New Independent Studies Show Exergen Reduces Hospital Costs by 90% Compared to Other Thermometers

“Yielded clear-cut cost savings that increased exponentially with increasing duration of use and increasing bed numbers per device.”

WATERTOWN, Mass., May 25, 2017 (GLOBE NEWSWIRE via COMTEX) -- Two new studies from Postgraduate Medical Journal indicate that when used throughout a hospital, Exergen TemporalScanners deliver substantial cost savings while providing accuracy and ease of use, as supported by more than 70 peer-reviewed published studies for all ages and clinical settings.

The first study, “Cost minimisation analysis of thermometry in two different hospital systems [1],” was conducted at University Hospital Centre Zagreb (UHCZ) and University of Michigan Hospitals (UMH), each of which used the Exergen TAT-5000 to evaluate cost savings. Results dramatically favored TAT over tympanic thermometry at UHCZ, where the cost of consumables per measurement would be more than 10 times cheaper for TAT, leading to considerable budget savings within a year of hospital-wide implementation. The UMH study concluded that routine use of Exergen TAT-5000 would lead to cost savings over three years at UMH.

The second study, “Minimising the costs of temperature monitoring in hospitals [2],” revealed that Exergen TAT-5000 savings exceeded $1.7 million when there were 10 beds per device used for five years. In addition, the study indicated that other forms of thermometry such as oral, axillary and rectal are not favored by hospital staff due to numerous factors including time commitment needed from the healthcare provider, patient discomfort and the potential to wake a sleeping patient.

“We appreciate how cost is a critical consideration in hospital purchasing today, and we are committed to providing a product, the Exergen TAT-5000, that delivers significant cost savings,” said Francesco Pompei, Ph.D., CEO of Exergen Corporation. “This has wide implications for maximizing savings, as our thermometer is the single standard of uniform care in hospitals nationwide, giving more healthcare professionals and patients access to its many benefits.”

The above, along with other independent studies, confirm suitability among all patient groups, including premature infants, adults and geriatrics, and under all medical conditions. For a complete list of studies visit www.exergen.com/c.


Fever was known as a vital sign to ancient Egyptians at least 5000 years ago, using the hand as measuring instrument. Galileo invented the first thermometer 500 years ago. Carl Wunderlich, ‘Father of Clinical Thermometry,’ proposed 98.6°F (37°C) as the mean normal temperature 140 years ago. Until very recently we have been taking patients’ temperatures more or less the same way for more than 100 years, circa 10 billion measurements per year worldwide (approximately half in the US). Can we improve on what we have been doing for thousands of years and countless billions of times? Emphatically yes.

Today’s patient expectations

Importantly, today there is a much higher patient expectation of non-invasiveness. After all, the 10 billion temperatures mean a similar number of probe insertions into a body cavity, causing discomfort and unnecessary indignity, as well as some risk of harm. Patients undergoing cancer treatment are grateful for a reprieve from things that hurt, when their temperature is taken with the latest non-invasive methods. It is not uncommon today for a parent to refuse to permit a rectal thermometer to be used on their child.

Non-invasiveness is unachievable if the vital sign lacks the necessary clinical accuracy. The scientific and engineering challenge is to accurately measure the temperature inside, from the outside. From medical science we have learned that certain external locations have useful properties for ascertaining internal temperature. The ear, for example, has a 50-year history of investigation for thermometry, and in the last 20 years devices developed on this principle have been widely used. Although perhaps less invasive than older methods, inserting a probe into an ear is not what patients consider non-invasive. Further, there are accuracy problems, particularly with small children.

Back to the future

As inventor of much of the ear thermometer technology in use, Exergen was asked by physicians to reconsider non-invasive thermometry, since ear thermometers were not an acceptable solution to the patients’ requirement for non-invasiveness and the clinicians’ requirement for accuracy. Within this context we re-examined the medical science of fever assessment, going back not 50 years, but 5000 years, to the hand on the forehead.

