PROPELLING FASTER CARE Hackensack University Medical Center's

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Hackensack University Medical Center's Air Ambulance Service Connects Access-challenged Patients With World-class Care

(in)

HEALTHCARE IN RURAL AMERICA

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A HEALTHTRUS

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Alleviating Burnout Among Physicians & Clinicians



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LUTONIX[®] AV Clinical Trial data on file. N=285. At 6 months, treatment with LUTONIX[®] 035 DCB resulted in a primary patency rate of 71.4% versus 63.0% with PTA alone. Primary patency defined as ending with a clinically driven re-intervention of the target lesion or access thrombosis. The primary effectiveness analysis for superiority of DCB vs. PTA was not met with a one sided p-value of p = 0.0562. Number of interventions alone. Primary effectiveness analysis for superiority of DCB vs. PTA was not met with a one sided p-value of p = 0.0562. Number of interventions days, treatment with LUTONIX[®] 035 resulted in a freedom from primary safety event rate of 95.0% versus 95.8% with PTA alone. Primary safety defined as freedom from localized or systemic serious adverse events through 30 days that reasonably suggests the involvement of the AV access circuit. The primary safety endpoint for non-inferiority for DCB vs. PTA was met with one-sided p-value of p = 0.0019. Percentages reported are derived from Kaplan-Meier analyses. The LUTONIX[®] Catheter is indicated for percutaneous transluminal angioplasty (PTA), after pre-dilatation, for treatment of stenotic lesions of dysfunctional native arteriovenous dialysis fistulae that are 4 mm to 12 mm in diameter and up to 80 mm in length. **Please consult product labels and instructions for indications, contraindications, hazards, warnings, and precautions.** Rev @ 2018 BD. BD, the BD logo and all other trademarks are property of Becton, Dickinson and Company. Illustrations by Mike Austin. All Rights Reserved. Bard Peripheral Vascular, Inc. 1 www.bardpv.com 1 1 800 X21 4254 | 1625 W. 3rd Street Tempe, AZ 85281 **BPV/LTNX/0717/0164(1) HealthTrust Contract #7110**

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⊾ Features

ADVANCING TO VALUE: THE LATEST DEVELOPMENTS IN VALUE-BASED CARE

As the Centers for Medicare & Medicaid Services signals there's no end to valuebased care, downside risk is one of the latest strategies emerging for providers.



The healthcare community is grappling with the negative health outcomes of lifestyles that result in obesity, stressing the importance of population health strategies to help control the epidemic.

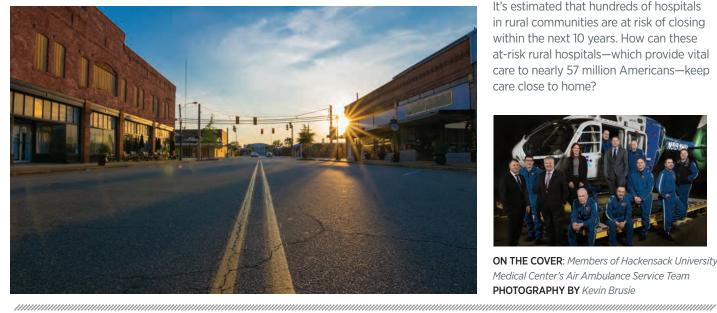
HEALTHCARE IN RURAL AMERICA

It's estimated that hundreds of hospitals in rural communities are at risk of closing within the next 10 years. How can these at-risk rural hospitals—which provide vital care to nearly 57 million Americans-keep care close to home?



ON THE COVER: Members of Hackensack University Medical Center's Air Ambulance Service Team PHOTOGRAPHY BY Kevin Brusie





Second Quarter 2018 | The Source 1

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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 share their expertise as part of upcoming stories in *The Source*. View future topics at: healthtrustsource.com/ calendar

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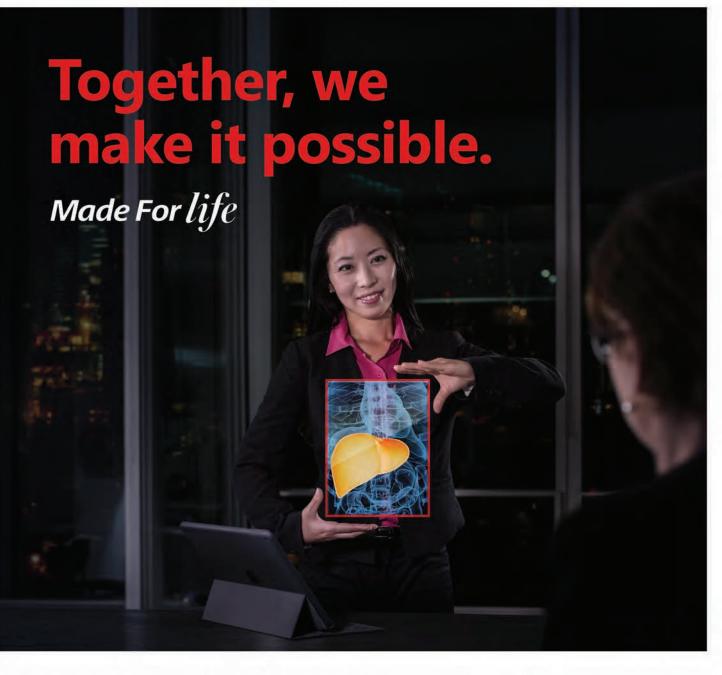
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Cost, Quality, Outcomes & the Clinically Integrated Supply Chain

As part of its long-standing relationship with AHRMM (the Association for Healthcare Resource & Materials Management of the American Hospital Association), HealthTrust became a co-sponsor of its Cost, Quality and Outcomes (CQO) Movement in 2015. CQO underscores the importance of supply chain's role in tying together various stakeholders—clinicians, suppliers and distributors—across the continuum of care.

ith a continued focus on declining reimbursements and ever-evolving payment models and policies, the correlation between **cost** (all costs associated with delivering patient care and supporting the care environment), quality (patient-centered care aimed at achieving the best possible clinical outcomes), and out**comes** (financial reimbursement driven by outstanding clinical care at the appropriate costs) will continue to be where supply chain can most effectively improve the quality and affordability of healthcare, especially as it aligns to support care sites outside of the acute care setting.

A 2016 report published by AHRMM detailed the important connections between the CQO Movement and the goals of the Institute for Healthcare Improvement's "Triple Aim." The Triple Aim is a framework to describe an approach for optimizing health system performance, with the goal of improving the individual experience of care; improving the health of populations; and reducing the per capita costs of care for populations.

Since its launch, CQO has been the theme and source of content for a number of conferences and educational venues, and *The Source* and countless other industry publications have covered the application of CQO in multiple articles. Fast forward five years, and I'd suggest that "clinically integrated supply chain" is well on its way to becoming part of the common vernacular for our industry.

For supply chain professionals, a strategic approach to developing and strengthening relationships within your health system is critical to supporting a culture of evidencebased practice within all areas of the care delivery system. In addition to helping you optimize performance with solutions in the areas of supply chain and workforce, HealthTrust can enhance your clinical integration capabilities with:

> Analytics expertise and/or solutions to help providers interpret, analyze and make actionable decisions on data that encompasses product costs, the quality of care delivered and reimbursement outcomes

> Clinical evidence reviews in support of national agreements for clinically sensitive products, including implantable medical devices. Physician advisors in the relevant area of specialty provide input on the reviews—a critical component of HealthTrust's contracting process. These reviews are made available to members as they are completed. Monthly FDA updates and new technology summaries are also posted regularly to the member portal and highlighted in *The Source* magazine.

Continued on page 8



HEALTHTRUST'S PERFORMANCE CAPABILITY SCORECARDS

support health systems in understanding current practices and capabilities in supply chain management, clinical operations, and labor management and productivity-comparing them to the practices of other industry-leading health systemsultimately accelerating members' efforts to improve operational performance and financial health.

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Moving Forward

Advancing the Clinical Agenda

My first couple of months as the new CMO at HealthTrust have passed quickly. I have already learned much more about the organization, its mission and vision, the people and culture, and the robust clinical agenda ahead of us. This is a critical time in an increasingly complex healthcare environment. Data and actionable insight from that agenda will drive our initiatives related to quality, patient safety, cost and improvement in outcomes.

n my new role, I have identified two main priorities. The first is to advance HealthTrust's Physician Advisors program with version 2.0. Made up of CMOs from our member IDNs, we will reconstitute a physician steering committee and task it with setting priorities for the larger physician advisors program. Three specialty-based physician councils will be created for an increased focus on the cardiovascular, orthopedics and surgery service lines. These areas have been identified as having the highest need—from the standpoint of both subject matter expertise and clinical evidence review.

My experience at LifePoint Health taught me the power of physician councils in driving performance improvement initiatives and reductions in care variation. I look forward to the role of HealthTrust Physician Advisors in co-creating new knowledge and leading practices, including expanded engagement in our clinical research agenda and physician assistance in demonstrating the capability of our clinical databases in delivering outcomes-based research.

My second priority is to focus on an integrated, aligned, clinical services team. While there is tremendous work being done currently within our medical device management teams—utilization tracking; InVivoLink (outcomes registry); and clinical data solutions (analytics and benchmarking)—significant opportunity exists to leverage the collaboration of this expertise into a unified clinical solution for our members. While standardized data dashboards and physician profiling are important, a more customized approach may be required to help some members with specific needs. A next step will be to better understand current and future member requirements in this space and then leverage the tools and services we have available to build the best clinical solution that helps our providers achieve their strategic goals.

Lastly, despite the recent cancellation of some of the Centers for Medicare & Medicaid Services' (CMS') bundled payment models, its Quality Payment Program (QPP) continues to add complexity and challenges to high caliber program reporting. Aggregating disparate data sources to meet the different domain requirements of this program is a significant issue, but it is an area where HealthTrust can assist. A truly clinically integrated supply chain can create great opportunity for care variation reduction, improvement in clinical outcomes—and, ultimately provide higher value to our members.

In whatever future form they might take, value- or quality-based payments (such as the CMS' QPP) are not going away. HealthTrust is strategically positioned to help provider organizations not only meet these criteria, but excel at them. The end goal of our clinical integration strategy is to provide this level of support to members who are taking care of patients every day and allow them to focus on continuous quality improvement in the most efficient manner possible.



HealthTrust's new Chief Medical Officer **John Young**, M.D., MBA, looks forward to assisting members in improving clinical collaboration and optimizing organizational performance. Dr. Young also has executive oversight of the work of the Physician Services team, which includes the following programs and publications:

PHYSICIAN ADVISORS PROGRAM

https://members.healthtrustpg. com/-/media/Files/HealthTrust/ physician-services/Physician%20 Advisor_Program.ashx

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STARTING LINE

FROM THE DESK OF ED JONES



HealthTrust values vour input. Members are encouraged to email thesource@healthtrustpg. com to join our quarterly reader panel and offer feedback on your favorite articles, topics and ways we can continue to improve *The Source*. Also contact us with your clinical initiative and supply chain success stories to be considered for inclusion in an upcoming issue.

Indications

The Resolute Onyx™ Zotarolimus-Eluting Coronary Stent System is indicated for improving coronary luminal diameters in patients, including those with diabetes mellitus, with symptomatic ischemic heart disease due to *de* novo lesions of length s 35 mm in native coronary arteries with reference vessel diameters of 2.0 mm to 5.0 mm

Contraindications

Contraindications The Resolute Onyx[™] Zotarolimus-Eluting Coronary Stent System is contraindicated for use in: • Patients with a known hypersensitivity or allergies to aspirin, heparin, biyallrudin, clopidogrel, prasugrel, ticagrelor, ticlopidine. drugs such as zotarolimus, tacrolimus, sirolimus, everolimus, or similar drugs or any other analogue or derivative • Patients with a known hypersensitivity to the cobalt-based alloy (cobalt, nickel, chromium, and molybdenum) or platinum-iridium alloy • Patients with a known hypersensitivity to the BioLinx® polymer or its individual components

Coronary artery stenting is contraindicated for use in Patients in whom antiplatelet and/or anticoadulation therapy is contraindicated • Patients who are judged to have a lesion that prevents complete inflation of an angioplasty balloon or proper placement of the stent or stent delivery system

Warnings

insure that the inner package has not been opened or damaged as this would indicate the sterile barrier has been breached. • The use of this product carries the same risks associated with coronary arber stent implantation procedures, which include subacute and late vessel thrombosis, vascular complications, and/or bleeding events.
This product should not be used in patients who are not likely to comply with the recommended antiplatelet therapy.

Precautions

 Only physicians who have received adequate training should perform implantation of the stent.
 Subsequent stent restenosis or occlusion may require repeat catheter-based treatments (including balloon dilatation) of the arterial segment containing the stent. The long-term outcome following repeat catheter-based treatments of previously implanted stents is not well characterized. The risks and benefits of the stent implantation should be assessed for patients with a history of severe reaction to contrast agents • Do not expose or wipe the product with organic solvents such as alcohol. • The use of a drug-eluting stent (DES) outside of the labeled indications. including use in patients with more tortuous anatomy, may have an increased risk of adverse events. Including stent thrombosis stent embolization ML or death . Care should be taken to control the position of the guide catheter tip during stent delivery, stent deployment, and balloon withdrawal. Before withdrawing the stent delivery system, confirm complete balloon deflation using fluoroscopy to avoid arterial damage caused by guiding catheter movement into the vessel. • Stent thrombosis is a low-frequency event that is frequently associated with myocardial infarction (MI) or death. Data from the RESOLUTE clinical trials have been prospectively evaluated and adjudicated using the definition developed by the Academic Research Consortium (ARC).

The safety and effectiveness of the Resolute Onyx⁷⁴⁴ stent have not yet been established in the following patient populations. • Patients with target lesions that patient populations, * radens with target leaders that were treated with prior brachytherapy or the use of brachytherapy to treat in-stent restenosis of a Resolute OnyxTM stent • Women who are pregnant or lactating • Men intending to father children • Pediatric patients • Patients with coronary artery reference vessel diameters of <2.0 mm or >5.0 mm • Patients with evidence of an acute ST-elevation MI within 72 hours of intended sten! implantation + Patients with vessel thrombus at the lesion site . Patients with lesions located in a saphenous vein

graft, in the left main coronary artery, ostial lesions, or bifurcation lesions • Patients with diffuse disease or poor flow distal to identified lesions • Patients with occlud target lesions including chronic total occlusions • Patients with three-vessel dise

The safety and effectiveness of the Resolute Onyx™ stent have not been established in the cerebral, carofid, or peripheral vasculature.

Potential Adverse Events

Other risks associated with using this device are those associated with percutaneous coronary diagnostic (including angiography and IVUS) and treatment procedures. These risks (in alphabetical order) may include but are not limited to: • Abrupt vessel closure • Access site pain, hematoma, or hemorrhage • Allergic reaction (to contrast, antiplatelet therapy, stent material, or drug and polymer coating) • Aneurysm, pseudoaneurysm, or arteriovenous fistula (AVF) • Arrhythmias, including ventricular fibrillation • Balloon rupture • Bleeding • Cardiac tamponade • Coronary artery occlusion, perforation, rupture, or dissection • Coronary artery spasm • Death • Embolism (air, tissue, device, or thrombus) • Emergency surgery: peripheral vascular or coronary bypass • Failure to deliver the stent . Hemorrhage requiring transfusion . Hypotension/hypertension • Incomplete stent apposition • Infection or fever • MI • Pericarditis • Peripheral Ischemia/ peripheral nerve injury • Renal failure • Restenosis of the stented artery • Shock/pulmonary edema • Stable or unstable angina · Stent deformation, collapse, or fracture Stent migration or embolization • Stent misplacement
 Stroke/transient ischemic attack • Thrombosis (acute, subacute or late)

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Patients' exposure to zotarolimus is directly related to the total amount of stent length implanted. The actual side effects/complications that may be associated with the use of zotarolimus are not fully known. The adverse events that have been associated with the intravenous injection of zotarolimus in humans include but are not limited to: Anemia • Diarrhea • Dry skin • Headache • Hematuria
 Infection • Injection site reaction • Pain (abdominal, arthralgia, injection site) · Rash

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STARTING LINE

Continued from page 4

> Engagement from HealthTrust's Physician Advisors in reviewing clinical evidence and data and participating in contract strategy discussions, data discovery and thought leadership in clinical supply chain and value-based healthcare. Including physicians early in supply chain decision-making is a critical component of using clinical evidence to make clinically driven sourcing choices. The HealthTrust Physician Advisors program includes more than 160 physicians in 30 specialties from across our membership, with oversight by new HealthTrust CMO, John Young, M.D., MBA.

