security Board is helping us work toward developing an automated platform that could do that more effectively, helping share information quickly so members can make their own determinations for their own business models." ●

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1. ID NOW Influenza A & B 2 Package Insert 2. ID NOW Strep A 2 Package Insert 3. ID NOW RSV Package Insert

Continued from page 50

In addition, Trinity Health's Clinical Engineering team is cross-trained in IT networking skills and has a dedicated sub-team to assess medical device vulnerabilities. These individuals are a part of the event response team and have the ability to deploy patches when a threat to the infrastructure occurs and enact mitigation appliance deployment.

2 **Employee training plan.** Once an enterprise cybersecurity plan is in place, it's vital to train employees on a regular basis. Even in an age of sophisticated malware, email remains the area of greatest vulnerability, Petty says. An employee plugging a compromised cell phone into a hospital-issued computer can provide back-door entry for malware into the enterprise network. Employees must be educated consistently and appropriately about using network access and computers as well as how to recognize warning signs and threats.

Trinity Health often offers practical exercises to help employees recognize and respond to potential cybersecurity threats. "Overall, our 137,000 colleagues are much more informed than in the past," Vianueva reports.

3 **Business continuity and disaster recovery plan.** Despite the best planning, "sometimes bad things happen," Petty says. For that reason, every healthcare organization needs a plan for business continuity and disaster recovery.

To ensure those plans are workable, Petty recommends testing them regularly. "Tell employees, 'Today, payroll is down; what are you going to do?' " he says. "Or, 'The EHR is down; what is your plan?' Conduct tabletop tests to make sure you could recover in the event of an actual emergency."

Trinity Health has used the U.S. National Institute of Standards and Technology (NIST) cybersecurity framework to redesign its procurement process, technology and security assessments, supplier evaluations, supplier business reviews, and supplier quality performance team responsibilities. The system uses a five-point maturity scale to measure each of the 23 capabilities within the NIST cybersecurity framework, and a vice president-level employee has ownership and accountability for each sub-category included in the NIST framework.

"As a result of increased malware events and vulnerability identification and notification, we have changed our work processes to ensure these are remediated or mitigated," Vianueva says. "As suppliers and manufacturers continue to ramp up their efforts and capabilities, this will result in more information to assess and act upon. As the malware environment continues to grow at a rapid rate, those who do not have a strategy supported by people, process and technology will become the more vulnerable targets."

> "MOBILE DEVICES AND OTHER CONNECTED DEVICES CREATE A LOT OF EXPOSURE, WHICH CREATES VULNERABILITY. WE DEPEND ON THOSE DEVICES FOR HEALTH DIAGNOSTICS, SO WE NEED THEM. BUT THE LARGE AMOUNT OF DATA AND LARGE NUMBER OF DEVICES CREATE IMMENSE RISKS."
>
> **Kent Petty, CHCIO | Chief Information Officer | HealthTrust**

Understanding Supply Chain's Role in Cybersecurity

In this environment of increased risk, the entire healthcare organization must take ownership for cybersecurity, but supply chain professionals have a particularly crucial role. At Trinity Health, the system's supplier and manufacturer base represents one of its biggest cybersecurity challenges, Vianueva says.

"Many of our suppliers originally invested in protecting their systems; however, there was not an approach for keeping their manufactured devices and applications up-to-date through patch deployment, or for upgrading paths for obsolete software in the providers' environment," he says.

Supply chain professionals should be aware of the NIST cybersecurity framework standards, Vianueva recommends. In March 2018, NIST upgraded the cybersecurity framework from Version 1.0 to Version 1.1. One of the largest changes with the update was the addition of new supply chain standards (SC-1 through SC-5), which provide guidance on how to perform self-assessments, develop supply chain risk management methods and interact with supply chain stakeholders.

Using these standards, organizations can identify, establish and assess supply chain cybersecurity risk management processes and routinely assess suppliers and third-party partners using tests and audits. The standards also encourage organizations to develop contracts with suppliers and third-party partners to address risk management goals as well as identify untrustworthy partnerships in the supply chain, which may be revealed through poor manufacturing, tampering or malicious code.

"Supply chain plays an important role in cybersecurity, including determining terms and conditions, conducting business reviews, prioritizing suppliers that represent the highest risk, and ensuring good business continuity planning," Vianueva explains. To perform that role successfully, he recommends engaging with your group purchasing organization and leveraging their contracting capabilities, participating on subcommittees, and sharing best practices and new findings.

For instance, HealthTrust helps members understand the security backgrounds of the products they're buying, such as connected heart monitors, pacemakers, MRIs and other medical devices, Petty says. "Members rely on HealthTrust and our partners to understand what they're buying and to make sure it's secure and doesn't possess vulnerabilities."

As interconnectivity increases among medical devices and health information continues to demand high prices on the black market, cybersecurity risks will continue to develop—and supply chain professionals will need to be increasingly vigilant. "There are many bad actors working every day to break down our barriers," Vianueva says. "The importance of sharing information across the GPO customer base has never been as important as now. Cybersecurity as a supply chain responsibility is our new normal; it's not going away. Not engaging puts your organization and patients at risk." **S**

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TINGUISHED CARE

HOSPITALS EXPAND SPINE CARE EFFICIENCIES FOR PATIENTS & GEOGRAPHIC REACH

THROUGH SPINE CENTERS OF EXCELLENCE

In his practice at Scripps Green Hospital in La Jolla, California, orthopedic spine surgeon **James Bruffey**, M.D., sees a variety of patients, from triathletes to retirees, who suffer from debilitating back pain. Though each case comes with its own complexities, his patients all share a common desire: to return to their active lifestyles as soon as possible.

That goal is achieved for a greater number of patients thanks to Scripps Green Hospital's designation as a Spine Center of Excellence (COE) and its staff of highly skilled surgeons like Bruffey.

HealthTrust Physician Advisor, James Bruffey, M.D., discusses various approaches to lumbar spinal fusion surgery at the recent HealthTrust Cadaver Course for Executives.

"Pursuing this designation has created an initiative for us to look at our processes and make them more efficient and effective," explains Bruffey, who serves as medical director for Scripps Health's spine care service line. He is also a HealthTrust Physician Advisor. "If hospitals don't start refining their spine care guidelines, they're eventually going to lose access to these patients, because payers will be sending them to facilities that perform better spine care and do so more efficiently."

With the prevalence of chronic back pain increasing among Americans, the demand for spine surgery is growing. Back pain affects nearly 31 million people, with up to 80% of the population experiencing it at some point in their lives, according to the National Institute of Health's (NIH) National Institute on Neurological Disorders and Stroke. Back pain is also the most common cause of job-related disability and a leading contributor to missed work days, the NIH notes.

The number of reported cases will likely accelerate even more as baby boomers—who tend to be more physically active than previous generations—age. Back pain is difficult and expensive to treat, costing up to $87 billion annually, according to a 2016 analysis by the *Journal of the American Medical Association* (*JAMA*). Though the technology and techniques used in spine surgery have improved, the cost of implants and other medical devices for these procedures has become more expensive, partly due to competition between manufacturers looking to bring new and innovative products to market.

SPINE SURGERY DEMAND TEMPERED BY PAYER SCRUTINY

Despite the rise in spine surgeries, especially among patients in their 40s and 50s, payers are scrutinizing these procedures more than ever. In today's value-based care landscape, payers often require patients to exhaust all nonsurgical options before considering surgery. This trend is prompting some hospitals to create a comprehensive spine care program that provides a suite of services to help patients combat chronic back pain. These programs may offer everything from conservative treatments such as physical therapy, pain management and nutritional counseling to diagnostics, imaging and injections, in addition to surgery and postoperative care and therapies.

"Some of our less-invasive techniques are actually better at treating several of the conditions patients have, and they still get the best care and a faster recovery," Bruffey says.

Continued on page 58

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† HealthTrust contracts: #456 sterilization wrap, #6935 face masks and #1416 respirators.

Continued from page 56

The shift toward value-based care has also triggered providers to engage in bundled payment initiatives designed to reduce costs and improve outcomes. Many larger employers are purchasing bundled care packages for employees directly through selected providers to avoid disparities in quality and pricing across healthcare systems for the same surgeries. These episodic bundles cover the cost of care from start to finish—including all of the procedures, devices, tests, drugs and services a patient will need for a particular surgery. (*See sidebar on page 62 for more on how employers are cutting down on costs.*)

Increasingly, the Centers for Medicare and Medicaid Services (CMS), as well as many private health plans, are encouraging and even requiring patients to seek orthopedic care at COEs to obtain reimbursement for services or receive full coverage.

Spine surgery is especially COE-friendly because these surgeries are typically elective and can vary tremendously in their costs and complication rates. Being designated as a COE not only brings hospitals recognition as a local, regional or even national spine care leader, but it also helps them stand out from competitors in a crowded, consumer-driven market. For many patients, surgery is a scary prospect, and they want assurance that the hospital they choose adheres to the highest standards of safety and has a strong track record of positive results, explains **Brent Ford**, clinical director, HealthTrust inSight Advisory–Medical Device Management.

Brent Ford

"A COE designation conveys that a facility is committed to high-quality, efficient care," Ford says. "This is attractive to payers, physicians and, most important, to patients."

THE JOINT COMMISSION CERTIFICATION

Generally defined as specialized programs that provide high concentrations of expertise and focused resources, COEs have no standardized requirements or governing body, which make the criteria for establishing one subjective. In joint replacement surgery, outcomes are routinely measured and tied to Medicare reimbursement. In spine surgery, however, Ford explains that outcomes are less likely to be captured and harder to quantify.

This is where certifications can help. The Joint Commission certifies spine surgery under certifications for its orthopedic programs. Procedures such as discectomy, laminectomy and spinal fusion surgeries are accredited under the standards for Disease-Specific Care (DSC) Certification programs. Though not specific to spine surgery, these

Continued on page 60

PERKS OF SPINE SURGERY CERTIFICATION

- Demonstrates commitment to a higher standard of service
- Offers a framework for organizational structure and management
- Provides a competitive edge in the marketplace
- Enhances staff recruitment and development
- Recognized by insurers and other third parties

Source: The Joint Commission

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- Study limitations include only a select number of sites (3) and steps observed

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1. Hertig JB, Degnan DD, Scott CR, Lenz JR, Li X, Anderson CM. A comparison of error rates between intravenous push methods: a prospective, multisite, observational study [published online ahead of print September 8, 2017]. J Patient Saf. doi:10.1097/PTS.0000000000000419.