Although never precise enough for clinical accuracy, laying a hand on the forehead provided useful fever indications under certain conditions, and was safe, gentle and a reassuring caress for the patient. Preserving these desirable attributes while making the measurement robust and reliably accurate for clinical use for all ages was the challenge. Our mathematical models indicated we needed to find an easily accessible external skin surface with high and consistent perfusion. We found this property at the superficial temporal artery, where it traverses the forehead. A measurement modality was developed based on scanning the temperature of the skin over the temporal artery, and with proprietary algorithms we could then accurately compute the internal core temperature, for all ages, under essentially all clinical conditions, as validated by more than 70 published clinical studies.

In the past ten years Temporal Artery Thermometry has become widely accepted and is responsible for about 2 billion temperatures per year by medical professionals in the US, a very good start in reducing the number of probe insertions into body cavities and improving the clinical experience for both patients and clinicians. Nearly ten million consumers have home versions for their personal use.

Future with zero cost and zero waste

An unexpected benefit of Temporal Artery Thermometry is that without insertion into a body cavity there is no requirement for disposable probe covers, and simple wiping is adequate. Thus, future operating budgets for thermometry in institutions using only Temporal Artery Thermometers are zero. Furthermore, with disposable waste eliminated, the institution contributes significantly to ‘green’ operations, while reducing storage space and handling costs. In the past ten years, US institutions have saved approximately $500 million in disposable costs, and nearly 50,000 tons in disposable waste. With Temporal Artery Thermometry initial cost is about the same as other thermometry devices available and acquisition cost is typically less than one year of disposables cost, thereby not requiring capital budgeting.
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ENDO-47657-AA July 2017
The Poll-It Bureau

The Joint Commission’s recently published study on how no industry consensus exists on what a “high-performing” healthcare delivery system means induces laborious thoughts of a Christopher Nolan film.

Standards and standard definitions remain incognito.

Evaluating, adopting and implementing potential solutions to this leaves many with insomnia.

Regulating, governing and discerning bodies remain incorrigibly incomunicado.

It should leave us with some sense of indignation.

Is there an exception? Only in your MMIS or ERP Supply Chain module field codes.

We really need an inception.

Is there an exception? Only in your MMIS or ERP Supply Chain module field codes.

No evidence apparently shielded it from variability.

The Joint Commission deserves accolades for shining a black light on this white sheet of branding, marketing and promotional hubris — even if many of us suspected unbridled hyperbole with a Dwayne Johnson eyebrow raise.

What’s the first step in those 12-step programs? Admit you have a problem.

But “high-performing” as a jingoistic appellation isn’t the only fuzzy ingredient in our fizzy water.

In an industry that prides itself in pursuing the need for standards, the players could strive to accept and adopt standard definitions and parameters in a variety of areas.

To wit: Here are a few that have haunted readers of Healthcare Purchasing News for at least four decades (had to work in a shameless plug for ‘s 40th anniversary this year).

• Annual purchasing volume (APV) of group purchasing organizations (GPOs)

• Descriptions and descriptive categories of product attributes for more efficient reimbursement

• CPT and ICD-10 codes that allow very little or virtually no level of human interpretation rooted in subjectivity (thwarting the “gaming of the system” to maximize reimbursement)

• Key performance indicators

• Functional job descriptions for Supply Chain professionals — even the ones hovering around vaporous strategic objectives

• Causal factors of a variety of hospital-acquired infections with reasonably detailed traceability factors

• Total cost of ownership

• Value-based purchasing — centered on the application of insurance

• Value analysis and management via evidence-based planning and outcomes

Back in the Clintonian healthcare reforming 1990s, doctors bristled at the notion of clinical pathways as “cookbook medicine” because it left virtually no room for variability and the individuality of the patient. Noted. You should find little motivation to dismantle the logic behind the need for standard definitions for financial management and operations. Call it “cookbook management and operations” if you want, but that measure should lead to effectiveness and hopefully efficiency down the road, which should trump complaints long-term.