> Performance capability scorecards that support health systems in understanding their current practices and capabilities in supply chain management, clinical operations, or labor management and productivity, and compare them to the practices of other industry-leading health systems-ultimately accelerating members' efforts to improve operational performance and financial health

> A number of related services, including medical device management, care redesign, clinical data and benchmarking, physician engagement, consulting on bundled payment programs, patient engagement and the collection of patient-reported outcomes

Supply chain's participation in cross-functional collaboration is critical to driving improved results in care and costs. Contact your HealthTrust account director or **David Osborn**, SVP of inSight Advisory Solutions (david.osborn@healthtrustpg.com), to find out how HealthTrust might help you optimize your clinically-driven supply chain.

Read more from HealthTrust's new CMO John Young, M.D., MBA, on how his vision will continue to drive the clinical agenda for both HealthTrust and its member organizations. (See pages 6 and 52.)



Ed Jones President/CEO, HealthTrust

Resource: www.ahrmm.org/cqo-movement/files/ahrmmtriple-aim-report-2016.pdf

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CLINICAL CHECK-IN:

While genetic testing, which can pinpoint certain illnesses more precisely, is more accessible and affordable than ever, it's still a process deciding how to pair it with treatment.

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UNDER THE MICROSCOPE:

With USP Chapter 800 standards for the handling of hazardous drugs taking effect in 2019, healthcare facilities must be vigilant about understanding and complying with the requirements.



PAIN MANAGEMENT PERSPECTIVES:

Jeffrey Hodrick, M.D., shares his perspective on multimodal pain management and offers guidelines for systems seeking to provide alternatives for pain control.

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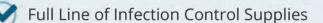
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SOURCEBOOK CLINICAL

CLINICAL CHECK-IN

Precision Medicine & the Trend Toward Genomic Testing

The availability of genetic information has enabled healthcare providers to better diagnose and treat disease.

In line with the national trend toward the increased use of genomic testing, PCL Alverno, a laboratory services company owned by Franciscan Alliance, is in the process of purchasing its first genome sequencer.

"Years ago, nobody could sequence a genome for under \$1 million," says **Sam Terese**, CEO and president of Hammond, Indiana-based PCL Alverno. "Now, we can do it for a few hundred dollars. The technology is much simpler than five years ago, and assay costs have decreased significantly."

Genomic testing can reveal genetic mutations that may offer clues about a patient's diagnosis or how they will respond to treatment. Databases connected to genetic test results can help direct patients and physicians to therapeutic clinical trials that may be a good fit for a certain patient's genetic makeup.

"At a very basic level, genetic testing for oncology increases the understanding of a person's cancer, enabling it to be more effectively managed and treated," Terese says. "Traditionally, we studied cancer at a histologic level with the dissection of a tumor and then at a cellular level. Now we will be able to do it at a level of an individual's DNA or the DNA of a tumor."

NEED FOR EXPERTISE

In addition to having access to the technology, hospitals and labs need pathologists who can read and interpret the results. "Sequencing is not just about identifying the genes; interpretation needs to be clinically relevant," Terese explains. "While technology has advanced, expertise is still not widely available."

The results of genomic tests look quite different from that of other often-used tests. For example, if a lab purchased a new general chemistry analyzer, "most healthcare professionals would have a clear understanding of the menu of testing," according to Terese. "That's not the case with genomic testing. You have to involve your oncologists, understand the patient population you're

"YEARS AGO, NOBODY COULD SEQUENCE A GENOME FOR UNDER \$1 MILLION. NOW, WE CAN DO IT FOR A FEW HUNDRED DOLLARS."

Sam Terese, CEO and president of Hammond, Indiana-based PCL Alverno serving, and determine if there's going to be enough testing volume to support the cost of the program, including the technology and the development of the expertise."

Because launching a genetic testing program is more complex than many traditional laboratory assays, facility personnel and clinicians need further education to make sure they're using the right tests at the right time. Terese estimates that implementation and training will take about nine months. Fortunately, manufacturers are providing additional support, he says.

PCL Alverno's genome sequencer will initially focus on a 50-gene panel that is relatively well understood and widely recognized to have a clinically relevant role in oncology. The software will match each patient to a protocol based on identification of their actionable genes.

"The sequencer and software will help better characterize a patient's cancer and recommend treatment or trials that may be a match," Terese says. "There is an element of cost savings to keeping the patient in our system; we can send out fewer tests to reference labs, which also cuts turnaround time for results."

Eventually, PCL Alverno expects to utilize in-house genetic testing beyond oncology. Plans include using pharmacogenetics to determine how patients metabolize drugs another step in a quest to help the Franciscan Alliance facilities it serves make more personalized treatment decisions.

BEST USE CONSIDERATIONS

At Wellspan Health, a six-hospital system based in Central Pennsylvania, genetic testing is outsourced for a number of purposes, including cancer diagnostics and treatment, neurology, endocrinology, maternal-fetal medicine and cardiovascular health, says **Stephen Manzella**, Ph.D., clinical director of WellSpan Laboratory Services.

Challenges—and a learning curve—exist with outsourcing as well. "The problem is *Continued on page 14*

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SOURCEBOOK CLINICAL CHECK-IN

Continued from page 12

not doing the testing; it's interpreting the data," Manzella says. "You have to determine whether a genetic mutation is clinically relevant or not, and you must have a really large database of human genomes to be able to do that."

As increasing numbers of patients' genomes are sequenced, others will benefit from the larger database of genetic information available for comparison. For that reason, precision medicine—or medicine that seeks to predict which treatment and prevention strategies for a particular disease will work in which groups of people—can become increasingly exact as more hospitals and labs take advantage of genetic testing.

However, though costs for genetic tests have lowered, they still remain more expensive than other more standard and less-involved tests and aren't necessary in many situations.

To combat the overuse of unnecessary genetic testing, WellSpan instituted utilization committees to help physicians make informed decisions about whether a specific patient's case warrants a genetic test. After genetic counselors began consulting with physicians, the number of tests ordered was greatly reduced, Manzella says.

"Genetic counselors know more about the testing and can help a provider make a decision about whether the test makes sense for a particular patient," Manzella says. "For instance, that patient may have a family history of a genetic disorder, or the disease may look like it possibly has a genetic cause."

WellSpan Health has three genetic counselors devoted to maternal-fetal medicine, two devoted to oncology, and Manzella expects to add more in the near future. In addition to advising physicians on when genetic testing is appropriate, genetic counselors can also provide the reporting and justification that insurance companies require to cover such tests.

While genetic testing is more accessible and affordable than ever before, it's still a process to determine how it can best be used with treatment, Manzella says. "As precision medicine matures, we will have even more evidence to show payers." •

The Precision Medicine Initiative, a longterm project from the National Institutes of Health and other research centers, aims to understand how a person's genetics, environment and lifestyle can help determine the best approach to prevent or treat disease. Learn more at: https://ghr.nlm.nih.gov/primer/ precisionmedicine/initiative.





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SOURCEBOOK UNDER THE MICROSCOPE

Pharmaceutical Compounding

How to Meet Guidelines for Sterile Prep & Safe Handling of Hazardous Drugs

he business of pharmaceutical compounding is becoming increasingly regulated. New standards from the United States Pharmacopeial Convention (USP)'s Chapter 800 ("Hazardous Drugs-Handling in Healthcare Settings) take effect in 2019.

First, the USP released Chapter 795, which provides guidelines for non-sterile compounding, followed by Chapter 797, which focused on sterile compounding. USP 800 goes further to regulate the handling of hazardous drugs in healthcare settings.

"Because the standards included in USP Chapter 800 are enforceable, healthcare facilities must be vigilant about understanding the requirements and implementing them," says Aigner George, director facilities must be vigilant about of pharmacy consulting at HealthTrust. understanding the requirements



EXPANDING REGULATIONS

USP 800 includes several sections of guidelines that directly affect the daily operations of a compounding pharmacy. For instance, under the new standards, pharmacies must control all the points at which there is a potential for exposure, including receiving the hazardous medications, transport of the medications through facilities, administration of medications and disposal of any hazardous waste from those medications, explains Bryan Mumaugh, PharmD, corporate manager, pharmacy quality and medication safety at Franciscan Alliance in Mishawaka, Indiana.

Appropriate personal protective equipment (PPE) must be used at any level of potential contact, George says. Team members will

need to glove up when receiving and reviewing supplies and wear protective masks when necessary.

"Because the standards

In addition to keeping track of the way hazardous drugs are being compounded, facilities "must now consider the design of physical space and its impact on our compounding activities," Mumaugh says. Facility design considerations must include the areas where pharmacists compound as well as the space where hazardous drugs are stored. For example, a section of USP 800 focuses on engineering controls, laying out specifications regarding the sterile compounding hood, the room where compounding takes place and other stipulations about work areas.

Not only must pharmacy personnel work to meet the criteria outlined in USP 800, but they must also develop a written plan for how they're meeting that criteria. "You should be able to refer to documents that show the hazardous drugs your facility

uses and how you maintain them," George says. "With USP 800, there's an important focus on communication, such as having a standardized hazard communication program within the included in USP Chapter 800 facility and/or across the IDN." are enforceable, healthcare

GETTING ON BOARD

Franciscan Alliance started the compliance process by cataloging its entire medication formulary, identifying and arranging by risk, Mumaugh explains. Some medications that have not been considered hazardous in the past are now classified as such. Now

these drugs are governed by USP 800 requirements and guidance for receiving, unpacking and storing; manipulating, compounding and administering; using PPE, including respiratory and eye/face protection; and engineering controls.

A corporate USP workgroup at Franciscan Alliance is leading the compliance charge for the health system. This group is composed of pharmacists and department leaders in nursing, risk management, infection control and construction program management. Mumaugh serves as corporate sponsor, and Chris Gregory, BSPharm, sterile compounding supervisor, serves as system champion. The group is working on new policies and procedures for an extensive USP 800 remodel of its more than 20 locations by 2019.

"We are working to ensure that all facilities are unified for compliance and success, completing programs for unified decontamination and cleaning," Mumaugh says. "As we continue to move forward in the process, we will be doing the same for other facets of our operations."

One important piece of the compliance program includes providing clear guidance to all healthcare team members regarding their handling or controlling of hazardous medications within the facility, Mumaugh says. Those team members include buyers, technicians, environmental services, building systems employees, pharmacists, nurses and physicians. The USP 800 team is providing guidance regarding processes for dealing with infrequent Continued on page 18

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SOURCEBOOK UNDER THE MICROSCOPE

Continued from page 16

events like hazardous spills, as well as the day-to-day handling and disposal of medications that include hazardous drugs.

"As boards of pharmacy and governing and certifying entities become more familiar with these guidelines, USP 800 will also expand the need to educate, internally and externally, to ensure that all personnel are aware of the guidance," Mumaugh adds.

HOW TO PREPARE FOR COMPLIANCE

USP 800 was originally scheduled to go live on July 1, 2018, but the deadline was pushed back to Dec. 1, 2019.

"Ideally, everyone was preparing for the earlier deadline, so they should be in good standing," George says. "A number of facilities have already assessed the regulations and understand the budget impact. However, some facilities are further along than others, as some hospitals weren't compliant with USP 797 and are having to do significant work to build to that compliance."

For those facilities that still have work to do to become compliant with USP 800, George's recommendations are simple enough in theory: Read the chapter over and over again, paying close attention to which standards are recommendations and which ones are requirements, signaled by words such as "shall" or "must." Also, take advantage of online educational courses offered by USP. (*Learn more about upcoming webinars and workshops at www.usp. org/events-training.*)

Don't forget to assess all the places where the USP 800 rules apply. "It's not just in the hospital pharmacy," George says. "Anybody dealing with hazardous drugs, such as urology clinics for instance, must comply with the new regulations."

The first step in the preparation and planning for USP 800 compliance is to get frontline staff on board, Mumaugh says. At Franciscan Alliance, a system champion helps ensure that expectations are realistic while workflow is being optimized.

"We want to ensure that the physical space is compliant. But, we also want to provide simple and concise policies and procedures to govern behavior within the newly remodeled sterile compounding facilities," Mumaugh explains. "We can provide compliant structure, primary engineering control rooms and environmental controls, yet to be successful, we have to have corresponding procedures to ensure personnel operates within the guidelines to avoid contamination and minimize exposure to hazardous medications." •



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*in the U.S. since 2013 ¹Amsterdam EA et al. J Am Coll Cardiol 2014; 64:2645-2687 (NSTE-ACS) ²Levine GN et al. J Am Coll Cardiol 2011; 58:e44-e122 (PCI)



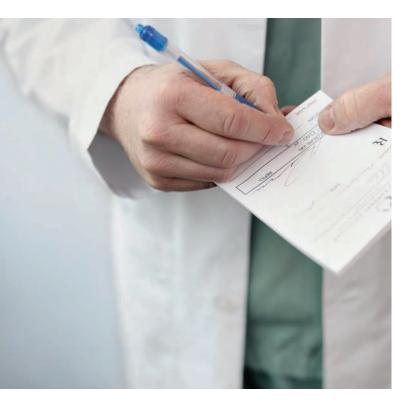
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SOURCEBOOK | PAIN MANAGEMENT PERSPECTIVES



New Plans for Pain

A Joint Replacement Surgeon's Perspective on Multimodal Pain Management



When Jeffrey Hodrick, M.D., an orthopedic surgeon at the Southern Joint Replacement Institute (SJRI) in Nashville, Tennessee, consults with a patient about knee or hip surgery and its aftermath, he discusses how multipronged approaches to pain management can be part of an Enhanced Recovery After Surgery (ERAS) process.

Jeffrey Hodrick, M.D.

Some of his patients are adamant about what they don't want after they receive a joint

replacement—opioids. Wary of becoming addicted and fearful of nausea and other side effects, these patients are eager to hear Hodrick, who also serves as a HealthTrust Physician Advisor, explain new ways to help them attack and control pain without relying on these narcotic painkillers. Though some patients are ready to avoid narcotics, others need more convincing to try new approaches, particularly older adults recovering from a significant joint replacement who might have more difficulty with the clinical mandate to get up and moving as quickly as possible.

Regardless of the patient population, education is the key to unlocking a successful ERAS and multimodal pain management strategy. Hodrick offers the following guidelines for health systems wanting to provide alternate options for pain control. **Educate and help set expectations.** SJRI starts the process by offering patients preoperative classes to explain the magnitude of their upcoming hip or knee surgery. Hodrick tries to manage his patients' expectations about the pain and inflammation involved and the length of the recovery.

"It is important to be honest," he says. "You provide better quality care when you help patients know what to anticipate."

2 Use non-narcotic medicines in the perioperative period. Hodrick's team applies anesthetic techniques, with an emphasis on neuraxial and regional blockades, to provide initial pain relief to patients while reducing their potential complications and side effects. During a knee replacement, for instance, the anesthesia team numbs the patient's leg while she is under a spinal anesthetic, allowing the patient to breathe on her own rather than through a tracheal tube. The nerve block provided by the regional anesthesia helps alleviate pain for the first 18 to 24 hours after the procedure.

Hodrick's team also administers periarticular block medicine, an anti-inflammatory drug that reduces swelling in the soft tissue around the joint. This allows patients to start moving soon after surgery, preferably within five hours. Taking those initial steps so quickly allows them to clear a big physical and psychological hurdle.

"If you can get the patient up and walking and bending their joint without significant discomfort, you are sending an important message. You are telling the patient, 'OK, we can do this,'" Hodrick says. Steroids are also given to reduce the inflammation and control nausea.

After surgery, some patients use a battery-operated TENS (Transcutaneous Electrical Nerve Stimulation) machine to modulate the pain response, or nerve conduction, to the brain. Hodrick also recommends combination therapy using over-the-counter pain relievers to help alleviate pain or discomfort.