Continued from page 58

standards create an overall framework for how hospitals should manage conditions requiring these surgeries.

To certify these procedures, hospitals must demonstrate:

- Compliance with consensus-based national standards
- Effective and consistent use of appropriate, evidence-based clinical practice guidelines for patient populations requiring these procedures
- Collection and analysis of a minimum of four performance measures specific to the spinal surgery patient population. (At least two of these must be clinical in nature.)

The Joint Commission awards hospitals that comply with these standards a two-year certification. At the end of the first year, they must demonstrate continued compliance and detail how they are working to improve performance. Certifications must be renewed every two years and are contingent upon a favorable on-site review by the The Joint Commission.

"A COE DESIGNATION CONVEYS THAT A FACILITY IS COMMITTED TO HIGH-QUALITY, EFFICIENT CARE. THIS IS ATTRACTIVE TO PAYERS, PHYSICIANS AND, MOST IMPORTANT, TO PATIENTS."

Brent Ford | Clinical Director of inSight Advisory–Medical Device Management | HealthTrust

Insurance companies also designate spine programs that meet their criteria as COEs, though benchmarks vary by payer. In addition to its Joint Commission certification, Scripps Green Hospital is designated as a COE for Blue Cross Blue Shield, along with Scripps Mercy Hospital in San Diego. Surgeons in these Scripps facilities had already been tracking the metrics these payers were looking for—including outcomes, readmission rates, length of stay and cost per case—before ever pursuing the designations.

"We didn't have to change much," Bruffey says. "We took the data and processes we had in place and applied those to what each payer was looking for."

Several Scripps Health surgeons, including Bruffey, also participate in COE programs sponsored by Carrum Health and the Pacific Business Group on Health (PBGH), which help self-insured employers connect with value-based providers.

"They came to us because our programs already fit their model," Bruffey explains. "Since developing partnerships with these groups, patients have started to come into our system that we would have never seen otherwise."

Being known as a COE for spine surgery has also helped Scripps Health expand its geographic reach outside of the San Diego-area to southern California and beyond. Patients are triaged through a full-time care coordinator who refers them to the appropriate surgeon and collects all of the information and records needed for reviewing their case.

"At that point, we can almost do telemedicine," Bruffey says. "I have everything in front of me during phone consults with patients: their images,

Continued on page 62

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^Visit clinicaltrials.gov/ct2/show/NCT02594501 to learn more. 1. Levine G, Bates E, Bittl J, et al. 2016 ACC/AHA Guideline Focused Update on Duration of Dual Antiplatelet Therapy in Patients with Coronary Artery Disease. Circulation. 2016;134(10):e123-55. 2. Cutlip D, Garrat K, Novack V, et al. 9-Month Clinical and Angiographic Outcomes of the COBRA Polyzene-F NanoCoated Coronary Stent System. JACC Cardiovasc Interv. 2017;10(2):160-1672.

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See the Instructions for Use for complete information regarding the procedure, indications for use, contraindications, warnings, precautions, and potential adverse events. Rx Only

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Continued from page 60

evaluations, treatments and all of the non-operative care that's been done, as well as their surgical options. Once a patient meets the criteria for surgery, we can rapidly assess whether it's appropriate or not and discuss the best route from there."

Scripps Health also provides postoperative care for patients, including out-of-town patients whose travel and lodging arrangements are often covered by their health plans. Maintaining consistency in cost, care and outcomes is the key to successfully operating a COE and keeping that status, Bruffey adds. It's not unusual for payers to revise their criteria or ask for different metrics, so hospitals must be prepared to meet those requests.

"It helps to designate someone on the administrative side of the hospital who can work with payers and employers to understand what they are looking for and then collaborate with surgeons to come up with a framework that is mutually beneficial for them," Bruffey says.

RESPECTED PHYSICIANS KEY TO CREDIBILITY

Having a seasoned and respected team of surgeons on board is a must for any hospital pursuing a COE designation. Without the expertise and outcomes data these physicians have amassed over the course of their careers, hospitals will likely lack the credentials they need to earn a COE designation and Joint Commission certification.

"Each of the surgeons who are part of our COE programs have been performing surgery here for at least a decade and have a consistent breadth and volume of cases that have produced measurable outcomes," Bruffey explains.

Hospitals that want to establish a COE must first be willing to provide the space and resources surgeons need, and also involve them in its design. At Scripps Health, spine surgeons meet once a month to discuss everything from pricing and protocols to new techniques and implants they want to explore. This helps ensure a consensus across the system while also encouraging innovation.

"If there is a vendor with a new implant that could help improve outcomes, we all evaluate it, then place it into our formulary to make sure it's appropriately priced and provides the value everyone is looking for," Bruffey says.

Orthopedic leaders at Scripps Health hope to add more COE designations to their roster of hospitals in the next few years.

"A COE designation increases Scripps' exposure on the national stage," Bruffey adds. "And if we can draw patients across the country to our hospitals for excellence in spine care, it's going to generate more local interest in these programs as well."

Though hospitals can profit from the prestige and visibility COE designations bring, patients are the ultimate beneficiaries.

"Improving standardization in costs and outcomes and working to consistently make them better is always good for patients," Bruffey says. **S**

MORE EMPLOYEES TRAVELING TO COEs FOR SPINE SURGERY

To cut back on healthcare spending for expensive spine surgeries, many large, self-insured employers such as GE, Boeing, Lowe's and Walmart are encouraging employees with chronic back pain to travel to Spine Centers of Excellence for treatment. While employers aren't necessarily footing the bill themselves, many are partnering with payers to pay surgical and travel expenses for employees who take them up on the offer. Those who choose to stay closer to home for surgery, however, are required to assume all of the out-of-pocket costs for their procedures and postoperative care.

Benefits to the COE travel strategy include:

- Lower bundled care costs for payers
- Fewer complications for patients
- Fewer unnecessary procedures, as up to 50% of patients recommended for surgery might not actually need it
- More efficient and cost-effective care for employees

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James Bruffey, M.D. | Medical Director, Spine Care Service Line | Scripps Health

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Source: National Center for Health Statistics

Average cost per lumbar spinal fusion surgery

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Source: National Center for Health Statistics

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19% lower for Cervical Simple Fusion

18% lower for Lumbar Simple Fusion

1.5% lower Adjusted Complication Rates

Source: Managed Care study: Finding the Value in Value-Designation: Evidence and Opportunity in the United States. Oct. 2016.

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Cervical Spinal Fusion procedures ↑ 3.6%

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When examining Medicare data for spinal fusion surgery, significant differences exist within and between state-level, year-over-year comparisons, most notably in 2016 vs. 2017 & 2016 vs. 2018

Geographic variations driven by:

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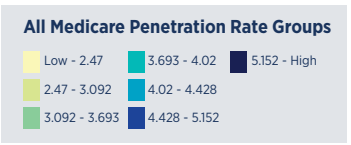
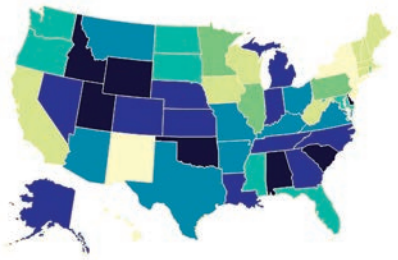
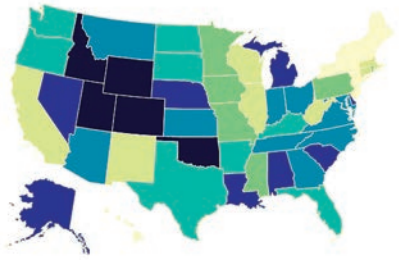
- Shifting practice patterns and place of service



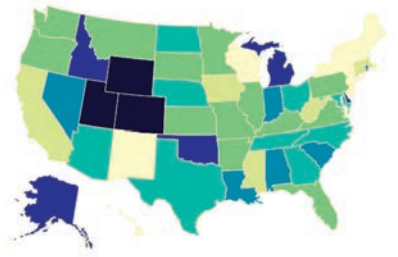
2016 **Medicare Inpatient Spinal Fusion Discharges**



2017 **Medicare Inpatient Spinal Fusion Discharges**



2018 **Medicare Inpatient Spinal Fusion Discharges**



Source: Medicare Provider Analysis and Review (MEDPAR) file of 100% CMS inpatient claims for services provided to beneficiaries admitted to Medicare certified inpatient hospitals

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1. Hussaini BE, Lu HG, Wolf JA, Thatte HS. Evaluation of endoscopic vein extraction on structural and functional viability of saphenous vein endothelium. J Thorac Cardiovasc Surg 2011;10(6):82
2. Terumo Product Code for VirtuoSaph Plus is VSP550EX

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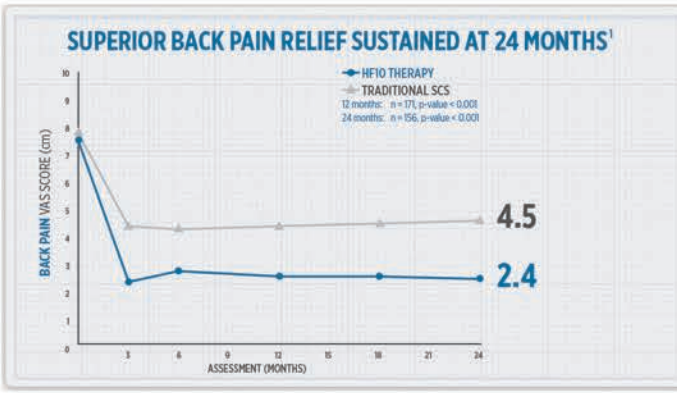