Which ones have we missed? Let me know at rickdanabarlow@hpnonline.com.
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NEWswire

Physician survey: Unneeded medical care is common, driven by fear of malpractice

Over 80 percent of surveyed physicians cited fear of malpractice as the top reason for medical overuse. A new national survey of more than 2,000 physicians across multiple specialties finds that physicians believe overtreatment is common and mostly perpetuated by fear of malpractice, as well as patient demand and some profit motives.

A report on the findings, published in PLOS ONE, highlights physicians’ perspectives on unnecessary healthcare practices and the potential causes and solutions.

“Unnecessary medical care is a leading driver of the higher health insurance premiums affecting every American,” says Martin Makary, M.D., M.P.H., professor of surgery and health policy at the Johns Hopkins University School of Medicine and the paper’s senior author.

Unnecessary medical services represent the majority of wasted healthcare resources and costs in the United States, accounting for an estimated $210 billion in excess spending each year, according to the National Academy of Medicine. Studies consistently show that overtreatment is also directly associated with preventable patient harm and, on a national scale, the issue represents a significant opportunity to improve patient safety and lower health care costs, Makary notes.

Increasingly, he adds, professional societies and other healthcare organizations have focused on campaigns to address the unnecessary medical care issue. Initiatives such as Choosing Wisely and Improving Wisely, which focus on reducing unneeded tests and procedures and are endorsed by multiple physician societies, have increased awareness of appropriateness in testing and treatment. Direct estimates by physicians themselves of unnecessary care, however, have been limited.

In an effort to hear from physicians about the magnitude of the “too much medical care” problem, the Johns Hopkins research team — part of a national consortium exploring ways to reduce unneeded care — invited 3,318 physicians from a continuing education subgroup of the American Medical Association’s Physician Masterfile, a database of more than 1.4 million physicians in the United States, to complete a survey about healthcare practices.

The majority of the physicians who responded to the survey said they believed that at least 15 to 30 percent of medical care is not needed.

Breaking down the types of unnecessary medical care, survey respondents reported that 22 percent of prescription medications, 24.9 percent of medical tests, 11.1 percent of procedures and 20.6 percent of overall medical care delivered is unnecessary. The median response for physicians who perform unnecessary procedures for profit motive was 16.7 percent.

Physicians with at least 10 years of experience after residency and specialists were more likely to believe that physicians perform unnecessary procedures when they profit from them.

“Interestingly, but not surprisingly, physicians implicated their colleagues (more so than themselves) in providing wasteful care. This highlights the need to objectively measure and report wasteful practices on a provider or practice level so that individual providers can see where they might improve,” says Daniel Brotman, M.D., professor of medicine at the Johns Hopkins University School of Medicine and an author on the paper.

The top three reasons cited for overuse of resources were fear of malpractice (84.7 percent, or 1,783 of 2,106 respondents), patient pressure/request (59 percent, or 1,242 of 2,106 respondents) and difficulty accessing prior medical records (38.2 percent, or 804 of 2,106 respondents).

The top three selected potential solutions for eliminating unnecessary services were training medical residents on appropriateness criteria for care (55.2 percent, or 1,163 of 2,106 respondents), easy access to outside health records (52 percent, or 1,096 of 2,106 respondents) and more evidence-based practice guidelines (51.5 percent, or 1,084 of 2,106 respondents).

“Most doctors do the right thing and always try to, however, today “too much medical care” has become an endemic problem in some areas of medicine. A new physician-led focus on appropriateness is a promising homegrown strategy to address the problem,” says Makary.

Celebrate National Healthcare Supply Chain Week.

National Healthcare Supply Chain Week (SC Week) is October 1-7, 2017 with the theme: Healthcare Supply Chain: Advancing Exceptional Outcomes.

In today’s rapidly shifting healthcare landscape, hospitals and health systems are increasingly challenged to reduce costs and improve patient outcomes, without sacrificing the quality of care. Healthcare supply chain is uniquely positioned to connect various stakeholders across the continuum of care—no other group interacts with every major stakeholder internally and externally. It is this unique role that allows the supply chain professional to identify connections...
Key Surgical is proud to recognize International CS Week, October 8th – 14th. A big thanks to all the Central Service pros out there that work hard every single day. Your dedication to quality and patient safety shines through in everything you do. From all of us at Key Surgical, thank you.