"I am a big believer in Tylenol," he says. "It is a good, benign agent, and people can get the maximum benefit when they take it on a regular schedule," he says.

3 Cut down on opioid prescriptions—within reason. Hodrick underlines the point that eliminating or significantly reducing the use of opioid medications for pain management can enhance recovery time, without the negative side effects often experienced with opioids. However, he realizes that, despite the many available pain-relief techniques, some patients may still suffer pain, especially after a knee replacement. National headlines warning of the risks of opioids have led to more awareness of abuse, but they also chased away some patients who could benefit from them.

"There is a huge pendulum swing," he says. Though controlling opioids is necessary, "cutting opioids out completely is not appropriate for all patients having major surgery."

Encourage proper disposal of opioids to decrease diversion. When he does prescribe narcotic painkillers, Hodrick



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SOURCEBOOK PAIN MANAGEMENT PERSPECTIVES

Continued from page 20

does so at a minimal level and weans the patient off them as soon as possible. He says most of the joint replacement patients he has seen do not struggle with opioid addiction. However, he sees risk in those situations where patients don't safeguard their narcotics, enabling others in their home to easily access the drugs for sell or use. He underscores the importance of properly disposing of unused medications, urging patients to check with their pharmacists or public health sources about "take back days" for opioid prescriptions.

Stay current on the latest pain management treatments.

Passionate about continuing education, Hodrick is constantly studying experimental treatments to alleviate pain. Cryoablation, which uses extreme cold to kill tissue, holds promise. "By ablating the sensory nerves around the knee, we can hopefully reduce the need for strong pain medicines following surgery," he says.

Work as a team. SJRI employs a multidisciplinary approach to both pain management and opioid stewardship. Surgeons, anesthesiologists, nurses, pharmacists and others work together to manage how much and when opioids are dispensed. The group is

also committed to getting patients in the best possible health before surgery to help with recovery, offering nutrition and tobacco cessation classes to help reduce complications. After surgery, patients are prescribed physical therapy to increase mobility and decrease pain.

While he follows certain protocols, Hodrick treats a patient's pain on a case-by-case basis. "Pain is so complicated, and tolerance of it is such an individual matter. Pain is not simply a physical sensation, an electrical signal going to and from the brain-people also experience emotional and psychological aspects," he says. "Some people do better with pain than others, likely due to genetics and their chemical makeup. You can't quantify pain as easily as you can other symptoms."

Above all, he listens to his patients and stays open to new pain treatment methods.

"More patients are now saying, 'I want to go through surgery with minimal narcotics," he says. "And, when you tell them you have a plan, they are very open to it."

Hodrick is moderating a panel, "A Multimodal Approach to Confronting the Opioid Crisis," on July 24 during the 2018 HealthTrust University Conference in Nashville, Tennessee.

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Healthtrust helps facilities realize benefits in prioritizing hospital waste reduction

Reducing & Safely Disposing of Hospital Waste

acility managers can become easily overwhelmed when tasked with safely reducing facility waste. For starters, implementing sustainability initiatives can look incredibly different given the healthcare facility, the population it serves and the waste stream management protocol that may or may not already be in place.

Plus, shifting regulatory restrictions can add another layer of difficulty to hospitals negotiating short- or long-term contracts with waste management companies or other suppliers. However, the national need to prioritize hospital waste reduction is great.

In fact, healthcare facilities account for 5.9 million tons of waste annually, according to Practice Greenhealth. The organization also reports that average-sized hospitals produce nearly 12,000 tons of waste every day—that's more than 28 pounds of waste per hospital bed.

Raquel Toombs, director of strategic sourcing for purchased services at HealthTrust, says that healthcare facilities have a social responsibility to focus on sustainability efforts. That can be aided by effective staff communication, both about new programs or initiatives as well as training to ensure that the right waste type ends up in the right bin.

"Waste will always be there, so the question is how can we better optimize segregation and recycling?" Toombs says. "We must improve staff training by encouraging better awareness of hospital policies, sustainability efforts and the safe disposal of waste."

STRATEGIES FOR MOVING FORWARD

For hospitals eager to integrate new waste management protocols, a practical approach is essential. When it comes to choosing partners, HealthTrust offers several contracted suppliers that help members manage their sustainability efforts through the selection of customized, scalable solutions. Some options prioritize convenience and full-service management, while others prioritize cost savings and greater choice.

New contracts in the **Controlled Substances category** went live in January 2018. This category was initiated by HealthTrust's Pharmacy Advisory Board after new regulations were released regarding controlled substance waste, in part because of the ongoing opioid crisis.

"In the past, any unused controlled substances could literally be flushed down the toilet, and that was OK," Toombs says. "Now facilities are required to have a system in place that renders those drugs non-retrievable. It prevents diversion (through use or sale) of this kind of waste."

HealthTrust contracted suppliers in the Controlled Substances category are GFMD's RxDestroyer (**Contract No. 31335**) and Stryker's Cactus Sink (**Contract No. 31338**). HealthTrust is in the process of adding a third supplier—Stericycle's CsRx Controlled Substance Disposal Program.

Renewed contracts in the **Waste Stream Management category** went live April 1. Toombs says this offering is a convenient option for members because it manages all their waste streams under one umbrella.

"From document destruction, food and solid waste, to red bag waste and sharps—all waste streams are included in one, centralized management program," Toombs explains. "This option means facilities won't

Giving the Green Light to Better Waste Management

The American Hospital Association's (AHA) Sustainability Roadmap for Hospitals has developed a list of performance improvement measures to help make a facility more sustainable in the categories of energy, water, waste, supply chain and chemical use. The measures include what AHA calls "green light strategies"—programs that are easy to start and produce a positive ROI, particularly when implemented system-wide. Here are some of their green light suggestions for waste management:

- >> Establish a baseline for waste generation and track performance. Organizing a waste minimization committee can also enhance performance accountability.
- >> Coordinate waste contracts (talk to your HealthTrust account manager) to maximize your waste program performance.
- >> Switch to reusable sharps containers and convert to rigid reusable sterilization devices.
- >> Enhance your facility's recycling program. You might start by implementing recycling for fluorescent lighting or facilitywide battery usage.

- >> Maintain mercury-free policies throughout your organization.
- >> Investigate a program to reprocess approved single-use devices.
- >> Reduce paper usage and investigate more sustainable printing practices.

Source: www.sustainabilityroadmap.org/ implementation. The site includes resources and tools such as design templates and case studies.

Your HealthTrust account manager can help you find the contracted supplier resources you need for many of these projects.

ENVIRONMENTAL STEWARDSHIP

SOURCEBOOK

have to worry about segmenting all of their waste streams and sending them out to different suppliers on a piecemeal basis."

These suppliers also offer consulting services around diversion and recycling opportunities. "Food waste can be segregated from regular trash, and then dumped at a compost site rather than in a landfill. This strategy lowers waste costs as well as reduces the amount of pollution released into the atmosphere," Toombs explains.

Although there is a greater cost on the front end, she says that the consulting services can help organizations save money in the long term.

"The suppliers work with hospitals to develop goals to ensure they're segregating the waste the best they can," Toombs says. "They help train staff, too, making sure everyone is doing what they need to do with the waste."

By the third quarter of 2018, HealthTrust will be renewing contracts in the **Medical** Waste Streams category, giving members an alternative, individual waste streams disposal solution as opposed to the centralized total waste management option.

"With individual waste stream agreements, members have a lot of choice," Toombs says. "The individual option breaks out the different programs such as solid waste and regulated medical waste."

Stericycle (Contract No. 2621), MedSafe (Contract No. 5909), Daniels (Contract No. 2490) and Clean Harbors (Contract No. 4841) offer disposal services for individual medical waste streams, including sharps, red bag, pharmaceutical and hazardous waste.

Juggling the complexities of waste reduction is no small task, but there are ample benefits-including environmental stewardship and cost savings—of journeying down a more sustainable path specifically tailored to your healthcare organization.

Contact your HealthTrust account manager or Director of Strategic Sourcing for Purchased Services Raquel Toombs (raquel.toombs@healthtrustpg.com) for information on waste management contracts.



Reuse Aids Waste Reduction Improving the quality of life for people while helping the planet

uch of the waste in healthcare is relegated to the appropriate bin. But, when it comes to getting rid of excess supplies or equipment, what to do with these assets after they no longer serve your hospital's needs can be more of a quandary. Consider donating the surplus to an organization such as MedShare.

According to its website (www.medshare.org), MedShare's recovery efforts save millions of pounds of surplus medical supplies and equipment from landfills and incinerators that, for various regulatory reasons, hospitals and medical companies must discard. MedShare accepts donations of unused, unexpired medical surplus supplies; used, fully functional biomedial devices; and new or gently used donations of durable medical equipment, including patient beds and mattresses.

One such donation opportunity currently exists for HealthTrust member facilities during the Hill-Rom bed group buy period, May 1–July 31, 2018. In collaboration with HealthTrust and MedShare, Hill-Rom is helping with a bed donation program benefitting underprivileged communities around the world. In connection with a new bed purchase during that timeframe, HealthTrust members can elect to donate their old hospital beds and gently used mattresses to MedShare.

"Hill-Rom is proud to partner with HealthTrust and its member facilities in this bed donation program. We anticipate upwards of 2,000 beds will be donated to MedShare, helping accelerate the impact it can have in the developing world," says Lorie Way, Hill-Rom national account executive serving HealthTrust. A team at Hill-Rom will partner with MedShare to coordinate and plan all of the logistics to make these donations happen. Old bed pick up will begin with deliveries in May and continue through mid-September. For their bed and gently used mattress donations, all participating hospitals will receive a tax receipt directly from MedShare.

Contact your Hill-Rom representative to participate (800.445.3730) in the bed donation program. For pricing and details on the bed group buy, see the HealthTrust Response email newsletter or visit the Hill-Rom contract package within the HealthTrust member portal.

Note: Bed purchase is not required to participate in the bed and mattress donation. Participation in bed donation program is voluntary and independent of group buy terms and conditions. Bed donation period coincides with group buy period. Every effort will be made to accommodate all requests. Limitations may arise during the scheduled donation period; alternate plans will be made to accommodate donations.

SOURCEBOOK |

SERVICE LAB

MAXIMIZING SAVINGS THROUGH **OptiFreight**

hipping costs need to be actively managed or they can get out of control and encompass more of your budget than you had anticipated. Using data analysis, OptiFreight Logistics helps HealthTrust members better manage inbound shipping from suppliers and outbound shipping from healthcare facilities to lower freight costs.

John Waller, national system director of supply chain distribution at Catholic Health Initiatives (CHI) in Englewood, Colorado, is pleased with the resources OptiFreight has provided to help him maximize savings.

"OptiFreight's onboarding, customer service and follow-up have been extremely helpful in introducing us to its freight management portal," he says. "I have nothing but good things to say about the program and how they have worked with us to gain significant savings."

HealthTrust's contract with OptiFreight Logistics (**No. 2101**), renewed through 2021, aggregates members' spend on shipping for everything from small parcels to large freight, and provides rates that members could never achieve individually. Through an agreement with Cardinal Health, OptiFreight Logistics gives members flexibility in choosing freight services in addition to the competitive pricing.

"Our freight management program has a decade's worth of data to help customers benchmark performance and the know-how to uncover more savings," says **Brad Wilson**, national vice president, sales and service, OptiFreight Logistics. "It is this unique combination that sets us apart."

Waller appreciates OptiFreight's datadriven and user-friendly system. "The online portal is very intuitive and easy to use, whether by an executive or someone in shipping and receiving," he says. "It gives you relevant information to make better business decisions. If you choose not to follow its insights or the cheaper routes it prompts you to take, it gives you the cost of your decisions. Sometimes there are reasons you would have to override its recommendations, but it's helpful to know there are options."

OptiFreight Logistics by the Numbers 30-50% Average savings per shipment 19+ million Shipments managed a year 32,000+ Shipping locations \$420+ million Stal savings per year

*Based on shipments through OptiFreight Logistics during Jan. 1–Dec. 31, 2016, compared to carrier list rates. Individual savings may vary.

OPTIMIZING PERFORMANCE

Customers like CHI that employ OptiFreight's three performance standards are on the fastest path to cutting shipping costs. Customers realize the biggest savings when they:

1. Share their freight history. Because OptiFreight manages more than 19 million shipments per year at more than 32,000 shipping locations nationwide, it has more data than any other third-party program, enabling it to find greater efficiencies and cost-savings opportunities. When a customer regularly shares a detailed report of supplier and outbound shipping charges with OptiFreight, the program can uncover hidden fees in freight charges, reveal when suppliers ship outside the program and identify other discrepancies. Sharing freight data increases compliance by an average of 8 percent—translating into thousands of dollars in savings.

2. Refine PO (purchase order) instructions. Making shipping instructions more easily visible can help drive supplier participation to ship through the program by more than 12 percent.

3. Fine-tune supplier contract language. OptiFreight ensures that suppliers are provided the most up-to-date instructions on how to use the program and maintain ongoing compliance to enhance customer savings.

LARGE FREIGHT COORDINATION

OptiFreight estimates that materials managers overpay by 40 to 50 percent on each shipment if a supplier doesn't use the program for bulk orders and large freight over 150 pounds, such as laboratory and IT equipment. The OptiFreight account management team helps members capture the savings in practical ways, such as providing questions to ask suppliers before placing POs. Account managers also connect customers' shipping docks with OptiFreight's large freight team to coordinate large outbound shipments—doing so in less than two minutes.

NO SAVINGS LEFT ON THE TABLE

Members who have never actively managed their freight costs and decide to use the program could see a 30 to 50 percent savings from their previous spend *Continued on page 29*

NUVIQ® Antihemophilic Factor (Recombinant)

A Natural Choice

Expressed in a human cell-line. B-domain deleted. No chemical modifications.

- 0.9 annualized bleeding rate (ABR) in adults; 1.9 ABR in children¹
- No occurrence of inhibitors in clinical trials with previously-treated patients (PTPs)¹
- Available in 250, 500, 1000, 2000, 2500, 3000 and 4000 IU dosage strength vials

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 routine prophylaxis to reduce the frequency of bleeding episodes. NUWIQ* is not indicated for the treatment of von Willebrand Disease.

Important Safety Information

The formation of neutralizing antibodies (inhibitors) to Factor VIII can occur following the administration of NUWIQ[®]. NUWIQ[®] is contraindicated in patients who have manifested life-threatening hypersensitivity reactions, including anaphylaxis, to the product or its components.

Please see adjacent page for Brief Summary of Prescribing Information.

www.nuwiqusa.com

HealthTrust Contract # 4861

Reference: 1. Lissitchkov T, Rusen L, Georgiev P, et al. PK-guided personalized prophylaxis with NUWIQ[®] (human-cl rhFVIII) in adults with severe haemophilia A. Haemophilia. 2017;23:697-704.

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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.

NUWIQ[®], Antihemophilic Factor (Recombinant) Lyophilized Powder for Solution for Intravenous Injection Initial U.S. Approval: 2015

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
- 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.

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

| 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 |

Manufactured by:

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usmedicalaffairs@octapharma.com

Distributed by:

Octapharma USA, Inc. Waterfront Corporate Center 121 River Street, Suite 1201 Hoboken, NJ 07030

Reimbursement:

usreimbursement@octapharma.com Tel: 800-554-4440 Fax: 800-554-6744

Drug Safety:

Medical Affairs:

Tel: 888-429-4535

For all inquiries relating to drug safety, or to report adverse events please contact our local Drug Safety Officer: Office: 201-604-1137 Cell: 201-772-4546 Fax: 201-604-1141 or FDA at 1-800-FDA-1088 or www.fda.gov/medwatch.

reactions (>0.5%) in clinical trials were paresthesia, headache, injection site inflammation, injection site pain, nonneutralizing 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.

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.

Revised July 2017



SERVICE LAB SOURCEBOOK

Continued from page 26

within the first year of using OptiFreight Logistics.