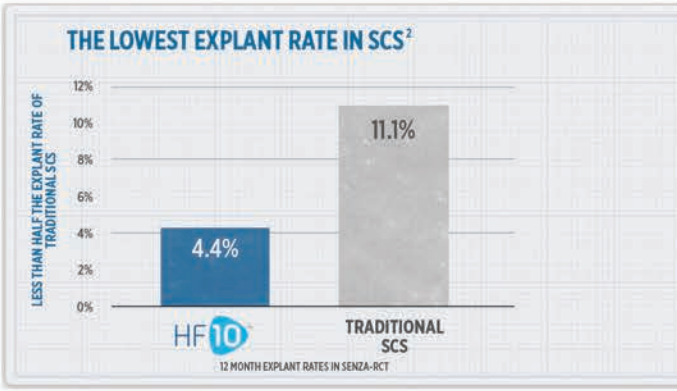

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1. Kapural L, et al. Comparison of 10-kHz high-frequency and traditional low-frequency spinal cord stimulation for the treatment of chronic back and leg pain: 24-month results from a multicenter, randomized, controlled pivotal trial. Neurosurgery. 09 2016.
2. Al-Kaisy A, Van Buyten J-P, Smet I, Palmisani S, Pang D, Smith T. Sustained effectiveness of 10 kHz high-frequency spinal cord stimulation for patients with chronic, low back pain: 24-month results of a prospective multicenter study. Pain Med. 2014;15:347-354.
3. Nevro patient satisfaction survey data. Data on File. Calculated 01/29/19. To request survey data, contact TherapyOptimization@nevro.com

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The Big Move

BOSTON MEDICAL CENTER'S EMERGENCY OPERATIONS TEAM ACCOMPLISHES A SAFE TRANSITION FOR PATIENTS & AN EFFICIENT ADJUSTMENT FOR HOSPITAL OPERATIONS

Consolidating multiple hospital locations is an enormous, demanding job—and one that requires a dedicated team. In 1996, Boston City Hospital—one of the first municipal hospitals in the United States—and Boston University Medical Center Hospital merged to form what's now known as Boston Medical Center (BMC). Since then, the hospital has worked to efficiently integrate departments and continue to offer medical care at both campuses, which until recently meant patients were often shuttled the two-block distance by ambulance from one specialist to another. In 2014, the hospital started a $270 million construction and renovation project to consolidate the hospital's campuses—all while maintaining the same high-quality level of care and service.

Combining the two campuses—which concluded in the fall of 2018—was a vast undertaking that required years of meticulous research and planning. As part of the renovation, eight new ORs and approximately 70 patient rooms were added to the former Boston City Hospital site. Outpatient facilities and the gastroenterology department were expanded; a 48,000-square-foot women and infants center with 10 private rooms in the Neonatal Intensive Care Unit was added; and the entire campus was updated with a more modern aesthetic. The hospital's crowded emergency department is the busiest in Massachusetts, with approximately 132,000 patient visits in 2017. It also expanded its capacity by nearly 30%. However, even with the additions, the consolidation still shrunk the hospital's footprint by about 329,000 square feet, to just less than 2.1 million square feet.

These renovations also meant closing and selling buildings on the former University Hospital campus—areas that were still housing patients and contained bustling clinical and operational departments. To make the transition as seamless as possible, the hospital used the emergency management department to make the move, explains **Maureen McMahon**, RN, BSN, MS, director of emergency management at BMC.

"My team was responsible for moving patients from the old building to the new location," McMahon says. "We started by doing a lot of research, and what we quickly discovered was that

Continued on page 72

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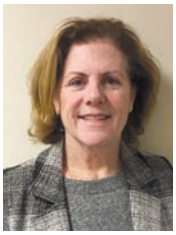
Continued from page 70

no one had ever maintained a functioning hospital while at the same time undergoing major construction and renovations. We were basically building a hospital—and doing so with people still inside. It was critical that we maintained safety, comfort and convenience for both our patients and staff."



"WE WERE BASICALLY BUILDING A HOSPITAL—AND DOING SO WITH PEOPLE STILL INSIDE. IT WAS CRITICAL THAT WE MAINTAINED SAFETY, COMFORT AND CONVENIENCE FOR BOTH OUR PATIENTS AND STAFF."

Maureen McMahon, RN, BSN, MS | Director of Emergency Management | Boston Medical Center

NOT AN OVERNIGHT MOVE

After meeting with the incident management team, McMahon and her staff decided it was best to use their controlled evacuation plans to move the patients out of the old building. "We had to be out of the building by Oct. 30, 2018," McMahon explains. "That firm deadline helped us develop a timeline and formulate our plans."

Planning for the move took almost two years, as the transition team worked to identify and mitigate potential problems and communicate with all stakeholders. Various transition sub-teams were responsible for other aspects, such as coordinating staffing, day-to-day planning and inventory allocation. The clinical teams reviewed the patient and staff impact of each move and developed strategies for ensuring effective clinical care during the transition. Meanwhile, supply teams planned for inventory and stocking, making sure there was enough equipment and furniture.

Concurrently, a command center tracked and documented patient departures and arrivals. All team members were trained and assigned specific roles to guarantee a safe and efficient move. (*See sidebar on page 74 for responsibilities of team members.*)

"It truly took a village to make this happen," McMahon continues. "Our move and administration teams consisted of 45 people, and every person was an integral piece of the puzzle. Having the right players in the right places ensured that the move could happen without disrupting clinical care or jeopardizing patient safety."

When it came time to physically move patients, the main move team divided into two sub-teams—the sending unit and the receiving unit—and followed a step-by-step scheme:

- The receiving unit leader indicated readiness for group one patients.
- The sending unit leader sent transport to retrieve patients.
- Patients were tracked upon departure from the sending unit and transferred to ambulances in the departure area.
- Patients were tracked upon egress from departure area and transported by EasCare Ambulance with BMC staff members.
- The sending unit leader sent transport to retrieve group two patients.
- Group one patients arrived at new location and were transferred to BMC beds in the arrival area.
- Group one patients were transported to the receiving unit, then settled into assigned rooms.

A ROLE FOR ALL

The plan sounded simple, but patient conditions in various units, such as the intensive care unit or med/surg department, led to adjustments in the sequence of events, McMahon says. Working behind the scenes were clinical leaders assigned to monitor each patient's condition, equipment and supply teams to ensure medical equipment and materials were available and operational, and cleaning teams to come behind each transported group of patients to clean and decommission units. The teams also had contingency plans for all types of events—from elevator failure to medical emergencies to even a patient's refusal to leave. Whatever the event, McMahon's team was prepared.

"We bent over backward to ensure patients were comfortable and understood the reason for the move. We had warm blankets for patients as they left and double-checked to make sure they had all of their belongings. We offered special shuttles for family members and had hospitality lounges set up for them with food and drinks," McMahon explains.

The intricate planning for all contingencies paid off. "We have video footage of the move, and every patient has a big smile on their

Continued on page 74

3 Tips for Moving a Hospital

Moving a hospital requires strategic thinking and the input of leaders from multiple departments, explains **Maureen McMahon**, RN, BSN, MS, director of emergency management at Boston Medical Center (BMC). As the incident commander for BMC's latest move, she shares these three tips.

1 **Include your emergency manager in the planning from the beginning.** The emergency management team is experienced in efficiently and safely moving patients. Use your hospital's emergency operations plan and team to keep patients safe.

2 **Determine how elements of your evacuation plan could be employed.** Review all of your hospital's emergency plans. For BMC, the controlled evacuation plan worked best. Plus, the experience helped the team gather data for future incidents.

3 **Brainstorm all contingencies and identify weak points.** There's more to consider than just moving patients from one spot to another. Multiple things could go wrong, from call bells not working, to hot water being off, to missing fire extinguishers. Spend time ensuring staff is well-trained and prepared for any potential problem.

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Continued from page 72

face," she says. "Our team ensured all patients were happy and comfortable."

Moving just one unit sometimes took an entire day, with activity starting around 8 a.m. and concluding around 7 p.m. The entire moving process took about two months, with the hospital transporting 331 patients from pediatrics, labor and delivery, NICU, med/surg, intensive care unit, critical care unit and other departments. Also moved to the new location were the blood bank, laboratory, radiology, supply warehouse and more.

"It was a massive team effort," McMahon says. "We're proud of the people that made it all happen." ●

Maureen McMahon, RN, BSN, MS, director of emergency management, will discuss BMC's move at the 2019 HealthTrust University Conference on Tuesday, August 13.

BOSTON MEDICAL CENTER'S MOVE EXECUTION TEAM

ROLE	RESPONSIBILITY
Incident Commander	Move progress and command operations
Move Operation Chief	Move execution, patient and employee safety
Sending Unit Leader	Sequencing and timely, efficient and safe departure of patients
Receiving Unit Leader	Timely, efficient and safe reception of patients
Departure Area Manager	Safe transfer of patients for ambulance transport
Arrival Area Manager	Safe reception of patients from ambulance transport
Tracking Officer	Manage the electronic tracking board to document move
Logistics Chief	Manage and deploy all support services
Clinical Staff	Care for patients and ensure patient safety

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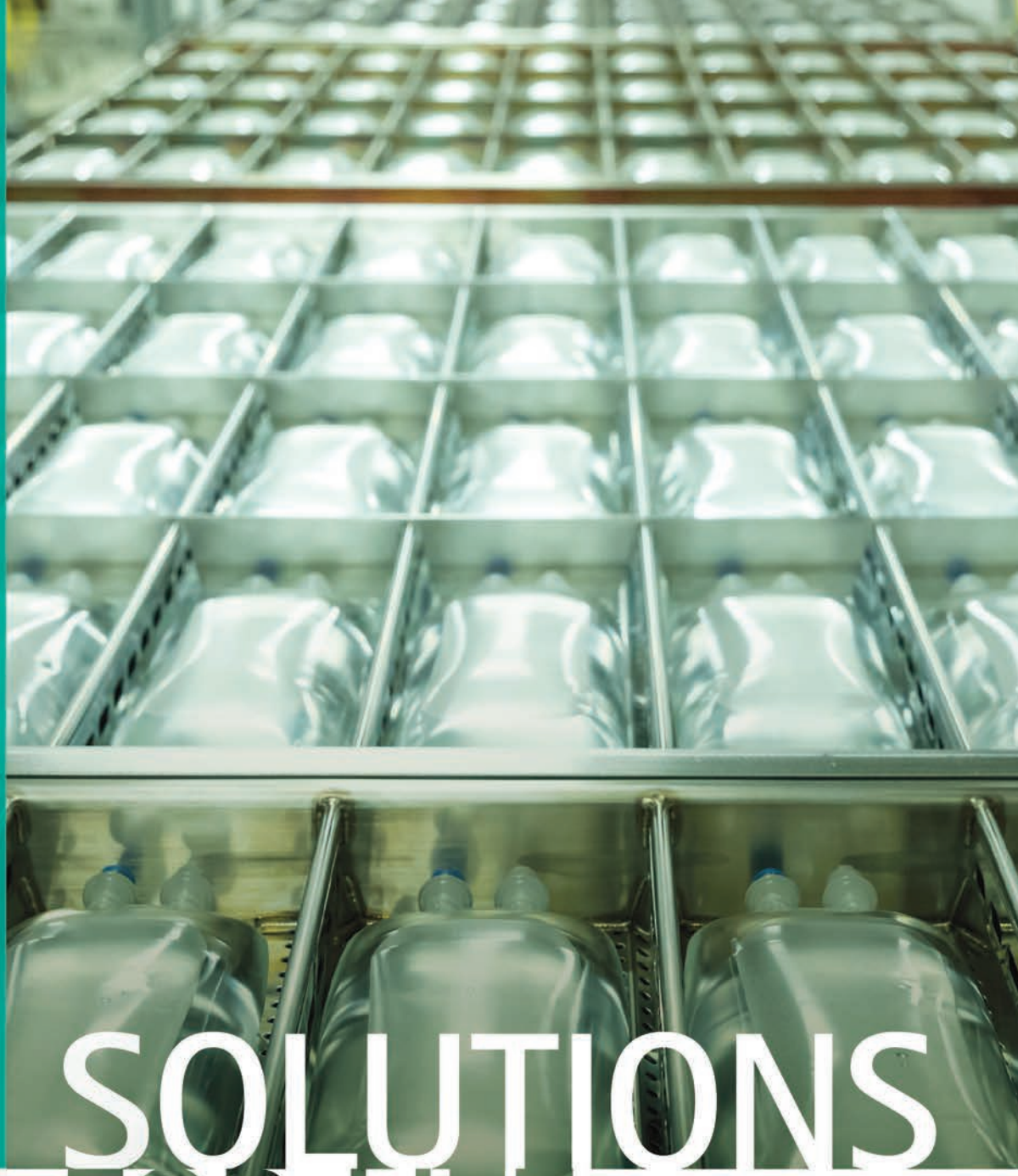