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to deliver value in order to reduce costs, deliver efficiencies, and improve the quality of care for patients and communities.

Join your peers nationwide during SC Week to promote the profession and be reminded about many important roles you take on every day to advance your healthcare organization.

Sponsored by AHRMM, SC Week provides an opportunity to recognize the integral role supply chain professionals play in delivering high-quality patient care throughout the healthcare field. AHRMM information available at www.ahrmm.org/get-involved/sc-week/index.shtml.

International CS Week: October 8-14, 2017

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International Central Service Week recognizes the committed specialists that fill CS departments and make a difference in patient care throughout the United States. Held annually, CS Week starts with the second Sunday in October.

IAHCSMM celebrates these dedicated professionals for all of their outstanding achievements — not just this week, but each and every day of the year! It is our hope that International Central Service Week brings the appreciation and respect so greatly deserved. IAHCSMM recognizes you as Central to healthcare and essential for quality Service.

International CS Week is a special time for you to demonstrate the importance of your Central Service/Sterile Processing team. Show support for your profession, staff, colleagues and friends with gifts that are sure to make this year’s celebration the best ever!

Tips to Promote CS Awareness:
• Show Your Commitment to Patient Safety
• Advocate for Support
• Engage the Community
• Celebrate Your Team
• Give Central Service heightened visibility with a memento or honor a colleague by making a donation to the Education Fund in their name.

CS Week is also a time to reflect on professional development. Contact a local vendor to offer an intensive workshop with your staff to promote education. Create a poster for your department depicting a success story that occurred in the past year, or a bulletin board with staff pictures and employment history. Offer a scholarship for staff to become certified, or distribute certificates to employees that helped achieve departmental goals. Send a personal note or card to each member of your team, thanking them for their contributions toward better patient safety and care.

Visit IAHCSMM for more information https://www.iahcsmm.org/events/cs-week.html.

FDA clarifies forced air thermal regulating systems usage

The FDA is reminding healthcare providers that using thermoregulation devices during surgery, including forced air thermoregulating systems, have been demonstrated to result in less bleeding, faster recovery times, and decreased risk of infection for patients.

The FDA recently became aware that some healthcare providers and patients may be avoiding the use of forced air thermal regulating systems during surgical procedures due to concerns of a potential increased risk of surgical site infection (e.g., following joint replacement surgery). After a thorough review of available data, the FDA has been unable to identify a consistently reported association between the use of forced air thermal regulating systems and surgical site infection.

Therefore, the FDA continues to recommend the use of thermoregulating devices (including forced air thermal regulating systems) for surgical procedures when clinically warranted. Surgical procedures performed without the use of a thermoregulation system may cause adverse health consequences for patients during the post-operative and recovery process.

The FDA will continue to actively monitor this situation and will update this communication if significant new information becomes available.

To determine if there is an increased risk of surgical site infection when forced air thermoregulating systems are used during surgery, the FDA collected and analyzed data available to date from several sources, including medical device reports received by the agency, information from manufacturers and hospitals, publically available medical literature, operating room guidelines, and ventilation requirements.

FDA continues to recommend the use of thermoregulating devices (including forced air thermal regulating systems) for surgical procedures when clinically warranted. As always, please follow the manufacturer’s instructions for use in the operating room and/or the post-operative environment.

The FDA link is https://www.fda.gov/Safety/MedWatch/SafetyInformation/SafetyAlertsforHumanMedicalProducts/ucm547053.htm. HPN
Bellwether League Inc. inducts the Bellwether Class of 2017 at its 10th Annual Bellwether Induction Dinner Event
Monday, October 16, 2017,
The Embassy Suites by Hilton Chicago Downtown Magnificent Mile
and Bellwether Meeting House & Eatery

To be honored this year:

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Jamie C. Kowalski
Hiram Lake
James W. Oliver

Kristine S. Russell
Dudley Sisak
Craig R. Smith
William V.S. Thorne
Dwight Winstead

For dinner and sponsorship information on celebrating a decade of shining a light on supply chain excellence, visit www.bellwetherleague.org or contact Rick Dana Barlow at rickdanabarlow@bellwetherleague.org.