And, those savings multiply as members manage more of their spend and root out inefficiencies. "We're always looking to improve year-over-year expense through education and expansion of the program to cover any new, unmanaged shipments," Wilson explains. "If a HealthTrust member is managing less than 100 percent of their freight costs, we can drive additional savings by continually benchmarking spend against the previous baseline or other metrics."

Not content to leave any potential savings on the table, Waller's embrace of the program has meant a reduction in CHI's cost per package over time. Before the full utilization of the program, CHI was spending \$22 per package. Now it is around \$20, and the savings have added up. Last year, Waller estimates savings in the range of \$421,000.

COMPREHENSIVE TRAINING

When new OptiFreight customers are brought onboard, they're supported by an implementation team, including a project lead, project specialist, IT specialist and an account manager. "We start by obtaining a full understanding of the customer's systems and requirements to ensure the program is set up the right way, the first time," Wilson says.

The onboarding also includes helping the facility's point person introduce the program to other departments, such as the OR, lab or pharmacy, to discuss their specific operations. The OptiFreight onboarding team educates customers on tasks such as ordering from suppliers, sending large freight shipments and shipping directly to patient homes.

Department leads are also trained to use better shipping methods, such as not automatically sending packages overnight that could get there at the same time via ground. "If your destination is in a two-day time zone and the carrier is going to drive the package those 100 miles in the same time frame, choosing next-day air is unnecessary," Waller explains. "Choosing a limited service option can still fulfill the same goal—getting the package there at 10 a.m. the next day—but it will cost a lot less."

The program features both in-person and online training, including two-minute videos that customers can share with internal teams to provide a high-level overview on how best to order and ship.

Waller is eager to introduce more CHI hospitals to the program. "Our goal is to get closer to \$18 per package, which we can do by expanding our user base and educating our internal and external users that there's a better way than what they're used to." •

For more information, visit the contract package on the HealthTrust member portal.



Aboration of the second second

In January, the Centers for Medicare & Medicaid Services (CMS) released the latest data on the Medicare Shared Savings Program (MSSP), which is the largest of the CMS' alternative payment models that utilizes accountable care organizations (ACOs) as the mechanism for delivering coordinated, high-quality care to Medicare patients. MSSP grew by 17 percent in 2017, and the program now includes 561 ACOs and 10.5 million expected beneficiaries. Performance-based payouts have exceeded \$2 billion since the program started in 2012. But has the program been successful?

or are forced to repay losses depending on their performance. Track 3 participants take on the greatest amount of risk, though they're also eligible to share in the greatest portion of savings if successful. New for this year, ACOs can also join Track 1+, which delivers less downside risk than Tracks 2 and 3.

Because it's less risky, the vast majority of ACOs in the MSSP are in Track 1. But these latest numbers from CMS show that a shift in accountability is happening: In 2017, 91 percent of all MSSP participants were in Track 1; in 2018, that percentage, while still overwhelming, is down to 82 percent.

"Results for the early stages of federal efforts to encourage ACOs have been underwhelming," said **Alex Azar**, secretary of Health and Human Services, in a recent speech to the Federation of American Hospitals. "They were allowed to share in modest cost savings, but not asked to accept responsibility for cost overruns."

In other words, there were no consequences if costs exceeded target spending—at least not yet.

THE MOVE TOWARD DOWNSIDE RISK

MSSP participants could join one of several tracks. Track 1 doesn't require providers to assume downside risk. ACOs can belong to this track for two three-year periods, meaning they're only shielded from downside risk for six years. Tracks 2 and 3 have a two-sided financial risk arrangement—ACOs in these tracks share in savings

Meanwhile, the number of organizations taking on downside risk in 2018 increased 140 percent over last year. Four ACOs joined Track 3, while 55 joined Track 1+.

"As of yet, there hasn't been a seminal event or burning platform that tells providers they have to accept downside risk," says **Michael Wolford**, senior manager of DHG Healthcare. "Fast forward a few more years, though, and anyone who bills Medicare Part B, including all physicians and extenders are going to start having some of their compensation tied to downside risk."

HealthTrust member Franciscan Alliance joined MSSP Track 1 in 2015. As one of the original members of the Pioneer ACO pilot project, the 13-hospital chain based in Mishawaka, Indiana, saw significant improvements in post-acute care costs as well as reductions *Continued on page 32*

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ADVANCING TO VALUE

Continued from page 30

in readmissions. While Franciscan participated in downside risk as part of the Pioneer initiative, the system eventually opted out in favor of MSSP Track 1.

"Despite our success with the program, we weren't willing to accept that ongoing risk," says **Al Tomchaney**, M.D., MMM, FAAFP, senior vice president, chief medical officer, Franciscan Alliance. "There were issues with the mechanics of the program, and there still are." Tomchaney says there are challenges around patient attribution—CMS assigns patients to ACOs based on where they receive the majority of their primary care—and access to relevant data.

"Medicare is like driving by looking in your rear-view mirror," he



says. "You're always looking at old data. Getting real-time information is challenging, and that's what you need to be successful."

Keeping patients in the ACO network of providers is also an ongoing challenge. While primary care physicians will likely refer patients to specialists within their ACO, it's a voluntary network and patients are free to go anywhere to receive care.



AL TOMCHANEY, M.D., MMM, FAAFP

"Given our proximity to Chicago, a lot of

patients may choose to migrate out of our network," he says. "They may get their primary care here, but when it comes to the next level

of care, patients strongly consider going to those academic medical centers outside of our ACO."

Franciscan Alliance also participates in ACO activity with two commercial payers. "The commercial experience has been a better one," he says. "We've had great success educating those patients on the model. Even though ACO patients still have

"A DATA STRATEGY THAT ADDRESSES INTEROPERABILITY AS WELL AS THE ABILITY TO MARRY CLAIMS DATA WITH CLINICAL DATA IS PARAMOUNT."

Al Tomchaney, M.D., MMM, FAAFP, senior VP, CMO, Franciscan Alliance

the ability to go anywhere, we've been better able to reduce cost and reduce their utilization while improving quality measures."

While downside risk isn't currently a large part of the Franciscan Alliance ACO experience, Tomchaney says they're open to adding more downside risk in the future as new models emerge from CMS and other payers.

A BETTER BUNDLE

Earlier this year, CMS announced the Bundled Payment Care Initiative (BPCI) Advanced model. A replacement for the BPCI program, which is set to expire this fall, BPCI Advanced allows organizations—hospitals or physician group practices—to take responsibility for coordinating up to 32 episodes of care (including three outpatient episodes of care). Applications were due in March, and the program is slated to start Oct. 1, 2018.

In many respects, BPCI Advanced looks a lot like previous CMS bundled payment models. It covers 90 days post-discharge (or post-outpatient *Continued on page 34*



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ADVANCING TO VALUE

Continued from page 32

procedure) and is reconciled retrospectively.

Target prices will be provided in advance, and they will be riskadjusted based on factors like patient case mix, regional benchmarks and historical data.

But unlike previous CMS bundled payment models, including the now-scaled back Comprehensive Care for Joint Replacement (CJR) initiative, participating providers will be on the hook for downside risk from day one. Reconciliation payments, both positive and negative, will be limited in years one and two to 10 percent of the target price, before rising to 20 percent in years three through five.

The program qualifies as an Advanced Alternative Payment Model (APM) under the Medicare Access & CHIP Reauthorization Act (MACRA) Quality Payment Program. It shifts Medicare Part B spending to one of two performance-based payment tracks: the Merit-Based Incentive Payment System (MIPS) or the Advanced APM.

For MIPS, performance is measured through data that clinicians report in four areas—quality, improvement activities, advancing care information and cost. A final score in these four areas determines the provider's adjusted payment.

Providers participating in qualified alternative payment models can select the Advanced APM track, allowing them to bypass MIPS and earn even higher value-based incentive payments. In order to qualify for the Advanced APM track, however, there's a minimum threshold for revenue at risk—25 percent of payments and 20 percent of patients must be tied to a qualified Advanced APM in 2019. Over time, those qualifying thresholds will increase substantially—to

50 percent of payments and 35 percent of patients in 2021, and 75 percent of payments and 50 percent of patients in 2023.

If providers can't meet those thresholds, there are lower ones for partial qualification (20 percent of payments and 10 percent of patients in an APM in 2019, for example). In the current performance year, there are nine qualified APMs. (*Read more at https://qpp.cms.gov/apms/overview.*) Test models from the CMS Innovation Center

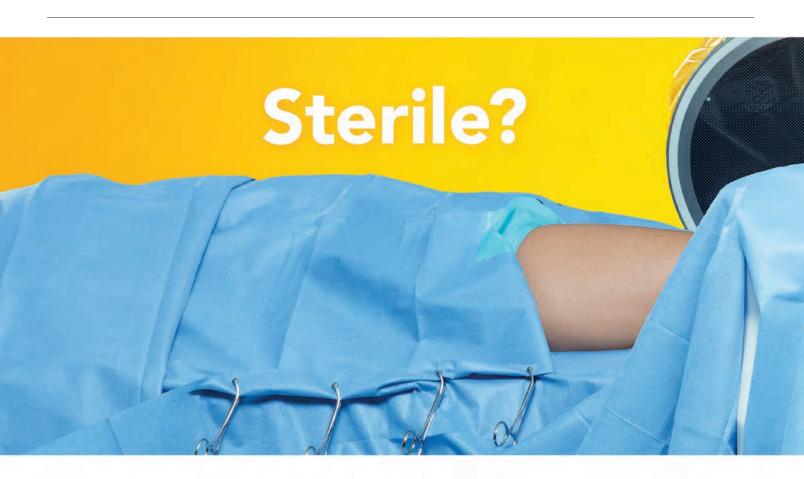


JOHN YOUNG, M.D., MBA

are just that—tests. Take CJR, for example: It was scaled back from a mandatory bundle in 67 markets to a voluntary bundle in half of those. Also in 2017, CMS canceled mandatory hip fracture and cardiac bundled payment models before they even launched.

Broad, bipartisan support of MACRA is really the only signal healthcare organizations need in order to have confidence that a growing portion of their reimbursements will be tied to value, says **John Young**, M.D., MBA, HealthTrust chief medical officer.

"The quality-based payment structure is not going away," he adds. "The specifics of what that looks like may change and continue to evolve, but it's definitely here to stay."





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THE EVOLUTION OF CINS

In addition to ACOs, physicians can also create and join a clinically integrated network (CIN). Similar to ACOs in their value-based care objectives, CINs are groups of physicians, usually sponsored by hospitals, while ACOs are generally made up of physicians, hospitals and other healthcare providers. CINs often serve as the physician network of an ACO. CINs coordinate care across specialties, while ACOs coordinate care for specific populations across an entire episode of care.

Wolford says it's hard to know how many CINs exist in the United States—there's no publicly available data—but the actual number might not be all that relevant.

"About a decade ago, CINs were all the rage, and everyone seemingly had to have one," he says. "Hospitals pushed really hard to stand these networks up but didn't push with the same vigor to get any contracts in them. There were CINs in form and structure, but there wasn't enough for participants in these networks to do, which was suboptimal."

But that doesn't mean they're still useless. If the past five years saw a rush to create CINs, the next five years will witness their evolution. "Providers believe there is now value in being in one and even more value in being a part of a good one," Wolford says. "Over the next five years, the rush will be to consolidate CINs, make them perform and demonstrate their value."

PREPARING FOR AN UNCLEAR FUTURE

The specifics of value-based care payment programs may still be in flux, but there are many steps providers can take today to prepare for future models. Those steps include convening physician leaders, establishing dedicated administrative positions and understanding technology requirements and limitations, including how well the organization can currently track key quality metrics.

A data strategy that addresses interoperability as well as the ability to marry claims data with clinical data is also paramount, Tomchaney says. That's a work in progress at Franciscan Alliance, which will install an accountable care and population management system module in its electronic health record system this fall.

"Claims data doesn't paint the complete picture because not all clinical data shows up on a claim," he says. "This will help us match the two and give us a better understanding of what's happening across the care continuum."

The first deadline for BPCI Advanced was March 2018, and the next application period is expected in January 2020. However, Young expects other options from CMS to open up and other payers to test out alternative payment models—even ones involving downside risk.

"Dipping your toe into a voluntary model in a small way isn't going to make or break your organization," Young says. "But it most certainly will help prepare you for the inevitability that is value-based care and two-sided risk." **S**



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BARAARAGE HEADERAL MORKING TO SOLVE THE PROBLEM OF OBESITY

In 1990, fewer than 15 percent of the population in most U.S. states was obese. By 2010, obesity rates increased 25 percent or more in 36 states, according to the Harvard University School of Public Health. Today, 36 percent of U.S. adults—one out of three—is obese.

"The obesity epidemic is a worldwide issue," says **Jonathan Mandelbaum**, M.D., a member of the Franciscan Physician Network specializing in bariatric surgery in Indianapolis. "The literature is saturated with studies showing the increased prevalence in obesity across the globe. Comorbid conditions related to obesity, such as diabetes, cardiovascular disease and cancer, are driving up healthcare costs and taking lives." The healthcare community is grappling with the negative health outcomes of lifestyles that result in obesity, stressing the importance of implementing population health strategies to help control this serious epidemic.

WREAKING HAVOC ON EVERY SYSTEM

Although obesity is known to contribute to health problems such as diabetes and cardiovascular disease, it's actually a factor in almost every type of specialized medical care.

"Unlike other diseases, obesity can affect every organ system in the body," says **Carrie Lin**, RN, BSN, CBN, bariatric surgery program manager at St. David's Medical Center in Austin, Texas. "A healthcare approach that does not address the underlying problem of weight will not be effective in controlling the associated comorbid conditions such as blood pressure, GERD [gastroesophageal reflux disease] and joint pain."

For instance, weight can cause or worsen chronic pain issues, and the problems of chronic pain contribute to the issues of opioid treatment and addiction addressed by pain management specialists, Lin says. In addition, orthopedic surgeons see patients struggle with issues in their joint replacements due to the stress and strain from excess weight. In obstetrics, obesity can be a root cause of fertility struggles. Obesity is also linked closely to several types of cancer.

Extra weight can also limit potential treatments for disease: "Transplant surgeons struggle with patients who need the gift of a lifesaving organ but are over the body mass index (BMI) requirement to qualify for the list," Lin adds.

Not only can obesity lead patients to require more frequent visits to specialists such as cardiologists, endocrinologists and orthopedic surgeons, but it can also increase a person's risk for having car accidents and falls, according to Mandelbaum.

"Studies confirm that obesity is associated with increased use of medical services, increased prescription medication use, longer hospital stays and, in general, higher medical costs," he says. "Specialized equipment is necessary for obese patients, including chairs, operating room tables, and MRI and CT scan machines that accommodate higher weights. Patient movers, stretchers and wheelchairs that accommodate higher weights are needed as well. There are also increased healthcare provider injuries associated with caring for morbidly obese patients."

FINDING SOLUTIONS

Bariatric professionals attempt to prevent comorbidities and try to help patients reduce their weight in a healthy way in addition to treating the comorbid conditions caused by obesity.

Surgical procedures are still the mainstay and most successful option for patients suffering from morbid obesity, according to Mandelbaum. "But the surgical procedures are only successful if the patients are compliant with restricting portion sizes, making good food choices and adding exercise to their regular routine," he says.

In the United States, the two most common bariatric surgical procedures are the sleeve gastrectomy and the Roux-en-Y gastric bypass. Over the past few years, the sleeve gastrectomy has become more popular than the gastric bypass because of its lower incidence of short- and long-term complications, Mandelbaum says.

Further, there are alternative surgeries. "For some patients with a very high BMI, providers recommend the biliopancreatic diversion with duodenal switch because it can offer greater excess weight loss," Lin explains. The adjustable gastric band, commonly known as lap band surgery, has declined in popularity in the past several years because of high reoperation rates. Some bariatric programs are also expanding into newer procedures such as gastric balloons, endoscopic sleeve gastrectomy and implantation pacemaker devices that affect the vagus nerve, the longest cranial nerve that goes from the neck and thorax to the abdomen.

Though bariatric surgery is shown to be the most effective and lasting treatment for the morbidly obese population, many patients may not be ready for or interested in a surgical option. For those patients, there are some other options.