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Q&A With Sam Bagchi, M.D.

An International Perspective

DELIVERING VALUE-ADDED CARE ACROSS DIVERSE OPERATIONS

Sam Bagchi, M.D., is the system chief medical officer and chief medical information officer at Irving, Texas-based CHRISTUS Health, where in his dual role he supports physicians and other caregivers with the information and technology they need to promote patient safety and improve patient care. He spoke with *The Source* about the role of data in healthcare, CHRISTUS' leadership development program and the lessons he's learned from running an organization with international facilities.

What is your background, and what was your path to this position?

BAGCHI: Before joining CHRISTUS, I served as chief medical officer and quality officer at Presence Health (now part of Ascension) in Chicago. Prior to serving in that role, I was senior vice president and chief medical officer of Methodist Health System in Dallas. However, I practiced hospital-based internal medicine for many years before I moved into these administrative roles. I became more interested in management and ultimately the chief medical officer role by working on a variety of projects related to process improvement and quality initiatives. Although I loved providing sequential care to patients, I'm excited about having a broader impact on many patients in their communities through these programs.

In a value-based care environment, more physicians are moving into traditional administrator roles in their facilities. What is your philosophy on engaging physicians to take on these roles?

BAGCHI: Physician leaders have a distinct advantage because of their direct clinical experience and common understanding of clinical issues. They're in a position to drive value-based care—the kind of care where you don't just focus on expense reduction or growth for the sake of growth but on true value creation. I believe physician leaders will be able to drive the kind of healthcare outcomes we'll need to see over the next 10 to 20 years.

At the same time, I don't think every health system needs to be led by a physician. Many non-physician leaders have advantages on the finance and strategy side—they have the ability to present innovative ideas that may not germinate through traditional healthcare thinking. To drive the best possible outcomes, you need a good mix of leaders, whether they be physicians, nurses, MBAs or MHAs. It really comes down to the right candidate for the right role. Great leaders can be found in many other disciplines.

How does CHRISTUS prepare physicians to take on a hybrid role of physician administrator/physician executive?

BAGCHI: CHRISTUS has many great opportunities for physicians who want to rise through the organization. For instance, our hospitals and medical groups are led

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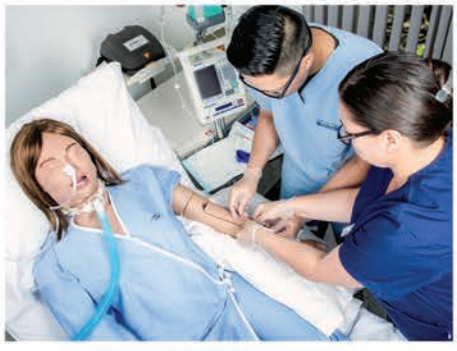

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by chief medical officers, while various specialties like surgery or acute care are led by institute chairs. In addition, CHRISTUS has a whole cascade of medical directorships, including the areas of population health and clinical informatics.

There is also a formal program for developing the leadership skills of up-and-coming physicians across the enterprise. Two of the key competencies are business operations and conflict resolution.

We're looking to strengthen the program by creating a physician-led faculty where physicians train rising physician leaders. As it stands now, the program relies on a lot of the same talent development support we use for our non-physician leaders. The program is also bolstered by identifying and including independent physicians with leadership promise who practice at CHRISTUS hospitals.

What does your role as chief medical information officer (CMIO) involve?

BAGCHI: As a CMIO, I use clinical technology and healthcare technology to drive improvements in both quality and safety as well as better operations. I look at optimizing our electronic medical records (EMR) and other clinical technologies like voice recognition and clinical analytics to drive better outcomes. Along those lines, we're looking to pilot ambient listening devices for clinical encounters.

In what ways is CHRISTUS harnessing data to help its facilities deliver excellent patient care?

BAGCHI: Data is used to measure most of our care delivery processes. Advanced data governance ensures that the right information is aligned with the right issue. As an example, dashboards have been developed to support specialty care along with specific

conditions like sepsis. We're also looking at bringing analytics closer to the point of care by integrating process data into the physician workflow by embedding it in the EMR.

Our top-line initiatives revolve around providing quality care and high reliability while lowering clinical variation and waste wherever we can. We are doing that through clinical operations informatics work around EMR, clinical technology, virtual care, clinical analytics and case management.

How has CHRISTUS approached its operations in Latin America?

BAGCHI: CHRISTUS has learned many important lessons in the more than 15 years of experience we have now in global healthcare. People often make assumptions about the healthcare experience in Latin America. The CHRISTUS health delivery model is designed to achieve high-quality outcomes for all we serve. To do this, we operate with similar standards in both the U.S. and Latin America. For example, we have implemented a high-reliability program across the entire system. We've shared important tools, leading to improved safety event reporting and subsequent harm reduction in all of our facilities including Latin America. We've also shared basic quality and safety initiatives like proper hand washing, and we've worked hard to eliminate conditions that could harm patients such as catheter-associated urinary tract infections or central line-associated bloodstream infections. Physician support content, including order sets for heart failure or acute MI and EMR implementation best practices have been shared as well.

How are the challenges different in Latin America as opposed to the United States?

BAGCHI: There is less regulation in Latin America, so innovation moves faster. On the other hand, we don't have EMRs fully deployed in this region, so there are barriers to automating clinical practices and consistently measuring processes for related outcomes.

Do you have any advice for health systems looking to expand internationally?

BAGCHI: You must be sensitive to cultural differences when designing patient care. With maternal care programs, for example, you must take into consideration the cultural expectations around childbirth and related procedures such as C-sections.

In general, you need to be able to come up with concepts that make sense in the local culture. For example, at our U.S. hospitals and clinics, leaders get together for 15 minutes daily to talk about new safety concerns, a practice we've branded

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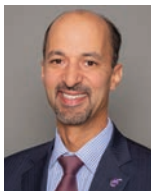
as a patient safety huddle. But in Latin America, "huddle" is an American football analogy that doesn't have a Spanish language equivalent. We had to come up with a way to convey a similar concept for staff who aren't familiar with football.

You also need to avoid exporting the immense regulatory burden we have in the U.S. healthcare system to international partners. There's no benefit in building in documentation procedures based on U.S. regulatory obligations. Instead, it's more important to focus on adding value to your international operations at every step of the relationship. For example, CHRISTUS emphasizes hand-washing compliance, a practice we know will improve our Latin American operations.

Finally, always be open to bringing innovation to U.S. operations from your international partners. Recently, we adopted the pain protocol used by our facilities in Mexico. They use several nonpharmacological interventions for pain reduction, which can help lower patients' opiate exposure.

What healthcare trend offers the most promise?

BAGCHI: Patient-centered care is what gets me excited. All of our CHRISTUS facilities aim to provide the kind of high-quality care we would want our family members and friends to receive. That keeps us relentlessly focused on what the patients and communities we serve need. ●



Sam Bagchi, M.D., is senior vice president, chief medical officer and chief medical information officer at CHRISTUS Health. He served as chief medical officer and quality officer at Presence Health (now Ascension) in Chicago, and previously was senior vice president and chief medical officer at the Dallas-based Methodist Health System.

Prior to joining Methodist, Bagchi served as chief medical informatics officer and medical director of utilization management for Vanguard Health Systems. Before his work with Vanguard, Bagchi was the director of hospital medicine and associate vice president of utilization management at Emerson Hospital in Concord, Massachusetts.

Bagchi graduated from Indiana University School of Medicine and completed his residency in internal medicine at Beth Israel Deaconess Medical Center, Harvard Medical School. He also served as a chief medical resident and a hospitalist at Queen's Medical Center at the University of Hawaii's John Burns School of Medicine. In 2006, Bagchi returned to Indiana as a hospitalist and internal medicine faculty member at St. Vincent Indianapolis Hospital, Ascension Health.

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The 2019 HealthTrust Member Recognition Award winners have demonstrated outstanding performance, leadership and service in many creative, meaningful and exemplary ways. They have deployed medical response teams to provide aid during disasters, established committees to improve laboratory stewardship, achieved savings by capturing physician interest in the value-analysis process, and implemented cost-control measures to mitigate hospital pharmacy costs. In the categories of **Outstanding Member**, **Clinical Excellence**, **Operational Excellence**, **Social Stewardship** and **Pharmacy Excellence**, the members spotlighted on these pages are this year's honorees during the 2019 HealthTrust University Conference in Nashville, Tennessee.