Visit www.bellwetherleague.org for more details about all ten Bellwether Classes to date, three Future Famer Classes and the first two organizations recognized in the Dean S. Ammer Validation Program for Supply Chain Excellence.
Should Supply Chain be taking care of business?

When to venture beyond the business of healthcare to the business of healthcare business

by Rick Dana Barlow

Historically, the stereotypical Supply Chain department (particularly in those pre-halcyon days of being known as “Purchasing” or “Materials Management”) occupied a basement alcove where it directed the movement of pallets, boxes, cases and eaches from dock to clinical and general areas.

In short, they were “bottom dwellers” focused on the “bottom line,” striving to get the right products at the right prices in the right locations at the right times satisfying the right demands. Cost was king and needed to be conquered.

For progressive supply chain departments today that stereotype no longer suffices nor fits. These departmental executives and leaders refuse to limit themselves to the esoteric necessities of the job. They’ve moved beyond those artificial borders to serve as business advisers and consultants to physicians and surgeons, facilitating economic and professional relationships to suppliers to strengthen relationships to patients and reinforce dealings with payers.

Escowing traditional cost-containment boundaries, these executives and leaders have pushed into largely uncharted territory for Supply Chain — ventures designed to provide relevant services that generate revenue for an organization.

No, we’re not talking about a “Supply Chain Soda & Sundries Shoppe,” but ventures fueled by supply chain expertise in the areas of product and service design and logistics and customer fulfillment — whether that customer represents clinicians and department heads within their own facility, other facilities across town or farther out in the region.

Critics and skeptics alike may mull and muse whether Supply Chain should be in the business of revenue-generation anyway, particularly if its own cost-containment strategies and tactics fall short of C-suite expectations. Supporters and visionaries, on the other hand, contend that revenue generation by Supply Chain represents a logical extension of a department that should be respected and valued for its contributions … and making money in addition to saving money justifies that position.

Still, the idea of Supply Chain embarking on some type of revenue-generating enterprise may not be right for every department. So how does a Supply Chain executive and leader know if his or her operation is ripe and ready for the challenge and when to take a leap of faith?

Taking the plunge: Cleveland Clinic

Cleveland Clinic may be renowned for providing world-class healthcare and medicine around the globe, but it also serves as a business incubator. One of its more prominent examples involves its 2009 launch of Explorys, a cloud-based clinical data company that it spun off to IBM’s Watson Health unit six years later. On a side note, Cleveland Clinic earned a variety of accolades from Healthcare Purchasing News, including the CS/SPD Department of the Year award in 2002, the Supply Chain Department of the Year award in 2005, a S.U.R.E. award for Supply Chain-Focused CEOs in 2008 for now-retired President and CEO Delos “Toby” Cosgrove, M.D., and a spot on the Supply Chain Operations Worth Watching list in 2015.

Four years ago, Cleveland Clinic’s Supply Chain recognized the time was right to venture beyond the traditional role of the balance sheet, according to Simrit Sandhu, Executive Director, Supply Chain Operations.

“Drawing upon a patient-focused mantra organizationally helped to empower our Supply Chain team to think differently when it came to sourcing products for the organization,” Sandhu said. “Our culture encourages us to innovate daily while steadfastly remaining efficient in our operations. What began as a cost savings measure quickly turned into a scalable physician-engaged model fueled by evidence and data, guiding a path toward supply reduction variation. This model and process soon became a foundational blueprint of innovation to partner and scale nationally.”

Searching for a partner to expand this new venture nationally, Sandhu’s team initially turned to evaluating group purchasing organizations. What they learned was that one of the GPOs on their search list, Vizient, seemed to be in an expansive growth mode, too.