In addition to surgery, several FDA-approved medications show some success in short-term weight loss. But, according to Mandelbaum, these medications don't generally achieve enough weight loss to get morbidly obese patients back to a healthy weight. Other medical weight loss options include physician-supervised diets and mental health treatment for food addiction and eating disorders.

Continued on page 38

BARIATRIC SENSITIVITY TRAINING

Even when the focus is on improving health, discussing a patient's weight can be upsetting to them. Patients who are



overweight or obese could feel ashamed or defensive about their weight and may take a healthcare provider's comments about it as a personal attack. If patients feel defensive or angry, they may avoid getting the help they need.

Before broaching the subject of a patient's weight, healthcare providers should first focus on "sensitivity and maintain-

ing a person's dignity," says Jonathan

JONATHAN MANDELBAUM, M.D.

Mandelbaum, M.D., a specialist in bariatric surgery at Franciscan Physician Network in Indianapolis. Here are five ways practitioners can do that effectively:

1. Choose words carefully. When discussing weight, some terms are interpreted as more judgmental or shameful than others. Healthcare providers should steer clear of terms such as fat, obese, diet and exercise, according to the Stop Obesity Alliance. Instead, focus on using terms like overweight, increased BMI, unhealthy weight, healthier weight, eating habits and physical activity.

2. Use people-first language. Rather than calling patients "diabetic" or "learning disabled," the healthcare community has learned to say the patient "has diabetes" or "has a learning disability." In the same way, practitioners should avoid calling a person "obese" and instead say he or she "has obesity" or "has an unhealthy weight."

3. Ask for permission to discuss weight. Simply starting a conversation with a question, such as, "Can we discuss your weight?" can show sensitivity and concern rather than judgment, allowing patients to relax and listen.

4. Offer information about how weight affects health. Some people may not realize the effects that excess weight can have on their overall health. Providers can help by explaining how symptoms such as fatigue, aching knees and serious health complications can be linked to extra weight.

5. Don't avoid the subject. Even though discussing weight

may be difficult, many patients expect weight loss guidance from their healthcare providers—and providing it is vital to improving health outcomes.

"It is important to understand that while issues of weight should be approached with the appropriate sensitivity, they should not be ignored," says **Carrie Lin**, RN, BSN, CBN, bariatric surgery program manager, St. David's Medical Center in



CARRIE LIN RN, BSN, CBN

Austin, Texas. "If a patient asks questions about obesity or weight loss options, be aware of how you would answer them and provide the support they need.

"Raising awareness and educating patients and family members about this complex issue in a manner that is well-received so that patients seek out resources still remains an opportunity for most communities." •

BARIATRIC MEDICINE

Continued from page 37

Behavioral modification is also important in treating obesity. At Mandelbaum's clinic, patients are offered education and dietary counseling to help them make nutritious food choices, as well as support groups, healthy cooking classes and free exercise classes.

As for St. David's Bariatric Center in Austin, more than 5,000 patients have completed the program since 2002. The center provides concierge care for patients that includes one-on-one, preoperative visits with the on-site registered dietitian. This guarantees direct contact with patients before they enter the facility.

"We use this opportunity to see to it that all of the preoperative testing and requirements are met and patients are prepared and ready for their procedure," Lin explains. "This also allows our patients to ask questions and understand what to expect during their stay in the hospital."

When patients undergo weight loss surgery, a St. David's registered nurse conducts rounds to check on them while they're in the hospital to ensure the patients are progressing as expected through their recovery. The RNs round with the bariatric surgeons, making sure their orders are carried out as expected, and they also give patients specialized one-on-one discharge instructions. Lin adds, "A close relationship with our center surgeon partners is important in providing the support they need to give their patients the best care and secure excellent outcomes."

After patients are discharged, the center remains involved, helping them meet goals for healthy food choices, physical activity and a healthier lifestyle as they lose weight. "By undertaking extensive patient outcomes tracking," Lin says, "St. David's staff is able to pinpoint areas for quality improvement." **S**

COMMUNITY EFFORTS TO PREVENT OBESITY

While healthcare practitioners work

to repair the damage caused by extra weight, the broader community can take actions to help prevent the problem from continuing to grow. From legislative action to grassroots changes, population health strategies can make a difference, says **Jonathan Mandelbaum**, M.D., a surgeon with the Franciscan Physician Network. He recommends local actions such as:

>> Eliminating sugary beverages from hospital cafeterias and vending areas

- >> Hosting farmers markets featuring fresh fruits and vegetables
- >> Offering community seminars on selecting and preparing nutritious foods
- >> Partnering with fitness coaches or community facilities to offer group exercises classes free or at a discount



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HOW RURAL HOSPITALS—A VITAL AVENUE FOR THE HEALTH OF SMALL-TOWN COMMUNITIES—ARE OVERCOMING CHALLENGES AND KEEPING CARE CLOSE TO HOME

ince 2010, 83 hospitals in rural or small

communities across the United States have closed, eight of which shut their doors in 2017, according to research from the University of North Carolina's Cecil G. Sheps Center

for Health Services Research. As the healthcare industry continues to change, it's predicted that at least 700 more hospitals in rural communities are at risk of closing within the next 10 years. The American Hospital Association estimates that nearly 57 million Americans rely on the hospitals in their rural or non-urban towns for medical care. Now, many small communities are forced to make difficult decisions about the types of health services offered.

57 MILLION

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A BOOST FOR THE COMMUNITY

Hospitals are cornerstone institutions for most small towns. Second only to education-related jobs, hospitals and healthcare facilities are many times the largest employers, and healthcare jobs are among some of the highest-paying and most stable positions. So, when a hospital closes, the livelihood of the town is impacted.

According to a 2017 article in *JAMA*, a rural hospital closing can "devastate an already stressed community through loss of healthcare workers, emergency services and primary care capacity, as well as higher unemployment and lower per-capita income, a drop in housing values, poorer health and increasing health disparities."

OBSTACLES TO CARE

Despite their influential role in the communities they serve, hospitals in rural

America face a unique set of challenges. Although uninsured rates in rural America decreased nearly 40 percent after 2010's Affordable Care Act (ACA) went into effect, rural Americans are still more likely to live in states that have not expanded Medicaid, according to the Centers for Disease Control and Prevention (CDC). That's unfortunate, as research shows that rural hospitals primarily rely on Medicare and Medicaid as primary payers. Researchers from the University of Colorado found that the financial performance of rural facilities improved more than the performance of suburban or urban facilities in Medicaidexpansion states, according to a January 2018 study published in Health Affairs.

However, the ACA's Medicaid expansion isn't the only obstacle that rural hospitals face. While the industry's shift to value-based care has been overwhelmingly positive, it



does present other challenges, says **Rusty Holman**, M.D., CMO of Brentwood, Tennesseebased LifePoint Health.

For example, the Centers for Medicare & Medicaid (CMS) can

penalize hospitals for factors such as hospital readmissions. But, as Holman explains, the socioeconomic factors of rural communities are not considered when looking at the increase of hospital readmissions. Studies show that individuals living in non-urban areas are more likely to be older, poorer, sicker and uninsured. They also have higher injury, smoking, suicide and opioid abuse rates, according to research from the Center for Children & Families at the Georgetown University Health Policy Institute.

CLOSING THE GAP

A report from the University of North Carolina's Cecil G. Sheps Center for Health Services Research recognizes that each community has a different set of needs and assets. Initiatives that would make the biggest difference in a community should be the place to start. Researchers went on to recommend six tips for closing the gap between rural and urban healthcare.

- 1 Screen patients for high blood pressure.
- 2 | Increase cancer prevention and early detection.
- 3 | Encourage physical activity and healthy eating.
- 4 | Promote smoking cessation.
- 5 | Promote motor vehicle safety.
- 6 | Engage in safer prescribing of opioids for pain.

"We believe that social determinants of health play a significant role in patient safety, quality outcomes and transitions of care like readmissions," Holman says.

And, of course, recruiting and retaining quality employees can be a challenge for hospital leadership in any environment. But it is often difficult to find primary care physicians or specialists who are willing to move their family to a small community or make the drive to a remote area every day. Holman says this results in a significant shortage of primary care physicians in rural communities. Nearly 20 percent of the country resides in rural areas, yet the National Rural Health Association estimates that there are only 13 primary care physicians per 10,000 people, compared to 31 physicians per the same amount of people in urban areas.

A 2014 article in *The Atlantic* suggests that not many people from rural communities apply for medical school. And the few that do often don't wish to return to their hometowns after graduation. Plus, the article says, medical students become accustomed to their lifestyles while completing residencies in larger cities. "Most residents practice where they train, but many of the nation's prestigious medical schools are in big cities—and they are less likely to enroll rural students," the article continues. "After eight grueling years of school and with hundreds of thousands of dollars in student loan debt, many doctors are reluctant to give up a city's creature comforts for a more challenging existence."

IMPROVING HEALTH IN RURAL AMERICA

At LifePoint Health, the mission is "making communities healthier," Holman explains. For the 71 hospitals across the country that make up LifePoint's health system, that doesn't just mean offering free blood pressure screenings in the grocery store parking lot, but rather ensuring the health of the population and the strength of the economy and community as a whole.

"At each of our hospitals, leadership actively communicates with the local and regional chambers of commerce," Holman says. "We also partner with public *Continued on page 44*



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3 SOLUTIONS TO HELP RURAL HOSPITALS THRIVE

Many health systems are increasing their patients' access to care by opening smaller rural health clinics, reaching out to staffing services such as HealthTrust Workforce Solutions, and introducing new delivery methods, such as 24-hour physician or nurse calls via the internet and online prescription delivery services. Here are other avenues for expanding rural healthcare.



1. Turn to telemedicine. Telemedicine can help connect rural and remote residents to specialists at larger hospitals. For example, LifePoint Health provides advanced stroke care in dozens of markets through the use of telehealth technology. Specialists located hundreds or even thousands of miles

away provide expert guidance using real-time, synchronous audio and video to support the physicians caring for patients at the bedside in emergency departments. Offering telemedicine services to residents in rural communities allows them to get the care they need, saving them from having to drive hundreds of miles to meet with a specialist. Remote consultations and virtual appointments not only save time for both the patient and attending physician, but they can also cut costs for rural healthcare facilities that may not be able to afford full-time specialists. More important, telemedicine enables residents in rural communities to access specialized or potentially life-saving care more quickly and efficiently.



2. Adopt digital and mobile health solutions. It's estimated that by 2021, nearly 551 million consumers will be using mobile health (mHealth) apps. This growth in mHealth technology gives hospitals and healthcare providers a greater opportunity to more easily connect with patients.

Although the future of mHealth technology is always evolving, hospitals in rural communities can benefit from early adoption. Various mHealth apps offer differing capabilities to integrate electronic health record systems, connect patients to others with similar health issues, allow physicians to provide specific educational materials, and aggregate data to communicate patient progress to both patients and providers.

Certain mHealth apps can also help with remote patient monitoring. For example, smartphone app, Kardia, is a clinically validated mobile EKG solution. It works with the supplier's FDA-approved mobile or band ECG devices to capture a medical-grade EKG anytime. Patients can opt to send the recording to their physician or to one of the supplier's partners for a paid clinician review by a board-certified cardiologist. This type of remote monitoring helps patients in rural communities keep track of their health and communicate with their physicians without traveling a long distance to do so.

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3. Think smarter staffing. Attracting physicians and nurses to smaller communities is challenging, particularly when the pay and lifestyle of healthcare in larger cities is often more enticing, explains **Brandi Vines**, vice president, HCA interim leadership/locum tenens for HealthTrust Workforce

Solutions. Plus, labor is one of the largest expenses in a hospital, often accounting for about 60 percent of operational costs. That's where HealthTrust Workforce Solutions can help, Vines says. The program helps hospitals meet staffing needs while also adhering to tight budgets. For some rural facilities, hiring locum tenens is the best option.

"Hiring locum tenens helps hospitals with physician shortages and also helps alleviate physician burnout," Vines says. "For example, the hospital may only have one orthopedic surgeon, which means that surgeon is on call 24/7. A locum tenens physician can come in for a week, a month or longer to give that physician a reprieve."

Contracted with staffing agencies nationwide, HealthTrust Workforce Solutions also helps find and hire travel nurses to fill gaps in staffing.

"We help hospitals look at their staffing requirements from a holistic, birds-eye view to determine what they really need in order to meet their organizational goals," Vines adds. "We're consultants, not order-takers, so our focus is the success of the hospital."

Continued from page 42

health departments to look at the broader population's well-being and focus on community imperatives related to immunizations, preventions and screenings."

For instance, at Clark Regional Medical Center in Winchester, Kentucky; Meadowview Regional Medical Center in Maysville, Kentucky; and Bourbon Community Hospital in Paris, Kentucky, hospital leaders work closely with the three corresponding departments of public health within its service area to focus on three strategic goals: ensuring that women of the appropriate age receive mammograms, promoting physical activity and the reduction of obesity, and addressing the opioid epidemic.

"As you can imagine, all three of those goals have a span and scope beyond the healthcare system," Holman says. "Often, when we think about population health, we talk about formal structures such as accountable care organizations or clinically integrated networks. We certainly look within that realm, but we also think of population health as how we help serve as a leader and convener of diverse and disparate community resources to address complex health problems. As a leader in the community, our job is to identify the local resources available, organize ourselves around a common vision, and create a plan."

Healthcare providers in rural areas are also looking at innovative ways to improve the delivery of care. The use of telemedicine and mobile health (mHealth) technology is changing the future of the healthcare industry, and research shows that in rural settings, telemedicine helps drive volume and reduce costs. According to a report in the New England Journal of Medicine, telemedicine "allows rural primary care physicians (PCPs) to potentially expand their scope of practice by obtaining specialty consults in real time. Telemedicine also potentially enables urban-based specialists to expand their patient base by caring for patients in rural or underserved areas."

Because public transit is often nonexistent and ridesharing services are limited in rural areas, telemedicine and mobile units help deliver care to individuals who may not otherwise have access to it.

THE ADVANTAGES OF A HEALTH SYSTEM

Rural hospitals that are part of a parent company are afforded benefits. For instance,

as part of LifePoint Health, hospitals and healthcare facilities have access to subject matter experts across the country, and clinicians can benefit from peer-to-peer learning opportunities, Holman says. He recalls one story about Clinch Valley Medical Center in Richlands, Virginia: At an event to celebrate the hospital's recent quality achievements, one department leader shared with Holman that the hospital could never have achieved the results they did without the influence and input from other hospital leaders within the broader health system.

In addition, LifePoint has been a strong advocate for rural Medicaid extenders and working with CMS to refine their approaches to quality measurement. With healthcare legislation surrounding rural hospitals in flux, it's difficult to predict the future and plan ahead. However, when rural hospitals are part of a larger health system, they stand a better chance of success.

"We have a significant stake in supporting healthcare in rural communities," Holman says. "Our interest is in keeping high-quality care close to home." **S**

| NATIONAL HEALTH SNAPSHOT | RURAL | URBAN |
|--|----------|----------|
| Percentage of population | 19.3% | 80.7% |
| Number of physicians per 10,000 people | 13.1 | 31.2 |
| Number of specialists per 100,000 people | 30 | 263 |
| Population aged 65 and older | 18% | 12% |
| Average per capita income | \$45,482 | \$53,657 |
| Non-Hispanic white population | 69-82% | 45% |
| Adults who describe health status as fair/poor | 19.5% | 15.6% |
| Adolescents who smoke | 11% | 5% |
| Male life expectancy (in years) | 76.2 | 74.1 |
| Female life expectancy (in years) | 81.3 | 79.7 |
| Percentage of dual-eligible Medicare beneficiaries | 30% | 70% |
| Medicare beneficiaries without drug coverage | 43% | 27% |
| Percentage covered by Medicaid | 16% | 13% |



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TEAMWORK TOOLS

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> THE PRESSURES FACED BY MANY FRONT-LINE CLINICIANS CAN OFTEN LEAD TO BURNOUT– BUT COUNTLESS RESOURCES AND SOLUTIONS ARE AVAILABLE TO HELP THEM RETURN TO HEALTH.