OUTSTANDING MEMBER AWARD

Atlantic Health System, Morristown, New Jersey

Kevin Lenahan, SVP, Chief Financial and Administrative Officer, Atlantic Health System
Stephen Albanese, Director of Strategic Sourcing, Atlantic Health System
Adisa Mesalic, Manager of Strategic Sourcing, Atlantic Health System
Dawn Petronio, MAS, BSN, RN, Clinical Consultant of Strategic Sourcing, Atlantic Health System
Drew Douglas, Strategic Sourcing Analyst, Atlantic Health System


Kevin Lenahan


Stephen Albanese


Adisa Mesalic


Dawn Petronio, MAS, BSN, RN


Drew Douglas

Maximizing Savings Through Strategic Sourcing

Based in Morristown, New Jersey, Atlantic Health System is a founding member of AllSpire Health Partners, a regional GPO owned by five healthcare systems in New Jersey and Pennsylvania. AllSpire leverages local and regional contracts, and in 2016, all five of its members voted to join HealthTrust to take advantage of more savings at the national level.

Atlantic Health leaders were accustomed to starting with GPO contracts and then further negotiating on their own to obtain better pricing, says **Eric Brauer**, account director at HealthTrust. "Atlantic Health had a successful way of negotiating contracts, and it's never easy to move away from something that works," Brauer says. "However, they soon began experiencing the benefits, as well as recognizing and identifying the contracts and situations where they could further negotiate while using HealthTrust contracts."

Atlantic Health started out as No. 1 in compliance among the five AllSpire healthcare systems, and it had an organizational goal to maintain that spot. In addition to the cost savings, this goal was a driving force for Atlantic Health to take advantage of all the potential benefits of its HealthTrust membership.

To do that effectively required commitment from the top. Chief Financial Officer **Kevin Lenahan** started the process by communicating to all facilities that a GPO change was coming and shared the value and importance of supporting that change, while maintaining the system's core values and vision.

Atlantic Health System's strategic sourcing leaders **Stephen Albanese** and **Adisa Mesalic** worked closely with Brauer to evaluate and modify their strategic sourcing processes, moving local contracts to S2 contracts when available to keep current pricing and start earning admin fees. (S2s are contracts where the pricing is specific to an individual member but aligned to the HealthTrust national contract.) Service contracts and other local contracts that were not S2 eligible, or couldn't be converted immediately, required process adjustments.

"All of Atlantic Health's sourcing analysts added a simple adjustment to their process. When a local contract was coming up for renewal, they were required to check for a HealthTrust contracted option in the category and evaluate the opportunity to convert," Brauer says. "This message was cascaded out to each medical center and department within Atlantic Health System, and the expectation

was set that nothing would be automatically renewed without first evaluating the HealthTrust contracts."

When new contracts and contract changes result in savings, the success is not only recorded under the strategic sourcing annual savings goals—the facility department leaders and surgeons who are affected by the savings initiatives also get credit. That approach helped drive buy-in and create both competition and accountability throughout the system. "It is not unusual for an OR director or surgeon at one facility to hold one of their counterparts accountable if they are not working with the team or preventing savings from being achieved," Brauer says.

In its first year as a HealthTrust member, Atlantic Health's strategic sourcing department exceeded its savings goal by more than $10 million, with $13 million of total savings attributed to HealthTrust contract utilization. During the second year, the system exceeded its savings goal by $1 million, and nearly $11 million of the total savings is attributed to HealthTrust contract utilization.

Maximizing its HealthTrust membership has allowed Atlantic Health System to realize significant savings and maintain its No. 1 spot in compliance among AllSpire members. As compliance increases, so do savings and administrative fees, resulting in a stronger bottom line.

CLINICAL EXCELLENCE AWARD

HCA Healthcare, Continental Division
Denver, Colorado

Heather Signorelli, DO, FCAP, Chief Laboratory Officer, Clinical Services Group, HCA Healthcare
Gary Winfield, M.D., Division Chief Medical Officer, HCA Healthcare Continental Division

Standardizing & Simplifying Laboratory Tests

In 2018 alone, HCA Healthcare conducted more than 78 million laboratory tests. Given the number and importance of these medical records in helping providers make patient-care decisions, HCA Healthcare's Continental Division—which includes Denver, Colorado, and Wichita, Kansas—initiated a laboratory stewardship project.

"While I was working with the Continental Division, our team determined that it was important to focus as much as possible on ensuring these lab tests provided measurable improvements in patient care," shares **Heather Signorelli**, DO, FCAP, now chief laboratory officer for HCA Healthcare's Clinical Services Group.

In 2016, HCA Healthcare's Denver market established its Laboratory Stewardship Committee (LSC), including professionals from pathology, nursing, infection prevention, laboratory and multiple physician subspecialties. The following year, the Wichita market established its LSC. With authority to change test menus and order sets for all of the hospitals in their market, these committees removed serial, redundant and obsolete orders from the test menu and created rules to help eliminate duplicate testing.

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The work of the committees drove standardized data analysis and clinical decision support rules for tests within the electronic health records (EHRs). As a result, laboratories and providers received duplication alerts when the test they ordered was recently performed in a nearby hospital, along with the results from prior testing.

To address genetic testing, a review process was developed to engage genetic counselors and pathologists as part of the clinical team. Each genetic test order was reviewed based on clinical presentation. This process also helped manage the genetic test results and documentation of medical necessity to support outpatient reimbursement.

Because there is an ever-growing number of test options, HCA Healthcare physicians have enthusiastically supported the work of the committees and the simplified ordering processes that have resulted.

Heather Signorelli, DO, FCAP

Gary Winfield, M.D.

As of December 2018, the Continental Division was able to examine its large volume of data and further increase the accuracy of its lab test orders, improving patient care. "Because of HCA's Healthcare's scale, we're able to really hone in on that kind of information and be even more precise in our test ordering," Signorelli says.

Based on that success, HCA Healthcare implemented the laboratory stewardship program in each of its divisions.

Moving forward, HCA Healthcare is developing a laboratory formulary to implement standardized inpatient testing practices, which focuses heavily on genetic testing recommendations, Signorelli explains.

"This includes a review process for genetic tests with a genetics team member prior to being sent out," she says. "This process will also help ensure that qualified genetics team members in partnership with our physicians follow up on the results."

OPERATIONAL EXCELLENCE AWARD

University of Oklahoma (OU) Medical Center
Oklahoma City, Oklahoma

April Imel, BSN, RN, Director of Value Analysis, OU Medical Center
Dee Cross, MSN, RN, Administrative Director of Value Analysis, OU Medical Center
Renee Landry, Vice President of Supply Chain, OU Medical Center
Casey Woods, Chief Operating Officer, OU Medical Center
Michael Cookson, M.D., MMHC, Chairman of Value Analysis Committee, OU Medical Center

Ramping Up Physician Involvement in Supply Chain Procurement


April Imel, BSN, RN


Dee Cross, MSN, RN


Renee Landry


Casey Woods


Michael Cookson, M.D., MMHC

When the University of Oklahoma (OU) Medical Center launched its Value Analysis Committee (VAC) in August 2018, "outside of our chairman, none of the surgeons on the committee had ever heard of a group purchasing organization," says **April Imel**, BSN, RN, director of value analysis at the OU Medical Center. "We had to explain standardization, contracts and compliance issues involved with a GPO, and we had to do a lot of work to establish trust."

The committee set a goal of reaching $1.2 million in estimated savings during its first year, and by establishing "strong communication, regular meetings, supplier and HealthTrust support, it met the goal in just eight months," Imel shares.

OU's supply chain leaders used HealthTrust's Value Analysis Toolkit to build a VAC and define policies and procedures, with goals of increasing accountability and fiscal responsibility, as well as bringing safe products and savings to the facility. After assessing the status quo, supply chain leaders partnered with C-suite executives to ensure their support and buy-in, recruited physician representatives from a variety of service lines, and appointed **Michael Cookson**, M.D., MMHC, as chairman of the committee.

While most physician committee members were not aware of the inner workings of the supply chain, leaders used research and open communication to build understanding and commitment. "We are an academic medical center, so our physicians are already in tune with evidence-based literature, says **Dee Cross**, MSN, RN, administrative director of value analysis. "When we provide literature to back up purchasing decisions, they take it to heart and realize when a particular product has actually changed or when there isn't any discernible difference between a lower-cost and a higher-cost product."

In addition to educating committee members about contracts and purchasing rationale, value analysis professionals also made a commitment to respect committee members' time and schedules.

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The team designed a standard agenda for each VAC meeting and, a week in advance, sent out information about which products would be discussed. This allowed members to thoroughly research new devices and make more efficient use of meeting time.

When the committee makes decisions to add new products, Imel and Cross spend time explaining the ramifications to affected departments. "We share the decisions being made, which products were approved and which ones we want to deplete and why," Imel says. "If you explain the rationale, you can get buy-in. We are both nurses who have had products change without any explanation, so we understand the importance of communicating the change with everyone it impacts."

The VAC also developed a quarterly newsletter to communicate committee decisions with physicians and staff. As the savings have stacked up, staff across the hospital have become increasingly committed to the value analysis goals. "I've had doctors call me concerned because they've seen a certain product in the OR that needs to be removed because it's costing us too much money," Imel says.

SOCIAL STEWARDSHIP AWARD–COMMUNITY OUTREACH

Scripps Health, San Diego, California

Debra McQuillen, RN, BSN, MAS, Vice President, Chief Operations Executive, Scripps Mercy Hospital
Steve Miller, RN, MS, FACHE, Senior Director, Clinical Services, Scripps Memorial Hospital Encinitas
Mike Godfrey, ABC, Senior Director, Corporate Communications, Scripps Health
Jay Larrosa, MSN, RN-BC, ACM-RN, PHN, FACDONA, Project Manager, Scripps Health System Care Management

Providing Volunteers & Aid to Fill Community Needs During Disasters

After the terror attacks of Sept. 11, 2001, the Scripps Disaster Preparedness Office formed the Scripps Medical Response (SMR) team. "It was an acknowledgement that if such a disaster, manmade or natural, occurred in our community, we would need to be better prepared," says **Mike Godfrey**, ABC, senior director of corporate communications at Scripps Health in San Diego. "As we made our staff, hospitals and other facilities more prepared, we also wanted to make teams available to help elsewhere if needed."

The team helped on the Gulf Coast after Hurricane Katrina in 2005, in Haiti after the 2010 earthquake and in Nepal after the 2015 earthquake. Most recently, the SMR team helped provide relief to victims of the California wildfires. In Nov. 2018, in the wake of the Camp Fire, three teams of Scripps employees voluntarily deployed to Chico, California, to provide staffing and support in the region's relief

center medical clinics. Each team was deployed for seven- to nine-day stints over a four-week period.