“They were looking at a range of possibilities, including one where they would leverage their knowledge and expertise in combination with service line expertise at a health system,” Sandhu said. After an extensive mutual evaluation, Cleveland Clinic and Vizient launched a joint venture in 2013 called Excelerate LLC. Vizient contributed supply chain analytics and group purchasing infrastructure fused with Cleveland Clinic’s quality-centric, physician-engaged sourcing model that fostered clinical alignment in supply chain decision-making for a growing number of healthcare organization clients, according to Sandhu.

Mayo Clinic

Nearly a decade ago, “economic pressures and more aggressive budget targets” motivated Mayo Clinic’s Supply Chain division to commercialize its business services, Stephanie Matejka, Senior Director, New Business Development, indicated.

“[T]he financial pressures facing healthcare organizations and subsequent challenges, such as the Affordable Care Act, required us to think differently and fundamentally transform the way the supply chain operated,” Matejka said. Mayo Clinic earned a spot on HPN’s “Supply Chain Operations Worth Watching” list in 2011, the first year of the feature.

Consequently, Supply Chain launched several initiatives to “drive value and generate revenue to offset the operating costs of running the supply chain, resulting in a lower allocation of costs to Mayo operating entities,” she continued. “Developing a revenue center became a strategic goal.”
Supply Chain focused on four main areas in which it could leverage its knowledge, process expertise and tools to generate revenue: Audit and recovery, card programs, outsourced services via a regional supply network, and freight management.

Audit and recovery allowed Mayo to “build our own risk and analytics offerings to reduce finders’ fees and perform our own investigation and recovery efforts,” she noted. The card programs help reduce manual checks and increase controls over process efficiencies, rebates, supplier satisfaction and cash flow, she continued. Meanwhile, the outsourced services area focuses on centralized sourcing, contracting and other business initiatives via the Upper Midwest Consolidated Services Center LLC. Freight management relies on Mayo’s market position, expertise and best practices.

“Each program leverages a core competence of our Supply Chain organization and was proven within our own operation before expanding the service offering externally,” she said. “Each program also was in response to a gap or the ability to easily enter the market.”

UPMC
Incubating business ventures may be effective ways to generate revenue and fuel internal efficiencies, expertise and excitement, but UPMC also cited the need to share the wealth with others as a driver.

“Every day at UPMC we’re solving very complex clinical and business issues,” said Robert A. DeMichiei, Executive Vice President and Chief Financial Officer. “As we have invested the time, resources, and energy of the organization in solving these challenges, particularly around supply chain, we’ve concluded that other health systems, both large and small, could be helped by our solutions. That’s the first big test: If you believe you’ve taken a high-stakes business problem and solved it successfully, then it’s obvious to conclude that others could benefit from it, too.”

UPMC’s efforts began with two startups emerging from Supply Chain — Prodigo Solutions in 2008 and then Pensiamo in 2016. Prodigo concentrated on procurement and compliance. “It’s a narrow space, but procurement compliance at health systems can be very undisciplined,” DeMichiei said. “We developed a solution that made it easy for end users to do the right thing by putting a very user-friendly interface on an enterprise resource planning (ERP) system to make the whole thing run smoothly.” UPMC sold a majority stake in Prodigo to an investor in 2014.

With Prodigo’s success, UPMC expanded Supply Chain services to more than 25 hospitals, he continued. “We developed solutions for integrating acquisitions and their supply chains, strategic sourcing, procure to pay (P2P), value analysis optimization and other complex areas. We realized we had a complete suite of solutions for supply chain. These experiences of being a large academic medical center and one that was growing very quickly gave us practice in solving very complex problems that we knew many other health systems also face.”

Pensiamo formed from this realization, focused on what it calls “cognitive supply chain management” and headed by UPMC Chief Supply Chain Officer Jim Szilagyi.

“We understand the challenges of the healthcare market as it transitions to value-based care,” Szilagyi said. “We built a world-class supply chain management organization, and we knew we could help other institutions that didn’t have the financial or human resources to make this leap. By offering a variety of services through different delivery options, we could help clients where they needed us most.”