48

MEMBER SUCCESS STORY: AirMed One, Hackensack University Medical Center's emergency medical transportation helicopter, is celebrating six years in New Jersey and Southern New York. The flight team—which has flown more than 1,500 missions—shares how they connect patients to worldclass care.



LEADERSHIP LINK: New HealthTrust CMO **John Young**, M.D., MBA, talks to *The Source* about his 20 years of clinical and healthcare management experience, reveals what led him to HealthTrust, and outlines his plans for the role, including ideas on further involving HealthTrust Physician Advisors in the contracting process. 57

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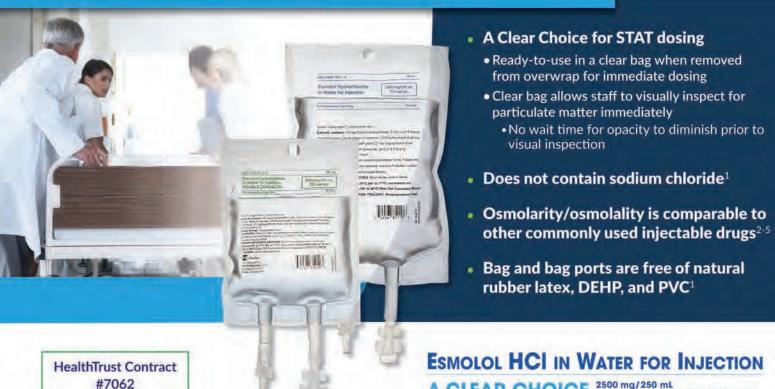
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MANAGEMENT MATTERS: Burnout has many repercussions for providers, but an increasing number of hospitals, associations and other organizations are doing their part to raise awareness, promote wellness and resilience among clinicians, and reduce sources of stress that contribute to burnout before it impacts patient care.

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TEAMWORK TOOLS

MEMBER SUCCESS STORY



PROPELLING **FASTER CARE**

Hackensack University Medical Center's Air Ambulance Service connects access-challenged patients with world-class care

n April 2016, Hackensack University Medical Center's emergency medical transportation helicopter, AirMed One, was fully accredited by the Commission on Accreditation of Medical Transport Systems (CAMTS). Considered the most prestigious certification a medical air transport program can achieve, CAMTS accreditation required the AirMed One program to pass a rigorous review of all their services. This included site inspections, document

reviews, interviews with AirMed One staff and examinations. Full accreditation is an impressive feat for any medical transport program—but it's even more extraordinary when that program is so young.

At the time of accreditation, AirMed One was entering its fourth year of operation. This year, it's celebrating six years and more than 1,500 missions providing patients in communities throughout New Jersey and southern New York with mission-critical access to timely care at

Hackensack University Medical Center and any of the other 15 hospitals within the Hackensack Meridian Health network.

A CRITICAL MISSION

In northern New Jersey, where Hackensack is based, AirMed One serves two primary purposes. "When you're talking about the rural areas we serve, obviously there's a great distance between facilities," says Mark Sparta, FACHE, COO and EVP of population health clinical operations.

But New Jersey is also the most densely populated state in the country. Even with lights and sirens, emergency medical services (EMS) vehicles cannot easily navigate the roads at most times of the day, especially at peak drive times.

"The mission of medical air transport is vital to getting patients in a variety of settings to the complex care they need in a much timelier fashion," Sparta says.

In addition to providing rapid scene response for trauma, stroke and cardiac events, AirMed One specializes in inter-facility transports between hospitals and expands the footprint of Hackensack University Medical Center's capabilities and access.

Since the program launched, inter-facility transfers have increased by 50 percent. In 2014, the door-to-door-to-balloon time for STEMI (ST-elevation myocardial infarction) averaged 265 minutes, with no cases under the 120-minute threshold set forth by the American Heart Association. Two years later, after activating new protocols that dispatch AirMed One as soon as the transfer call comes in, the average time dropped to 138 minutes, with 22 percent of cases at less than 120 minutes.

Behind these achievements is a multidisciplinary crew of dedicated administrators and highly skilled pilots, flight nurses, paramedics, mechanics and communications specialists who work tirelessly to ensure AirMed One is always ready to respond.

"There have been times where we've gone two days without a flight," says **Joseph Solda**, chief flight nurse. "Then there are days when we're flying eight hours straight. Every day is a challenge, but each day has a routine, too."

MEMBER SUCCESS STORY

From left to right: Shaun Patterson, DO, Christopher Apudula, Thomas Opperman & Jason Kreitner

Twice a day, at shift change, the crew meets for an extensive briefing, covering the day's weather and other factors that could impact operations. Pilots have 12-hour shifts, while the medical crew is on duty for 24 hours at a time. With the exception of the pilots, who are employed by Englewood, Colorado-based Air Methods Corporation, all of the crew are employees of Hackensack University Medical Center.

The helicopter is kept at Greenwood Lake Airport, approximately 30 miles away from Hackensack University Medical Center. The off-site location gives AirMed One more range for emergencies (it can fly about 250 miles), while close proximity to the hangar (about a 30-second walk) ensures the crew can mobilize quickly.

EXTENDING THE HOSPITAL'S REACH

Equipped with a full range of technology and advanced medical equipment, AirMed One is configured to mirror the most sophisticated intensive care units.

"Hackensack University Medical Center is the quaternary care center for our region, and our medical air team is trained to that level," says Michelle Kobayashi, administrative director of EMS and emergency community operations. "We're able to take that quaternary level of care and start it at the point of patient contact."

The air medical crew monitors and controls the operational use of the intra-aortic balloon pumps and other ventricular assists devices for patient care during the entire patient care transport. In 2014, thanks to the generosity of a hospital board member, AirMed One was the first air medical unit in New Jersey to be equipped with the LUCAS chest compression system, which



performs high-quality, uninterrupted chest compressions when a patient goes into cardiac arrest.

The crew is currently assessing whetherand how-to offer mobile extracorporeal membrane oxygenation (ECMO) therapy on the helicopter.

"We are constantly evaluating new advances and how we can continue to integrate cutting-edge technology into the services we offer in flight," Sparta says.

TEAMWORK TOOLS

AirMed One's clinical crew meets regularly with hospital clinicians and representatives, and it sits on key service line committees, such as cardiology, heart attack, trauma and sepsis.

"We're an extension of the hospital out in the field," Kobayashi says. "That makes collaboration with other hospital departments so important. By working together, we're able to better anticipate what our patients will need and be prepared to initiate the care we know our hospital physicians will be delivering upon transfer."

The crew also attends bimonthly STEMI review meetings with a cardiology STEMI work group examining each transfer brought in by Air Med One.

"We dissect each one all the way down to when the phone call started from the sending institution," Solda says. "We even look at arrival time at the sending hospital and how quickly they called our transfer center. And when we do something exceptionally well, we try to figure out how to replicate it."

One of the recommendations that came out of a STEMI transfer review was to "autolaunch" AirMed One the moment the transfer call comes in.

"When a physician from one of our sending facilities calls in and says 'STEMI' we automatically start sending resources his way," Solda says. "We don't wait for the conversation to finish. We start the movement of the aircraft while they're still talking. We know we're going to treat that STEMI patient, and we want them under our care in our institution as soon as possible."

COORDINATION AND CONSISTENCY

Autolaunching AirMed One and subsequently caring for patients in flight requires a tremendous amount of coordination.

"It's a true team in the helicopter," says **Christopher Gallagher**, lead pilot. "Each crew member has specific jobs and knows what the other crew members are doing at all times. That doesn't happen accidentally, but with lots of practice and regular training."

TEAMWORK TOOLS MEMBER SUCCESS STORY



Frank Shay, Thomas Opperman & Michelle Kobayashi

There's also a consistency to how things are done, and the crew follows scripts to make sure no step is overlooked. "Every time I fly with the team, I hear them say the exact same thing the last time I flew with them," Kobayashi says. "That contributes to the way a team can work so effectively on such highly critical cases."

COMMITTED TO SAFETY

Protocols and scripts are just the beginning of AirMed One's commitment to safety. The crew's motto is "Patients First, Safety Always," which was Solda's long-held personal philosophy before he even began working on AirMed One.

When the aircraft flies at night, all crew members wear night-vision goggles (NVGs). "Once you get into the more rural areas, where there are fewer ground lights and occasionally no visible stars or moon, everything is black without the NVGs," Gallagher says. "And we're not going from well-lit airport to well-lit airport: We're often landing in fields and parking lots. With the whole crew wearing NVGs, everyone can help identify obstacles and hazards in and around the landing zone to ensure a safe landing every time."

The helicopter has two engines and is capable of operating safely on one in the event of an engine failure. Additionally, the fenestron, or enclosed tail rotor design, allows the crew and emergency personnel to operate more safely while loading and unloading patients through the rear doors with the engines running.

"From the inception of the program, when it was just an idea, our administrators agreed that safety had to be first," Solda adds. "The hospital has made these investments to ensure that we always operate in the safest way possible."

Looking ahead, Sparta says Hackensack Meridian Health is evaluating the need for a second helicopter based in a different location.

AIRMED ONE AT A GLANCE

Aircraft: Eurocopter EC-135 P2+

Safety features: Twin engines, enclosed tail rotor, night-vision goggles for the entire crew

Crew: 21 administrators, nurses, paramedics, pilots, mechanics and communications specialists

Range: Approximately 250 miles

Patient missions flown as of March 2018: 1,558

While the new plan will be expensive, "not everything we do in healthcare can be a direct profit-and-loss analysis," Sparta says. "We have to do more of a programmatic review of our responsibility as a healthcare provider and what's available in order to improve outcomes for the communities we serve. The reality is: AirMed One's importance in serving our communities has been demonstrated time and time again." •

Pictured on the cover

First page, left to right:

Mark D. Sparta, FACHE, executive vice president & chief operating officer, Hackensack University Medical Center and executive vice president, population health clinical operations, Hackensack Meridian Health

Shaun Patterson, DO, medical director of EMS & attending physician for emergency trauma department, Hackensack Meridian Health Hackensack University Medical Center Ihor S. Sawczuk, M.D., FACS, president, Hackensack Meridian Health Hackensack University Medical Center and Joseph M. Sanzari Children's Hospital

Michelle Kobayashi, MBA, MSN, RN, CMTE, EMT, administrative director of EMS and emergency community operations, Hackensack Meridian Health Hackensack University Medical Center Christopher Gallagher, lead pilot, AirMed One, Air Methods Corporation

Second page, clockwise from seated position in air ambulance:

Michael Alessi, MICP, FP-C, flight paramedic, AirMed One Jason Kreitner, vice president & senior operations officer, Hackensack Meridian Health Hackensack University Medical Center Thomas Opperman, RN, BSN, MICP, NRP, CFRN, FP-C, flight paramedic, AirMed One Thomas Butler Jr., MSN, RN, CEN, CTRN, CFRN, NREMT-P, flight nurse, AirMed One Christopher Apudula, pilot, AirMed One, Air Methods Corporation Joseph Solda, RN, BSN, CFRN, NRP, CMTE, chief flight nurse, AirMed One Frank Shay, MICP, NRP, FP-C, flight paramedic, AirMed One

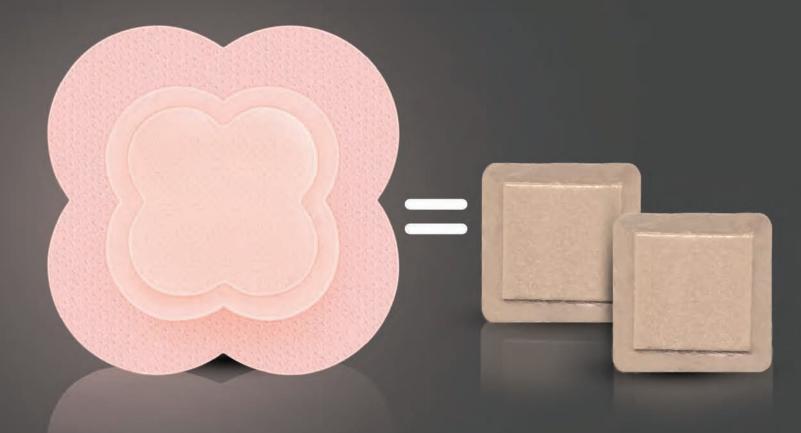
Not pictured:

AirMed One, Air Methods Corporation: Jonathan Mack, pilot Michael James, pilot Rick Szanyi, lead mechanic Jessie Madden. mechanic

AirMed One Flight Paramedics: Philip Neuwirth, BS, MICP, FP-C Eric Harvey, MICP, NRP, FP-C

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TEAMWORK TOOLS | LEADERSHIP LINK



JOHN YOUNG, M.D., MBA, a board-certified physician in internal medicine, critical care, cardiology and interventional cardiology, started as HealthTrust's new chief medical officer (CMO) in February. Young previously served as national medical director for LifePoint Health, where he led strategic initiatives related to quality, patient safety, service line development, performance improvement and clinical operations across the 71-hospital system.

Young has more than 20 years of clinical and healthcare management experience, has participated in more than 100 clinical trials, and authored or coauthored 90 articles, book chapters and monographs. He received medical and MBA degrees from The Ohio State University and a B.S. in chemistry and biochemistry from Wright State University.

Young spoke with *The Source* about his previous experience with value-based healthcare and operational improvement programs, and his goals for expanding HealthTrust's physician engagement and integrating that feedback into contracting decision-making. He also offered some predictions on marketplace forces that are shaping healthcare.

What led to your interest in medicine?

As a child, I had severe asthma, and I was in the hospital a lot. I still remember the day a doctor handed me a bronchodilator inhaler to treat my asthma. The medication, which was still relatively new in the late 1970s, had such a dramatic impact on how I felt. Those experiences definitely triggered my interest in science, medicine and pharmacology.

Even though I was always interested in science, I made the decision to go to medical school later than most people. My undergraduate degree from Wright State University in Dayton, Ohio, was in chemistry and biochemistry. I started taking graduate classes at Wright State in biochemistry and physiology with the intention to go into pharmaceutical research and development. But as I took the same classes as the medical students, I thought, "I can do this." So, I transferred to Ohio State University for medical school.



How do your four board certifications—in internal medicine, critical care medicine, cardiovascular disease and interventional cardiology—complement one another?

When I was choosing my specialty, I enjoyed the hand-eye coordination and technical requirements of surgery, but also liked the problem-solving and cognitive challenges of internal medicine. I happened to do a rotation with an interventional cardiologist, and his field seemed like the perfect marriage of both. Doing heart catheterizations, angioplasties and stents, he was able to combine the cognitive part of internal medicine with the technical procedure of interventional cardiology.

During eight years of residency and fellowship in pursuit of these certifications, I was fueled by the creative problem-solving aspect of these specialties and the continuous learning that is required.

What followed your medical school training?

My first job was with a 30-plus physician private practice cardiovascular group in Cincinnati, Ohio. One of my mentors ran its clinical research program, which propelled me into clinical research and data analysis. It taught me how to critically evaluate data, as well as write and present that information at national scientific meetings. It was a great beginning in the clinical research world and a primer on how the FDA approval process works for drugs and devices.

LEADERSHIP LINK

After working with that group for about six years, I did a stint on the West Coast. I worked in a program focused on technology innovation in the cardiovascular space for about two years. After exposure to some venture capital and start-up companies, I became interested in the business side of healthcare.

I came back to Ohio in 2008 and worked part-time as an interventional cardiologist while I was earning an MBA at Ohio State. I finished the degree in 2010, thinking I would transition into the healthcare industry focused on research and development. However, I wasn't quite ready to give up the clinical part of cardiology.

I was then recruited to be the chair of the cardiovascular program at Adena Health System, a three-hospital system in southern Ohio, where we rebuilt what had been a struggling program.

After six years there, I had gradually given up more and more of my clinical time to focus on administrative aspects of the business. In 2014, I had a fluke retinal injury and I lost some vision in my left eye, which made it difficult to do certain procedures. That was a true tipping point for me, and it signaled to me that it was time to move out of clinical practice and transition fully to physician executive work. In 2015, I was fortunate to find an opportunity at LifePoint Health in Brentwood, Tennessee, where I served as national medical director before joining HealthTrust in February 2018.

What were some of the things that you did to revitalize the cardiovascular program at Adena Health?