The wildfire left 20,000 California residents homeless and without healthcare, prescriptions and other necessities. Many of these residents, including families, were in temporary shelters. For these displaced adults and children, the only healthcare available was at clinics set up by the state emergency medical authority. SMR staff provided that care, assisted the displaced in obtaining critical prescriptions, helped prevent the spread of flu and respiratory illness, and more. Scripps team members also staffed medical clinics 24/7 at relief shelters, saw and treated patients, gave immunizations, and provided administrative support to families and relief workers.

While providing relief efforts, Scripps employees lived in a "tent city" with hundreds of other relief workers. They put in long shifts of 12 to 15 hours, in cold temperatures during the holiday season. But team members preferred to be serving rather than in the comfort of their homes, says **Steve Miller**, RN, MS, FACHE, senior director of clinical services at Scripps Memorial Hospital Encinitas and an SMR team leader.

An organized process makes it easy to deploy SMR volunteers quickly when a call for help goes out. The Scripps Disaster Preparedness office has a list of all potential SMR team volunteers, and interested employees update their information each year. When there's an opportunity to deploy, an email goes out to all on the list asking about availability.

"Once the skill set is narrowed down, the list of those available is narrowed down until we come up with a good first team that meets the relief requirements," Godfrey says. "Sometimes physicians and nurses are the priority. Sometimes it's nurses and behavioral health staff. We also always include someone on each team to support the team from an administrative and logistics perspective. We always want to ensure our team is safe, even if they're working under the auspices of another agency."

Scripps employees who volunteer put their regular jobs and lives on hold to help others, and their co-workers step forward to fill in the gaps while they're serving. "It's truly an organizationwide commitment to helping fill community needs, both nearby and around the world," Godfrey notes.

It's not always possible to help in every situation, so Scripps leaders focus on opportunities where they can make the greatest difference, keep their staff safe and, when possible, provide learning

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Debra McQuillen, RN, BSN, MAS

Steve Miller, RN, MS, FACHE

Mke Godfrey, ABC

Jay Larrosa, MSN, RN-BC, ACM-RN, PHN, FACDONA

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opportunities for those who are serving. "The most valuable relief effort is when you can help others and bring valuable information and experience back to your own health system and community," Godfrey says.

PHARMACY EXCELLENCE

CHS PSC, LLC – Community Health Systems (CHS), Franklin, Tennessee

Jerry Reed, MS, RPh, FASCP, FASHP, Vice President of Pharmacy Services, CHS PSC, LLC
Heather Weese, PharmD, MSHI, BCPS, BCPPS, Senior Director of Pharmacy Services, CHS PSC, LLC

Decreasing Drug Spending With Standardization & Innovative Solutions

Community Health Systems (CHS) mitigated rising hospital pharmacy costs by implementing innovative cost control measures that decreased drug spend as a percentage of net revenue over a 24-month period from Dec. 2016 to Dec. 2018. In the current environment of hyper-inflated drug prices, ongoing drug supply shortages, and natural disasters derailing manufacturing and distribution processes, these improvements are significant.

Jerry Reed, MS, RPh, FASCP, FASHP

Heather Weese, PharmD, MSHI, BCPS, BCPPS

The process started by "evaluating where we were in providing pharmaceutical leadership," says **Jerry Reed**, MS, RPh, FASCP, FASHP, vice president, pharmacy services at CHS. "We began developing innovative solutions to address dramatic increases in the price of drugs, including major changes in our culture and focus. The changes weren't just financial, but also operational and clinical."

One of the first changes was to transition medication formulary decisions from local oversight to a single formulary across all

affiliated facilities. CHS did this by creating a corporate Formulary Management Committee (FMC), which seeks to involve physicians from various specialties in formulary management-related decisions. The committee has been "very instrumental in our success," Reed says.

The unified formulary has helped CHS to reduce the number of medication items stocked, leading to reduced drug expense and increased efficiencies without adversely affecting clinical care or patient outcomes. By standardizing costs through redistribution and centralized distribution of products between its facilities, CHS has reduced the negative impact of drug shortages and hyper-inflated drugs.

The pharmacy leadership team has developed and implemented clinical and operational toolkits to support the changes, and it has enforced HealthTrust contract compliance through corporate pharmacy controls. This results in improved contracting potential and maximum rebates.

Throughout all the changes, ongoing and open communication has been the most important factor for success, Reed says. "That includes communication with CHS-affiliated facility leadership, physicians, local pharmacy directors, pharmacists and various vendors such as outsourced sterile compounders."

For instance, the pharmacy leadership team developed webinars and other continuing education programs to keep stakeholders informed about updates and savings opportunities, according to Reed. "The educational materials included the financial results of the changes, along with recent evidence-based literature to support the new decisions," he says.

Pharmacy leaders have worked closely with other IDNs by holding periodic meetings with counterparts at other facilities to find out what's working for them and to look for ways to transfer those successes to CHS. "It is critical for us to learn from colleagues about their successes and challenges," Reed says.

To better support these new processes, some staff job roles and responsibilities were amended to provide a greater focus on financial performance, Reed adds. This interdisciplinary solution has helped CHS to decrease drug waste and maintain purchase compliance, resulting in ongoing savings. ●

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DOSAGE AND ADMINISTRATION

- Use this formulation of Vancomycin Injection only in patients who require the entire (500 mg, 1 g, 1.5 g or 2 g) dose and not any fraction thereof. (2.1)
- For intravenous use only. Do not administer orally.
- Administer Vancomycin Injection by intravenous infusion over 60 minutes or greater to reduce the risk of infusion reactions (2.1)
- Adult Patients: 2 g divided either as 0.5 grams (g) every 6 hours or 1 g every 12 hours (2.2)
- Pediatric Patients (1 month and older): 10 mg/kg per dose given every 6 hours (2.3)
- Patients with Renal Impairment: See full prescribing information for recommended doses in patients with renal impairment (2.4)
- See full prescribing information for further important administration and preparation instructions (2.1, 2.5)

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- Clostridium Difficile-Associated Diarrhea: Evaluate patients if diarrhea occurs. (5.5)
- Neutropenia: Periodically monitor leukocyte count. (5.7)
- Phlebitis: To reduce the risk of local irritation and phlebitis administer Vancomycin Injection by a secure intravenous route of administration. (5.8)
- Development of Drug-Resistant Bacteria: Prescribing Vancomycin Injection in the absence of a proven or strongly suspected bacterial infection is unlikely to provide benefit to the patient and increases the risk of the development of drug-resistant bacteria. (5.9)

ADVERSE REACTIONS

The common adverse reactions are anaphylaxis, "red man syndrome", acute kidney injury, hearing loss, neutropenia. (6.1)

To report SUSPECTED ADVERSE REACTIONS, contact Xellia Pharmaceuticals USA, LLC at 1-833-295-6953 or FDA at 1-800-FDA-1088 or www.fda.gov/medwatch.

DRUG INTERACTIONS

- Anesthetic Agents: Concomitant administration of vancomycin and anesthetic agents has been associated with erythema and histamine-like flushing. (2.1, 7.1)
- Piperacillin/Tazobactam: Increased incidence of acute kidney injury in patients receiving concomitant piperacillin/tazobactam and vancomycin as compared to vancomycin alone. Monitor kidney function in patients. (7.2)

Please see full prescribing information at www.xellia.com/US

xellia PHARMACEUTICALS

HEALTHTRUST MEMBERS RECOGNIZED FOR ENVIRONMENTAL EXCELLENCE

Practice Greenhealth's Environmental Excellence Awards annually honor outstanding sustainability achievements in the healthcare sector. Congratulations to the HealthTrust member health systems and facilities below that were recognized during the CleanMed conference in May. For more information on the awards and a complete list of winners, visit the awards section of the Practice Greenhealth website.

BOSTON MEDICAL CENTER

Highest honor: *Top 25 Environmental Excellence*

Circle of Excellence – Climate

HACKENSACK MERIDIAN HEALTH – HACKENSACK UNIVERSITY MEDICAL CENTER

Highest honor: *Top 25 Environmental Excellence*

4 Circle of Excellence Awards – Chemicals, EPP, Energy, Leadership

System for Change
- Hackensack Meridian Health

Facility-level awards include:
Circle of Excellence – EPP
- Hackensack Meridian Health, Bayshore Medical Center
- Hackensack Meridian Health, Jersey Shore University Medical Center
- Hackensack Meridian Health, Ocean Medical Center
- Hackensack Meridian Health, Riverview Medical Center

Greenhealth Emerald
- Hackensack Meridian Health, Bayshore Medical Center
- Hackensack Meridian Health, Jersey Shore University Medical Center
- Hackensack Meridian Health, Ocean Medical Center
- Hackensack Meridian Health, Riverview Medical Center
- Hackensack Meridian Health, Southern Ocean Medical Center

Making Medicine Mercury Free
- Hackensack Meridian Health, Riverview Medical Center

Partner for Change
- Hackensack Meridian Health, Raritan Bay Medical Center – Old Bridge
- Hackensack Meridian Health, Raritan Bay Medical Center – Perth Amboy

HCA HEALTHCARE

Facility-level awards include:
Greening the Operating Room
- Lee's Summit Medical Center

Making Medicine Mercury Free
- Medical Center of Trinity
- Redmond Regional Medical Center

Partner for Change
- Lee's Summit Medical Center
- Parkland Medical Center

Partner Recognition
- Alaska Regional Hospital
- Centerpoint Medical Center

HOSPITAL SISTERS HEALTH SYSTEM (HSHS)

System for Change

Facility-level awards include:
Greening the OR Recognition
- HSHS St. John's Hospital
- HSHS St. Nicholas Hospital
- HSHS St. Vincent Hospital

Partner for Change
- HSHS Sacred Heart Hospital
- HSHS St Elizabeth's Hospital
- HSHS St. Clare Memorial Hospital
- HSHS St. Francis Hospital
- HSHS St. John's Hospital
- HSHS St. Joseph's Hospital
- HSHS St. Mary's Hospital Medical Center of Green Bay Inc.
- HSHS St. Nicholas Hospital
- HSHS St. Vincent Hospital

Top 25 Facility Honors Again Went to Two Healthtrust Members:

Boston Medical Center *and* Hackensack Meridian Health – Hackensack University Medical Center

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Methodist University Hospital Receives 2018 ASHP Award

Congratulations to HealthTrust member Methodist LeBonheur Healthcare's **Methodist University Hospital**, whose PGY-1 pharmacy residency program was the winner of the American Society of Health-System Pharmacists' (ASHP) 2018 Pharmacy Residency Excellence award. ASHP's Foundation annually recognizes the achievements of one program that exhibits excellence and leadership in the training and mentoring of pharmacy residents. ASHP considers this training crucial to the development of future leaders.

Methodist University Hospital (MUH) was selected out of hundreds of residency programs in the U.S. for its training environment—an integrated practice model that allows all levels of pharmacy staff extensive training in both operational and clinical settings, as well as the opportunity to gain experience in working with physicians in diverse specialties. Residents were also involved in 60 articles written for medical journals and in 75 posters and/or presentations that MUH has participated in since 2012. ●

HCA Healthcare Named 2019 Red Hat Innovator of the Year

In May, HCA Healthcare was voted Innovator of the Year in the 2019 Red Hat Innovation Awards for its development of SPOT (Sepsis Prediction & Optimization of Therapy), an algorithm-driven, real-time system to more quickly identify patients with sepsis, a potentially life-threatening condition. A cross-functional team of clinicians, data scientists and technology professionals used Red Hat tools to help create the algorithm and clinical workflow for sepsis detection that is helping to save lives.

"Every hour of delayed diagnosis [of sepsis] increases the risk of death by 4–7%," says **Jonathan Perlin**, M.D., president, clinical services and chief medical officer for HCA Healthcare.

To view a brief video about HCA Healthcare's SPOT system, visit **www.redhat.com/en/success-stories/innovation-awards**. ●

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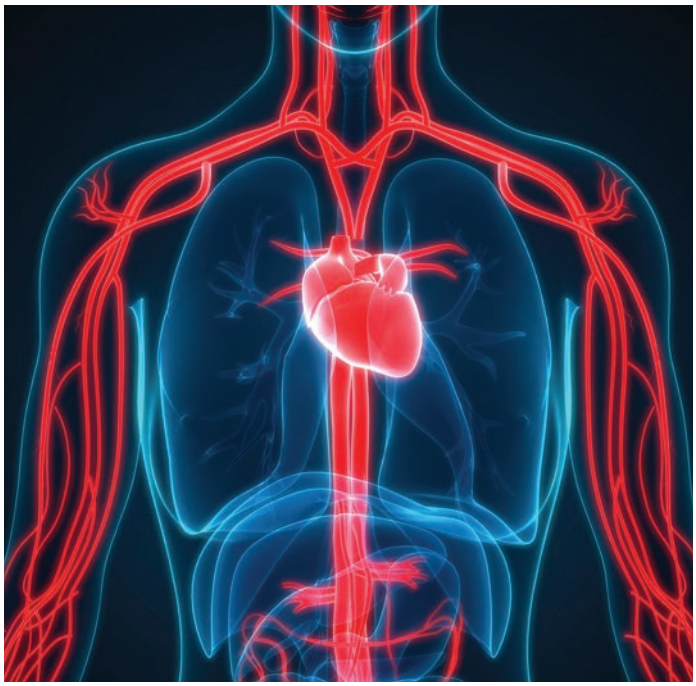

PATIENT SAFETY AT THE FOREFRONT

The Food and Drug Administration (FDA) recently convened meetings on three important patient safety issues. Here's what members need to know ...

PACLITAXEL-COATED DEVICES & LATE-MORTALITY SAFETY SIGNAL

These coated products—paclitaxel-coated balloons and paclitaxel-eluting stents—are used to treat peripheral arterial disease in the femoropopliteal arteries.

On June 19–20, 2019, the FDA's Circulatory Systems Device Panel met to discuss and make recommendations on the late-mortality safety signal associated with paclitaxel-coated products.

The FDA warned that using these devices may increase mortality risk after two to five years. The warning was based on a meta-analysis that looked at 28 randomized controlled trials with 4,663 patients with peripheral arterial disease who had been treated with paclitaxel-eluting stents or paclitaxel-coated balloons.

Background

- **2012** – The FDA approved the first of these devices, which was the first paclitaxel-eluting peripheral stent
- **2018** – The FDA approved the last of the five total devices currently on the market, which included three peripheral balloons and two peripheral stents

Findings from the Katsanos meta-analysis suggested an increased mortality rate in patients who received peripheral arterial disease (PAD) treatment with the paclitaxel-coated devices and prompted the FDA to re-evaluate the products. The study was published in the *Journal of the American Heart Association* (Dec. 2018) and showed that patient mortality rates at two years "significantly increased" and then "increased further" up to five years after the use of paclitaxel-coated balloons or paclitaxel-eluting stents versus uncoated devices.

- **June 2019** – Summary comments from the two-day meeting included:
  - Data limitations from the meta-analysis prevented confirmation that the late mortality signal represented a class effect among the devices. Available data was unable to exclude any device from the group
  - The panel was unable to identify a particular cause of death to explain the late mortality signal in patients treated with these devices
  - Observed rates of both cardiovascular and non-cardiovascular death were higher in patients treated with paclitaxel-coated devices vs. uncoated devices
  - The panel agreed that FDA should continue to approve devices with 12-month clinical data that demonstrated an assurance of safety and effectiveness, but FDA should strengthen post-approval conditions to ensure adequate data collection for potential signal detection
  - The short-term benefits of paclitaxel-coated devices continue to outweigh the risks, and the devices should not be removed from the market. All agreed that risks should be communicated to the patient to support an informed choice, with some noting that treatment decisions should be left up to the patient and treating physician
  - Recommendations for devices for the superior femoral artery should also apply to clinical studies, informed consent and labeling for paclitaxel-coated devices used in other indications, such as AV fistula and chronic limb ischemia. The panel remarked that the benefit-risk profile for these patients may be different given the high mortality rates for such patients within two to three years
  - The industry should collaborate with the FDA on future study design efforts to evaluate the late mortality signal, including adding language to the labeling (e.g., instructions for use) for vascular paclitaxel-coated devices to indicate the presence of a potential late-mortality risk as well as the potential benefits

Outcome: The FDA panel will review these recommendations and provide direction on the use of these devices through a public statement anticipated for release by late summer. HealthTrust will share the recommendations with its members. View summary document here: *www.fda.gov/media/128246/download*

SURGICAL STAPLERS FOR INTERNAL USE CHANGED TO CLASS II DEVICES

Whether manual or power-driven, these devices are used most often in minimally invasive surgeries to cut and quickly seal vessels and tissues inside the body.

Continued on page 100

GETTY IMAGES


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Continued from page 98

On May 30, 2019, the General and Plastic Surgery Devices Panel of the Medical Device Advisory Committee met to discuss and make recommendations regarding the reclassification of surgical stapler devices for internal use from Class I (general controls) to Class II (special controls). According to Kaiser Health News, the FDA acknowledged that more than 56K surgical stapler malfunctions were not recorded in its traditional public reporting system* in a seven-year timespan (from 2011 through 2018).

Risks with the devices include severe surgical complications, including sepsis, bleeding, the need for a permanent ostomy bag, lasting nutritional and digestive issues, a leak in the closure (anastomotic leak), the need for additional closures (anastomoses) or additional surgeries, and in worst case, death.

**The Manufacturer and User Facility Device Experience (MAUDE) database houses medical device reports (MDRs) submitted to the FDA by both "voluntary" reporters (e.g., healthcare professionals, patients and consumers) and "mandatory" reporters (e.g., manufacturers, importers and device user facilities).*

Background

- **1997** – The FDA created a program known as "alternative summary reporting" to collect data for more efficient internal review of well-known risks. Medical device manufacturers could apply for an FDA exemption to prevent specific incidents from going on the public FDA database
- **2017** – The alternative summary reporting program was updated to promote greater public transparency and only low-risk products were eligible for the alternative reporting method
- **March 2019** – In a letter to physicians, the FDA acknowledged that "many more device malfunction reports" were reported to the agency than it had previously publicly disclosed. The total number reported (from 2011 to 2018) was actually more than double, totaling close to 110,000 malfunctions or injuries, when taking nonpublic reports into account
- **April 2019** – Publication of the proposed reclassification order
- **May 2019** – The FDA ends the alternative summary reporting program; device makers will be required to file individual reports documenting each case of device-related patient harm

Outcome: The FDA's Advisory panel unanimously recommended the reclassification of surgical staplers for internal use from Class I (general controls) to Class II (special controls). View summary document here: *www.fda.gov/media/127627/download*

ABSORBABLE COLLAGEN-BASED HEMOSTATIC DEVICES DOWNGRADED TO CLASS II

These products facilitate hemostasis by speeding up the clotting of blood

On May 31, 2019, the FDA General and Plastic Surgery Devices Panel of the Medical Device Advisory Committee met to discuss and make recommendations regarding the reclassification of absorbable collagen-based hemostatic devices from Class III (premarket approval) to Class II (special controls).

Primarily applied during surgical procedures, these products and devices control bleeding that has not responded to more traditional methods such as ligation or cautery or cannot be controlled due to inaccessibility. Currently these products fall into three groups:

- Absorbable Hemostatic – Collagen based
- Absorbable Hemostatic – Non-collagen based
- Absorbable Collagen Hemostatic Agent with Thrombin

These products come in various forms such as powders, sponges and sheets. HealthTrust offers contracted products within all three groups. The FDA panel discussion primarily focused on the absorbable hemostatic collagen-based products.

A comprehensive list of risks specific to absorbable collagen-based hemostatic devices, such as infection, foreign-body or adverse tissue reaction, failure to be absorbed, embolization, hematoma and others, extracted from reports received by the FDA via the MAUDE database were discussed in detail. The panel felt that based upon the valid scientific evidence available, primarily from premarket clinical trials and a long history of safe and effective use, reasonable assurance of safety and effectiveness for these products remained.

The FDA proposed several special controls that would further provide reasonable assurance of safety and effectiveness as well as mitigate risk, including material characterization, biocompatibility, performance data for sterility and shelf life, labeling and others. They did not feel that different special controls were needed for different forms of the device (powder, sheet, etc.).