It was a rural community-based cardiovascular program in Chillicothe, Ohio. Chillicothe is a small Appalachian community, and it's more difficult to recruit physicians to live there than an urban setting. Added to that, the program did not have the necessary leadership to define its goals or direction. I started by recruiting physicians I knew in Columbus, about 45 minutes away. I shared a vision with them of a robust community-based program representing all the specialties of cardiology. I told them that it was an opportunity to provide much better care in a community that really needed it. We worked out a balanced system that allowed physicians to commute back and forth to Columbus, and we didn't force anyone to move. In order to get the caliber of physician that we wanted in all the different subspecialties, we came up with a hybrid model, and it ended up working well. I had great support from the hospital's CEO and CMO, who each gave me carte blanche to build that kind of program.

Did you find it helpful to give the physicians a choice?

Yes. The more flexible you can be, the better. My wife is a cardiologist who works part-time, and she has found getting people comfortable with somebody working part-time can be a challenge. But the more

flexible you can be with these highly trained individuals, the broader the market you can pull from.

What motivated you to seek an MBA degree after 10 years in medicine?

I was doing some consulting work for both Johnson & Johnson and Abbott on the West Coast. I certainly understood the clinical and the research part, but when it came to the funding of some of these clinical activities, ROI and business strategy, there was language there that I didn't understand. I'm glad I did the MBA program because it gave me enough of an understanding of the financial and operational side to be able to communicate in that language. It's been a very effective way to link those two sides of an integrated healthcare system.

Practicing for 10 years on the clinical side, then getting the MBA and subsequent practical experience on the operational side at LifePoint Health has allowed me to be an effective bridge between the two sides.

How might HealthTrust members benefit from your experience with value-based healthcare programs as national medical director at LifePoint Health?

At LifePoint, I had leadership responsibilities for our service line strategies, some of our supply chain initiatives and our more recent strategy for MACRA / MIPS (Meritbased Incentive Payment System).

I was tasked with leading that team and learning about all the different quality measures necessary to submit information to the Centers for Medicare & Medicaid Services (CMS) for payment. Dealing with the challenges of trying to pull data from all

> these disparate sources and putting it into a collective scorecard for our LifePoint practitioners taught me a lot about where things were going.

> Whether it's alternative payment models or bundled payments, we will always have to deal with some type of governmental quality-based payment program. With the data that we're collecting here at HealthTrust, we're in a unique position to package it and provide value back to the membership.

> I have some ideas about taking my LifePoint experience and my understanding of the CMS quality payment program to help build out some of the data that we are collecting at HealthTrust into a valuable scorecard. Whatever the alternative payment model-whether related to orthopedics, cardiovascular or another specialty-HealthTrust's clinical integration team will be able to assist members as they're tackling the challenges related to quality-based payment initiatives.

TEAMWORK TOOLS | LEADERSHIP LINK

From the perspective of a physician executive, how are challenges of five years ago different from those that lie ahead?

As a practicing interventional cardiologist five years ago, I don't think I was that focused on cost or the data reporting that's currently required. There's a big burden now on clinicians and healthcare systems related to the collection and collation of various data streams, whether for the government or commercial payers.

Understandably, everyone's much more focused on cost than we used to be. The ability to drive continuous quality improvement

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while at the same time being cognizant of the cost pressures is not something that was in our everyday lexicon five or six years ago.

Increasing numbers of physicians are being affected by it and want to learn more, so it is important to be transparent with the data so they understand the levers that administrators have to focus on. There's more need for education around those areas that are going to continue to affect them day in and day out.

How has your extensive clinical research experience influenced your career path and your viewpoint on innovation in healthcare?

Ten years ago, I probably would have been more wowed by the latest, greatest widget or device. I still think it's interesting to look at the new technologies related to procedures like TAVR [transcatheter aortic valve replacement], which have dramatically improved people's lives. Now, I'm more cautious to recommend adoption of some of those devices until there's more evidence behind the innovation.

When it comes to data and healthcare IT innovation, there's a huge area of opportunity to develop common platforms to connect all the information that we're besieged with. HealthTrust is in a great position to simplify and help members understand some of the overwhelming data coming from so many different directions.

What has been your approach to engaging physicians when working on clinical and operational improvement initiatives? What are key factors to the success of clinical integration initiatives?

With 71 hospitals across 22 states, LifePoint had various kinds of approaches to cardiovascular care, prompting the need for subject matter experts and physicians to standardize some cardiovascular initiatives. We assembled a cardiovascular physicians council with 10 physicians from facilities of various sizes and diverse geographic regions. We engaged them in an open conversation around quality data transparency, cost transparency, standardization and the need to reduce care variation, and asked them to help us develop enterprise-wide strategies.

They became key players in not only providing us feedback, but also in helping us to evangelize the message to other LifePoint hospitals as to why we were instituting these new strategies. For example, they were effective in helping us standardize different cardiovascular devices and pharmaceutical agents. At the end of the day, by reducing variation, they helped LifePoint save a significant amount of money and improve quality.



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LEADERSHIP LINK TEAMWORK TOOLS

It was successful because we took the time to build those relationships. We garnered trust by sharing the information and being transparent with the data. Once they believed what we were focusing on was the right thing, they were eager to help.

What are your plans for the Physician Advisors Program moving forward?

[Previous HealthTrust CMO] Michael Schlosser did a great job starting that program. As I look to version 2.0, I want to engage

physicians, encourage them to spread the clinical agenda we're working on, and get them more involved in the HealthTrust contracting cycle so they understand the process more clearly. The more open and transparent we can be, the easier it will be to engage these physicians in some of our future initiatives.

Do you think it helps when physicians talk to other physicians? Does that underlying trust help?

Absolutely. I think a peer-to-peer connection is more effective than if it seems like it's being dictated to them from the administrative side. People who have practiced clinically for a long time want to talk to someone else who has done the same. There's an inherent trust when I know you've experienced what I have.

There's no doubt that it's critical to engage physicians, especially physicians who have leadership roles within their institution, to help move any kind of clinical agenda that's tied to physician behavior. The culture of these health systems varies, and nobody knows that better than the local team. They become critically important in trying to move things forward.

For those supply chain leaders who don't have a clinical background, what are your recommendations for successful physician engagement?

I have come across some supply chain folks who are intimidated by physicians or just don't have experience interacting with them. For those individuals, I'd say, step one, don't be afraid—simply talk to them. They're just people.

Step two, physicians are scientists by background. They tend to be data-driven and evidence-based, so be as transparent as you can with data and information.

Step three, ask them for help. Engage them so they feel like they're co-creators of the chosen strategy. Approach a group of physicians and say, "Look, here's the problem that we're having, and here's why we need your help," and then enlist their inherent problem-solving abilities to assist. When we approach physician engagement that way—asking for help and using their problem-solving ability—we get much more buy-in. We're much more likely to be successful than if we try do it all ourselves, package it up and bring it to them and say, "Here's the finished product; will you do this?" It's better to engage them further upstream, so they can help create the outcome.

What are your top priorities in 2018 as CMO?

One of my priorities is to expand the HealthTrust Physician



TEAMWORK TOOLS | LEA

LEADERSHIP LINK

Advisors Program. We have talked about creating specialty groups or councils that can focus on the physicians' individual specialties. As we're diving deeper into some of the specialties, we're realizing we need to spend more time with each of these groups so they can get further educated about HealthTrust's contracting processes and, as a result, provide the best feedback.

We also want to get the physicians more closely connected to HealthTrust's contracting cycle so that they can see how it works. So far, we have asked physician advisors to weigh in on certain products

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 (http://sloanco.com/wp-content/uploads/2015/01/ASTM-F1671-Final-Report.pdf)

or pharmaceuticals, but I'd also like to see them act in a proactive way and pitch ideas to us. So, if there happen to be pharmaceuticals or device opportunities that fall outside the contracting cycle, they can alert us and we can perhaps consider expanding a category to think about additional opportunities.

The second priority involves the clinical data teams. We have three different clinical data teams that all provide significant value to HealthTrust, but at the moment, they are operating somewhat independently. The overarching vision is to take those three offerings

> and meld them into a clinically integrated offering. They all have unique competencies and skill sets, so if we can find the right organizational structure in which to align them, we'll have a more cohesive value proposition.

What marketplace forces do you think will most dramatically impact healthcare providers in the next three to five years?

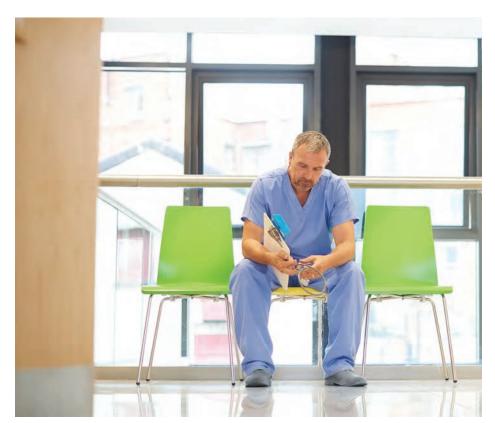
There are a number of them: The trend toward consumerism; the growing emphasis on patient satisfaction; the increasing costs of care, particularly with prescription medications; the trend toward cost sharing, seen in patients paying much higher deductibles; how information technology is going to transform data analysis; and then finally, all the unknowns around governmental healthcare policy. There are a fair amount of external forces leaning on healthcare systems and providers, but at the end of the day, the only thing that we can really control is what happens within the health system and patient outcomes. Really, that's what patients and their families want-the highest quality outcome a provider can deliver. So, despite all those external forces, the focus on quality outcomes should be the same.

Most of those external forces can be mitigated through appropriate strategies. The real unknown is how the governmental policy piece plays out and how the government and commercial payers are going to respond to some of the dynamic changes in the market.

What excited you the most about joining the HealthTrust team?

It was CEO Ed Jones' commitment to and focus on a clinical agenda. He strongly believes, and I agree, that HealthTrust offers something unique above and beyond the typical GPO. The opportunity to organize clinical teams and track quality outcomes, tied to cost efficiency and demonstrate that value-add is exciting. I can tell you from having been in clinical practice previously, it is needed.

Continued on page 62



FIGHTING A SILENT EPIDEMIC

Alleviating Burnout Among Physicians & Clinicians

he will never forget that decision or that patient. In an anonymous TED podcast, a physician recounted the day burnout got the best of her. Emotionally exhausted after too many grueling shifts at a teaching hospital and not enough attention to her own needs, "I had stopped seeing patients as people. They were diseases, lab values and test results," she says.

She was going through the motions when she entered the room of a belligerent patient who was screaming that he wanted to go home. Instead of trying to calm him and talk him into staying, she discharged him against medical advice and her better judgment.

Two days later, she learned that the patient was back in the hospital and dying

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from a hemorrhage. Though she had warned him of the consequences of leaving the hospital, she felt responsible for his setback.

"I knew that a better version of myself could have prevented all of this from happening," she says. "I didn't exactly make a mistake. I didn't ignore a vital sign or forget to order a medication. I just didn't try very hard."

She wondered what was wrong with her: Why hadn't she cared more about this patient? Why was she feeling so cynical and detached? Grappling with the reality of what had just happened forced her to see how detrimental her burnout had become—not just to herself but also to her patients.

"As doctors, we are never convinced we have a duty to care for ourselves, but we also

never really believe our problems can cause any harm to our patients," she says.

Marked by emotional exhaustion, depersonalization and a diminishing sense of accomplishment, burnout is a silent epidemic growing among physicians, nurses and other healthcare workers. It's a syndrome resulting from a stress-fueled healthcare system with mounting workloads and increasing responsibilities from regulatory pressures and evolving payment and care delivery models. The condition is twice as common among physicians as professionals in other fields, according to a 2017 National Academy of Medicine (NAM) discussion paper.

More than half of all U.S. physicians surveyed in 2014 by the Mayo Clinic reported at least one symptom of burnout—an increase of 9 percent from a study three years earlier. Doctors specializing in the frontlines of care, particularly those in emergency, family and internal medicine, are most likely to suffer from burnout.

"They're the ones who are coordinating so many dimensions of care, interfacing with multiple providers, prescribing and renewing a larger volume of medications, interacting with patients on electronic portals and fielding the volume of phone calls," **Tait Shanafelt**, M.D., Stanford Medicine's chief physician wellness officer and former Mayo Clinic researcher, says in an interview with the *New England Journal of Medicine* (NEJM).

Burnout has many repercussions for providers, from decreased productivity, low morale and dissatisfied patients to oversights in care, medical errors and malpractice suits. It's become so debilitating for clinicians that many are cutting back their hours or leaving the profession altogether for less stressful jobs inside and outside of the medical field. For those who decide to stav in the profession, burnout can even be deadly. Studies show a higher suicide rate in physicians and link higher rates of substance abuse, depression and anxiety among clinicians. A 2015 Mayo Clinic study revealed that more than 7 percent of nearly 7,000 doctors had considered taking their own lives in the past 12 months, compared with 4 percent of professionals in other fields. Approximately 400 doctors a year commit suicide. Nurses may

TEAMWORK TOOLS

MANAGEMENT MATTERS

also have a higher suicide risk than most people, according to a discussion paper published by NAM, though no formal studies exist to determine the extent to which they are affected.

RECOGNIZING THE SIGNS AND SOURCES

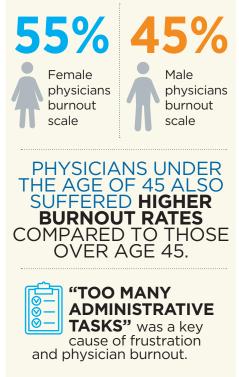
Clinicians react differently to burnout. Some may feel lethargic, forgetful or irritable, while others may become increasingly anxious, apathetic and depressed. But most who struggle with burnout share a common symptom: a loss of the joy they once found in practicing medicine.

Although physicians agree that the lack of appreciation, growing demands from patients and the high-stakes environment in which they work can contribute to burnout, much of their stress is rooted in the changing healthcare landscape. Not only must they struggle with serving an aging patient population with higher rates of chronic disease, but they are also pressed to provide better, more efficient care to patients at lower costs and with fewer resources. One of the biggest sources of frustration for physicians is what many consider cumbersome electronic health records (EHRs), which they must use to fulfill regulatory mandates for documenting the quality of patient care.

"EHRs have expanded the workday and created a number of frustrating inefficiencies related to documentation and order entry," Shanafelt told the *NEJM*. "In many ways, they have turned physicians into data entry clerks."

Pre-approval requirements from health insurers for services, as well as quality metrics built into the Affordable Care Act, have also added more clerical duties for doctors. To keep up, primary care physicians are spending more than half of their day performing data entry and other administrative tasks, according to a 2017 study by the American Medical Association (AMA) and the University of Wisconsin, published in the *Annals of Family Medicine*.

Remote, 24/7 access to EHRs has increased productivity expectations in many hospitals and clinics, enabling doctors to see the same number of patients—if not more—during the day while bringing documentation home to finish at night. The average physician spends up to 30 hours a month updating patient



Source: Medscape 2017 Physician Lifestyle Survey

records after hours, with EHR use peaking at 10 a.m. and 10 p.m. on the weekends.

Doctors are also concerned about not getting enough time with patients. For every hour they spend seeing patients, they must spend two hours on the computer, the AMA study found. Even in the exam room, doctors may interact with the computer as much as they do with patients and care team members. This trend has begun to "erode the human interaction that is at the heart of healing and serves as a tremendous source of meaning for both patients and physicians," Shanafelt says.

In their efforts to juggle regulatory and administrative tasks with caring for more patients in less time, doctors often put themselves on the back burner. Three out of four primary care physicians say their heavy workloads prevent them from getting enough sleep or exercise, according to a 2017 MDVIP Physician Health Survey. Two out of three say work stress negatively impacts their personal lives, making them feel like they're on a treadmill that keeps speeding up.

The most diligent and caring clinicians can develop compassion fatigue when burdensome tasks and time constraints converge with a lack of flexibility or support at work, a neglect of personal needs and the suffering or loss of patients. They may have a harder time coping with the pressures around them or connecting with patients like they once did though many never let on they are struggling.