Outcome: At the end of the day's discussion, the panel recommended a move from Class III to Class II for absorbable collagen-based hemostatic devices intended to be placed in the body during surgery for the purpose of producing hemostasis by accelerating the clotting time. View summary document here: *www.fda.gov/media/126218/download*

Note: Absorbable hemostatic collagen-based devices containing added biologics, and absorbable hemostatic non-collagen-based devices, are outside the scope of this proposed reclassification. Those devices, which are for a use that is of substantial importance in preventing impairment of human health, will remain Class III devices pursuant to section 520(l)(1), as the FDA has neither received nor identified sufficient evidence from nonclinical or clinical studies to establish special controls to provide a reasonable assurance of their safety and effectiveness.

For questions on these or other FDA topics, contact HealthTrust's Clinical Research team through physicians@healthtrustpg.com.

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Continued from page 4

chain management, to assume ownership and operations of the company. ROi is a provider-operated group purchasing organization and is accountable for the supply chain organization of Mercy, one of the nation's largest Catholic health systems.

HealthTrust's acquisition of ROi reinforces our commitment and connection to faith-based ministries, with Catholic health systems composed of a significant part of our member base. We understand the needs of Catholic health systems and believe we are uniquely positioned to support them in delivering high-quality care, providing value and honoring their mission of caring for those in need. This unique transaction aligns true operators and affords us an opportunity to build on ROi's legacy of performance. I am confident it will strengthen our operator experience and provide further insights for the benefit of our respective members.

These are exciting times for HealthTrust and our membership collective, especially as we celebrate the organization's platinum anniversary. I look forward to sharing more on our strategic initiatives with those of you attending the HTU general sessions on Aug. 13 and 14, and for those who can't attend, in the pages of this magazine throughout the year. Here's to our next 20 years!

Ed Jones
President/CEO, HealthTrust

Share your success stories throughout the year.

Contact the executive editor of The Source *(faye.porter@healthtrustpg.com) to let her know how HealthTrust is helping your organization meet its cost, quality and outcomes initiatives.*

Continued from page 6

liaison to the Workforce and Supply Chain inSight Advisory teams, as well as the Clinical Advisory Board leads, account managers and business development teams.

SERVICE LINE PERFORMANCE IMPROVEMENT

With a focus on improving the overall performance of HealthTrust member service lines, the components of this integrated offering include analytics and support.

Crystal and the analytics experts on her team will be looking to identify opportunities that improve both the quality and the cost of care through two types of analytics: foundational and advanced.

The first, *foundational analytics*, will be made available to all HealthTrust members and will include risk-adjusted benchmarking of quality and facility-level cost performance.

Advanced analytics will allow for benchmarking at the physician level, with customizable dashboards and an increased level of support from a team of clinicians, PhDs, data analysts and HealthTrust Physician Advisors. These team members can provide on-site support to optimize overall performance.

The Medical Device Management team is focused on the spend and utilization of high-value implants, and it aims to reduce unnecessary waste. While there are multiple ways to reduce spend, some quicker wins can often be realized by renegotiating contracts and eliminating variation in utilization for like patients.

The Care Redesign team is focused on care processes and protocols to reduce complications, readmissions and value-based purchasing penalties. It provides everything from opportunity analysis to on-site implementation and support. It also leverages clinical evidence and physician alignment strategies to standardize care for like patients.

CLINICAL UPDATES & FEEDBACK

I look forward to meeting many of you in person during the HealthTrust University Conference event. Join me for the Clinical Updates breakfast on Wednesday morning, Aug. 14, to learn more about these areas of focus. If you are not attending HTU, you are welcome to email me at **thesource@healthtrustpg.com** with your feedback on the types of customized solutions that would best position your organization to meet its future clinical integration and clinical data needs. ●

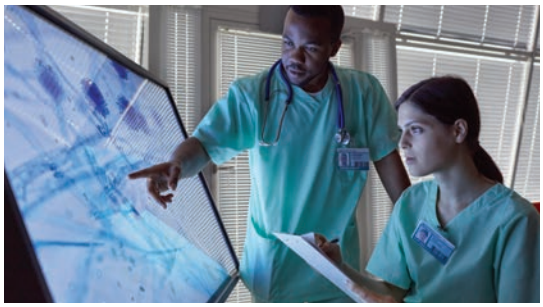
Year-round Focus on Innovative Products

Suppliers with new technology invited to submit

Current and prospective suppliers whose products meet HealthTrust's new technology definition* may now submit products for review year-round. New products directly related to patient care, information technology or supply chain management that have received FDA approval via the 510k or PMA (pre-market approval) process, are eligible for submission through HealthTrust's online Innovation Center (healthtrustpg.com/healthtrust-innovation-center).

Internal subject matter experts and service line clinical experts from within the HealthTrust membership will review and determine if those products are clinically acceptable and if the financial and operational impacts are of such value to add them to the HealthTrust contract portfolio.

Submissions received by **Jan. 15, 2020**, may be considered for the next Innovation Summit, March 16–18, 2020. Submissions received after that



date will be reviewed and considered for addition to the HealthTrust contract portfolio through processes aligned with the sourcing work plan.

*Note: HealthTrust's definition of "new technology" is classified as a product that, as compared to existing products:

- Offers significant technological advancements,
- Significantly improves clinical outcomes or patient care (i.e. documented reduction in procedure times, outcomes, lengths of stay, readmissions, infection rates), or
- Significantly streamlines work processes and/or the economics of facility operations (i.e. increase or decrease expenses in supply chain or resource utilization).

Demonstration of this via independent, peer-reviewed publications is beneficial but not required.

Questions regarding innovation submissions may be sent to innovation@healthtrustpg.com. ●

Speaking of Innovation ... HealthTrust will name its 2019 member Innovation Grant recipient(s) during the HealthTrust University Conference in August. Look for coverage in the Q4 edition.

GETTY IMAGES

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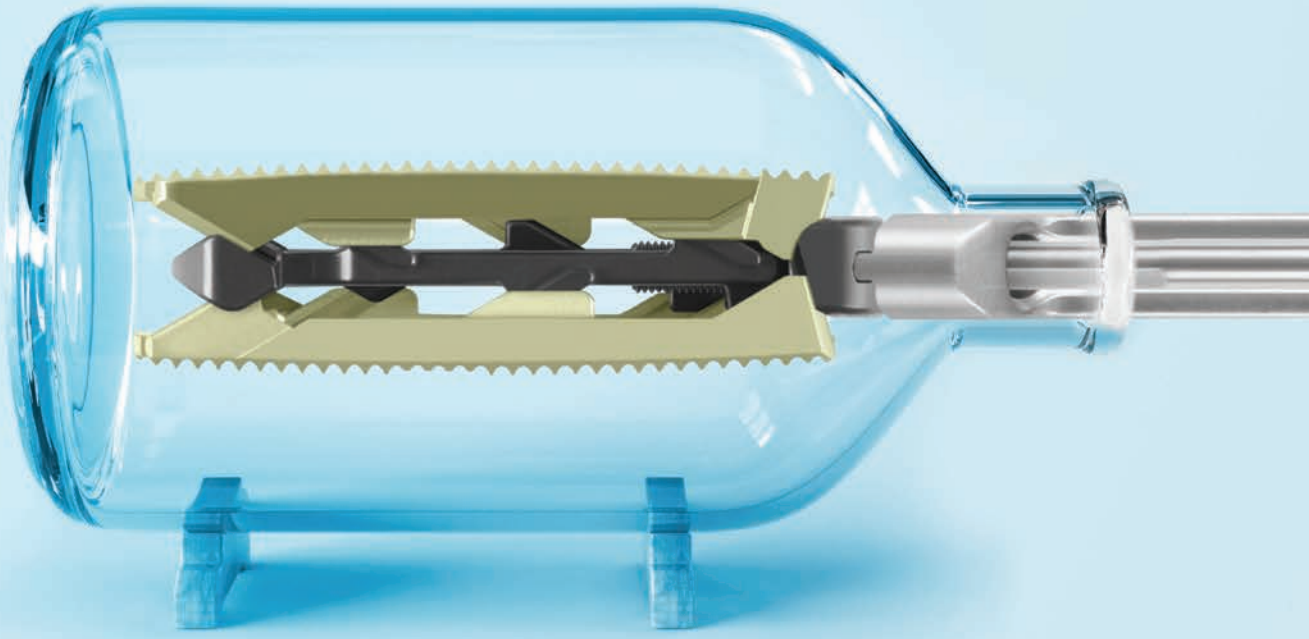

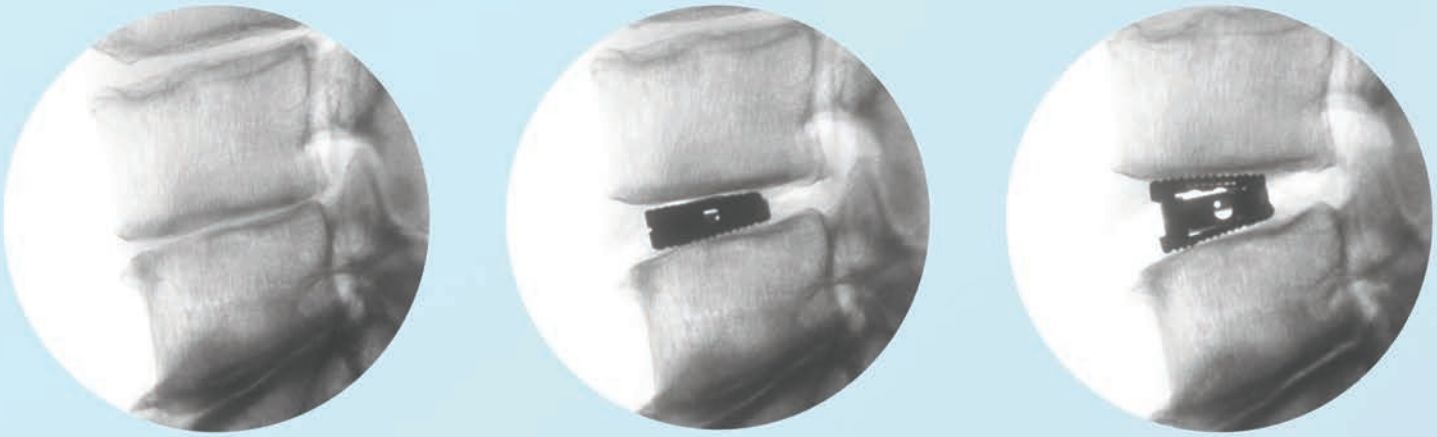

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