When it comes to burnout, "doctors are masters of disguise," says **Pamela Wible**, a family physician and author who has studied the mental effects of burnout on physicians. "Even fun-loving docs who crack jokes and make patients smile all day may be suffering in silence."

Burnout can even make physicians question their own competence. Mayo Clinic researchers found that higher levels of burnout in surgeons made them more likely to report major medical errors. Many physicians are hesitant to ask for help coping in a field where demanding shifts, sleep deprivation and personal sacrifices are the norm. Nearly 40 percent of physicians told Mayo Clinic researchers they were reluctant to seek psychological or psychiatric treatment for fear of jeopardizing their medical license.

WHAT BURNOUT COSTS PROVIDERS

As crippling as burnout can be for doctors and clinicians, patients are the ones who suffer the most when it goes unchecked. Recent studies show that being under the care of a burned-out physician or clinical team raises the risk of healthcare-associated infections, medical errors and adverse outcomes. Burnout is also driving up rates of unnecessary testing and hospital readmissions, researchers say, leaving providers vulnerable to lackluster HCAHPS scores, declining reimbursements and higher costs.

As many organizations endeavor to balance increased patient care demands with tight budgets, low morale and clinician shortages, providers are starting to recognize the impact of burnout.

In a recent joint study by the Mayo Clinic, the AMA and Stanford University, nearly 1 in 5 doctors say they intend to reduce their clinical hours over the next year, while 1 in 50 plan to leave medicine within the next two years. If even a third of these doctors follow through on their intentions, the nation could lose a physician pool equivalent to the graduating *Continued on page 60*



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Continued from page 58

classes of 19 medical schools. According to estimates from Atrius Health, the largest independent physician-led healthcare organization in the Northeast, every time a doctor quits, the cost of recruiting and training his or her replacement can range from \$500,000 to \$1 million.

And, the Blue Ridge Academic Health Group estimates that burnout costs the nation around \$150 billion a year in physician turnover, lost productivity from early retirements and medical errors.

TACKLING THE ISSUE HEAD ON

Several university medical centers have been successful at easing burnout by establishing physician wellness networks that offer resources for helping doctors and medical interns adopt healthier habits and get more exercise, rest and balance in their lives. Boston Medical Center's Wellness Program helps clinicians cope with work and personal problems and promotes health and wellness. (*See its resources here: www. bumc.bu.edu/wellness.*) Stanford University

Medical Center has piloted a program providing ER doctors with meals, housecleaning and babysitting services in exchange for long hours. At its Institute for Patient Safety and Quality, Johns Hopkins is working with hospitals to create confidential "psychological first aid" programs intended to provide caregivers with the emotional support they need on difficult days without feeling stigmatized.

Other hospitals are doing more to spread the burden of heavier patient loads and



Better Patient Care Starts With Self-Care

"Take care of yourself" was the message **Angie Mitchell**, RN, HealthTrust's director of nursing services, gave to members attending a March meeting of the nursing advisory board. Leading a session on facilitating happiness in the workplace, her goal was to provide clinicians with more tools to prevent burnout and spread the message that better self-care leads to better patient care.

Clinicians are at higher risk of burnout than employees in other industries due to factors ranging from the job's emotional intensity to long shifts. An emergency room nurse may work a 12-hour shift with multiple critical patients, subsisting on cups of coffee and few, if any, breaks. Viewing patients as objects or conditions, especially in high-acuity settings, is common—and a sure sign of fatigue.

"Sometimes it's tempting to refer to patients as their medical diagnosis, but you have to remember that, attached to the technology and diagnosis, is a patient and his or her family," Mitchell says. Despite the high rates of burnout faced by clinicians, she sees a silver lining. Finding happiness in the workplace is possible, and it begins with self-care. Mitchell recommends the following suggestions to promote happiness and avoid burnout:

1. PRACTICE MINDFULNESS. Mindfulness means paying attention to the present moment. Mitchell suggests concentrating on breathing and other physical sensations for several minutes before the workday starts, blocking out thoughts about spreadsheets, new admissions or supply inventory. Inhaling deeply, noticing smells and taking in sounds are all great grounding practices.

"We've found that when people are able to do this, their stress level goes down," Mitchell says. "It's just a few minutes of meditation and rejuvenation, and it actually allows them to handle a stressful environment more effectively."

2. SELF-REFLECT. "Nurses ask 'Why?' about everything, but sometimes we don't ask ourselves why," Mitchell observes. When clinicians remind themselves of the motivation behind their work, they are more likely to be guided by purpose. Self-reflection encourages positivity, and positivity makes for better teammates and better managers. "Reflecting on the good we do can lead to very positive things for both the patient and the caregiver," she says.

 LISTEN ACTIVELY. A majority of nurses' time is spent listening—60 to 70 percent, by Mitchell's estimate. According to a February 2016 "Perspectives on Safety" article from the Agency for Healthcare Research and Quality, burnout is characterized by depersonalization. To combat it, active listening—that is, listening in order to understand—promotes human connection and empathy. This applies to both employees and patients; when managers listen closely to employee concerns, they can help prevent turnover. And when clinicians commit to being present with patients and hearing their hopes and fears, they resist seeing patients as a diagnosis.

In high-stress hospital environments, exhaustion and burnout are common dangers. By caring for themselves first, clinicians cultivate their ability to provide mindful, empathetic care to patients. •

FOR ADDITIONAL TIPS on staying emotionally and physically healthy, try these resources:

→ The American Medical Association hosts a special site featuring a wealth of resources on preventing physician burnout: www.stepsforward.org/modules/ physician-burnout

→ The National Academy of Medicine created an online Knowledge Hub with articles, research studies and other resources to aid clinician wellbeing: https://nam.edu/initiatives/ clinician-resilience-and-well-being

→ TED Talks offers numerous videos dedicated to better self-care. View them here: www.ted.com/playlists/299/the_importance_of_self_care

"From my work on the frontlines, I've seen how patient acuity is higher now ... The ability of HealthTrust Workforce Solutions to recruit and hire the right staff at the right time can really help on the tough days to assist with the gaps."

-Shaun McCamant, MSN, RN, chief nursing officer, HealthTrust Workforce Solutions

administrative tasks across clinical teams. Cleveland Clinic recently hired more nurse practitioners to handle routine tasks for physicians, such as coordinating patient care, managing order entry, and answering patient questions and calls. Other facilities are hiring medical assistants to assist doctors with note-taking and documentation during visits and bringing clinical teams together more often to reduce reliance on email and EHRs.

HealthTrust Workforce Solutions helps healthcare systems address clinician shortages that lead to burnout, says the group's first chief nursing officer, **Shaun McCamant**, MSN, RN. "From my work on the frontlines,

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Eliminate

I've seen how patient acuity is higher now and so many patients need complex care. The ability of HealthTrust Workforce Solutions to recruit and hire the right staff at the right time can really help on the tough days to assist with the gaps."

Experts say that changes from stakeholders across the healthcare industry will be necessary since burnout is a systemic issue. To meet that challenge, the AMA has launched a national initiative to raise awareness and promote wellness and resilience among physicians, partnering with more than 130 groups composed of providers, payers, researchers, health tech firms, government agencies and

Nutrition Safety

is at a Premium in Healthcare

patient advocacy groups. The collaborative has launched an online hub of research, toolkits and resources that leaders can use to tackle the issue.

Burnout is often the earliest indicator of a healthcare system prone to errors and dysfunction, so hospitals must continuously monitor the well-being of their staff and act to reduce sources of stress that contribute to burnout before it impacts patient care. Often the most empathic and contentious physicians are the ones at highest risk for burnout, researchers note.

For the doctor who shared her story on the TED podcast, redefining what it means to be a "good doctor" and being mindful of her own resilience, as well as that of her patients, has helped her keep burnout at bay.

"There is power in talking about burnout," she says. "Like any disease—once you name it, you can begin to see it, understand it, prevent it and maybe fix it." •





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Continued from page 56

Healthcare systems and physicians are asking for help because there's no way they can build the necessary infrastructure in every single health system-it's too much. So, if we can help them by providing information that can change the culture at those institutions, that is going to translate into better quality care, which is the ultimate motivation of the entire clinical integration team. That's what really attracted me to HealthTrust.

I was pleasantly surprised with the depth of resources that we already have within HealthTrust. There is a great opportunity to collaborate and bring these experts together to develop the best strategy to accomplish that value-add for our members.

What is one of your talents that might surprise people?

I'm a musician; I've played the drums since I was a kid. Before I went into medicine, my first career in the mid-80s was as a professional drummer. Yes, I had long hair and a cheesy mustache-the whole thing. I have played in a number of bands focused on various kinds of music, including rock, country, country/rock, jazz and even a Greek wedding band. I still play and have a drum set in a studio in my basement. It's a great decompression activity and escape from all the left-brain work I do during the day. I can go home and bang on the drums and live in that right-brain world for a little while.

Robb Named CEO of HealthTrust Europe

HealthTrust Europe appointed **Dennis Robb** as its chief executive officer. As



CEO. Robb will lead the UK subsidiary organization of HCA Healthcare, which serves 146 acute hospitals across the United Kingdom, including NHS Trusts and

HCA Healthcare UK.

Robb joined HealthTrust Europe in November 2015 as chief operating officer. As COO, he strengthened operational performance, fostered staff retention and leadership development, and aligned the group purchasing organization with national healthcare contracting initiatives.

Located in Birmingham, England, HealthTrust Europe has grown employment opportunities in the West Midlands with an additional 27 full time positions, and promoted UK staff into management positions. The adoption of international leadership best practices has resulted in improved morale and productivity, contract process and value, market-driven business lines and enhanced customer satisfaction with NHS Trusts and HCA Healthcare UK.

Courtney Recognized on 'Staffing 100' List

Brendan Courtney, president and chief executive officer of HealthTrust Workforce Solutions, was recently named among the

most influential leaders in the staffing industry by Staffing Industry Analysts (SIA). This marks the third consecutive year Courtney has been named to the North American Staffing 100 List. Staffing 100 honorees represent the most influential leaders in the workforce solutions ecosystem,



including human cloud firms, VMS, MSP and RPO providers, as well as niche segments.

SIA ranked HealthTrust Workforce Solutions as the eighth-largest U.S. healthcare staffing firm and among the largest travel nurse, per diem nursing and allied

healthcare staffing agencies. HealthTrust Workforce Solutions is also a Managed Services Provider with more than \$1 billion in related spend. Under Courtney's leadership, the company has had four consecutive years of double-digit growth.



Pharmacy Fellowship to Benefit HealthTrust Members

ealthTrust recently announced a joint program with the Belmont University College of Pharmacy's Christy Houston Foundation Drug Information Center to enhance drug information services for members of the GPO's Pharmacy Services Group. Participants will be employees of the drug information center and PharmD candidates of the University's College of Pharmacy. The professionals will field inquiries from HealthTrust members and distribute information about drug identification and availability, class review comparisons, new drug monographs, dosage administration, drug interactions and adverse effects.

In providing these services, the organizations have established a clinical information manager role and postgraduate fellowship training program through the Christy Houston Foundation Drug Information Center. The clinical information manager will be responsible for optimizing the drug information service and precepting PharmD candidates from the Belmont University College of Pharmacy. The twoyear Evidence Based Clinical Management Fellowship in Drug Information will begin in June and underscore corporate leadership and drug information services and promote the development of teaching and scholarly activities.

THE SOURCE

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Additional \$8,911 per hospitalization

Additional length of stay:

MBs who experience an adverse event have a **LONGER LENGTH OF STAY AND CONSUME MORE HOSPITAL RESOURCES** during the index hospitalization and for the 90-days post discharge. These individuals have an **INCREASED POST-ACUTE SPEND OF \$41.521**

Over 17,7%

of MBs undergoing lumbar spinal fusion surgeries have an adverse event.

THE THREE MOST COMMON ADVERSE EVENTS RELATED TO LUMBAR SPINAL FUSION ARE:

1. TRANSFUSION (11.3%): 9,421 MBs 2. DURAL TEAR (4.64%):

S

3. RENAL COMPLICATIONS (2.11%): 1,768 MBs

3,882 MBs

of 90-day spending occurs outside the index hospitalization.

Medicare beneficiaries experiencing a complication during their index hospitalization were significantly more likely to die during the 90-day follow-up period (0.9% versus 0.3%).

For more information on how CDS helps improve clinical outcomes, contact HealthTrust's Vice President of Clinical Consulting and Analytics **April Simon**, RN, MSN, at **april.simon@healthtrustpg.com**.

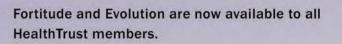
$Fortitude^{\rm TM} \ \ {\rm Universal \ Catheter \ Fixation \ Device}$

- Hydrocolloid adhesive material for secure, hypoallergenic adhesion to patient skin.
- Dressing can be used in an occlusive and non-occlusive manner.
- Soft, secure strap to assist in reducing patient discomfort.
- Truly universal fit that accommodates 2F - 32F sizes.
- Currently available to all HealthTrust Members.

$Evolution^{{}^{(\!\!R)}}{}_{\text{Evacuated Suction Bottle}}$

The Evolution line of evacuated suction bottles was born from necessity as an alternative to glass bottles and backorders.

- Available in 1,000 ml with or without sterile drain line.
- · Consistently draws 1,000 ml or more every time.
- Does not contain natural rubber latex.





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HealthTrust Contract # 6462



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WORLD'S FIRST AND ONLY SMARTPHONE-COMPATIBLE INSERTABLE CARDIAC MONITOR

Confirm Rx[™] ICM combines a minimally invasive procedure with technology that allows patients to connect their device with a mobile app, enhancing patient compliance and streamlining remote follow-up.



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One St. Jude Medical Dr., St. Paul, MN 55117 USA, Tel: 1 651 756 2000 S IM com

St. Jude Medical is now Abbott.

HealthTrust Contract #3047

Rx Only

Brief Summary: Prior to using these devices, please review the Instructions for Use for a complete listing of indications, contraindications, warnings, precautions, potential adverse events and directions for use.

Indications: The Confirm Rx[™] ICM is indicated for the monitoring and diagnostic evaluation of patients who experience unexplained symptoms such as: dizziness, palpitations, chest pain, syncope, and shortness of breath, as well as patients who are at risk for other cardiac arrhythmias. It is also indicated for patients who have been previously diagnosed with atrial fibrillation or who are susceptible to developing atrial fibrillation.

Contraindications: There are no known contraindications for the implantation of the

Confirm $\mathbf{Rx}^{\mathsf{TM}}$ ICM. However, the patient's particula medical condition may dictate whether or not a subcutaneous, chronically implanted device can be tolerated.

Adverse Events: Possible adverse events (in alphabetical order) associated with the device, include the following: Allergic reaction, Bleeding, Chronic nerve damage, Erosion, Excessive fibrotic tissue growth, Extrusion, Formation of hematomas or cysts, Infection, Keloid formation and Migration. Refer to the User's Manual for detailed indications, contraindications, warnings, precautions and potential adverse events.

Precautions: Clinicians must log onto Merlin.net[™] Patient Care Network to view transmissions from patients' Confirm Rx[™] ICM. On Merlin.net[™] PCN they can configure transmission schedule and enable or disable features on patient's myMerlin[™] mobile app. Review of transmissions is dependent on the clinician and may not happen immediately following delivery of such transmissions.

Limitations: Patients may use their own or Android[‡] or Apple[‡] mobile digital device to transmit information from their Confirm RxTM ICM using the myMerlinTM mobile app. To do so the device must be powered on, app must be installed, Bluetooth[#] wireless technology connection enabled and data coverage (cellular or Wi-Fi‡) available. The myMerlinTM app provides periodic patient monitoring based on clinician configured settings. Transmission data is resent if not sent successfully. However there are many internal and external factors that can hinder, delay, or prevent acquisition and delivery of ICM and patient information as intended by the clinician. These factors include: patient environment, data services, mobile device operating system and settings, ICM memory capacity, clinic environment, schedule/ configuration changes or data processing.

An Abbott mobile transmitter is available for patients without their own compatible mobile device.

™ Indicates a trademark of the Abbott group of companies.

‡ Indicates a third party trademark, which is property of its respective owner. Bluetooth is a registered trademark of Bluetooth SIG, Inc.





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