But Szilagyi urged caution and trepidation before Supply Chain leaders decide to embark on a business venture — particularly if his or her own house is not in order. UPMC was listed as one of HPN’s “Supply Chain Operations Worth Watching” in 2011 and then earned HPN’s Supply Chain Department of the Year award in 2012.

“The Supply Chain leader must be certain that his organization possesses a differentiated and sustainable capability or skill that would be valued by others and not easily replicated by potential competitors,” he said. “External validation through market testing is a prerequisite to building a business case to secure funding. The ability to scale a venture cannot dilute the ability to serve the resident organization.”

LeeSaR and Cooperative Services of Florida
Lee Health and Sarasota Memorial Hospital teamed up in the late 1990s to form its well-publicized and highly regarded joint-ventures LeeSaR and Cooperative Services of Florida that over time and under charismatic and effective leadership became one of the earliest reigning models of Supply Chain as a business venture. In fact, LeeSaR earned a spot on HPN’s “Supply Chain Operations Worth Watching” list in 2011. Further, LeeSaR earned HPN’s CS/ SPD Department of the Year award back in May, more than two decades after Sarasota Memorial first earned the distinction.

Sterile processing services represents one of its latest venture offerings as LeeSaR and CoSoF launched an in-house single-use device processing program for its members in 2014, according to Bill Tousey, RN, Vice President, Cooperative Services of Florida.

“Between the environmentally positive effect of landfill waste reduction and the cost savings, it was both the right thing to do and produces savings,” Tousey told HPN. “We partnered with an independent reprocessor for our ‘non-critical’ items where their technology and staff would be in-house at LeeSaR. Collections and redistribution are managed by a team from LeeSaR. Our goal was to increase collections to 80 percent for items in this category, and we are currently running at 72 percent.”

LeeSaR opened an on-site reprocessing center in 2016 that enabled them to collect, reprocess following FDA-approved protocol and redistribute devices to LeeSaR and CoSoF members, generating “millions of dollars in savings” for them as the program expands in the number and volume of products eligible for service, according to Tousey. The sterile processing venture follows the joint venture’s consolidated sourcing, contracting, distribution and logistics operations for member facilities.

Roi
Mercy executives sketched the idea for Resource Optimization & Innovation (ROi) unit more than a decade ago on the back of a napkin. They wanted to launch an internal, end-to-end strategic, integrated supply chain organization to service all of its provider organizations. HPN saluted ROi on its “Supply Chain Operations Worth Watching” list in 2011.

ROi launched its Medical Device Implant Services line after considering the idea for several years, according to Greg Meier, Vice President, Finance, ROi.

“In order for this to be successful, we were going to need to be able to overcome likely physician resistance to changing their relationship with distributors and reps,” Meier said. “We were lucky to identify a surgeon within Mercy who was interested in tackling the status quo and who also had the ability to drive the initiative. Once we had that, we were able to use the market research we had been compiling to complete the business case, get approval and then implement. We were successful in driving savings for the hospital while also generating supply chain revenue.”

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Deciding to launch a Supply Chain-based business venture can be challenging and difficult based on the internal and external details to be considered, Meier noted. “Many health systems are poised to think mainly towards investment related to physical healthcare facilities or equipment,” he said. “As a result, the investment the supply chain is requesting may be going up against a need for a new linear accelerator. Significant groundwork has to be laid before the proposal ever comes forward to build credibility.” Once this is present then the discussion has a realistic chance of being objectively considered. From an external standpoint, the Supply Chain executive needs to understand the overall opportunity and risks. The return needs to be sufficient enough, even with this risk, that it will provide a return when looking at quality, outcomes and finances in a combined fashion.

**FMOL Health System**
Before Franciscan Missionaries of Our Lady Health System could launch its central service center under the Logistics One name, Supply Chain logically had to demonstrate its own mettle, according to William Mosser, Vice President Materials Management, FMOL Health System and LogisticsOne. FMOLHS earned a spot on HPN’s “Supply Chain Operations Worth Watching” list in 2015.

“As a high-performing team, one that is great at what we do, the likelihood of repeating success with new endeavors is better than that of an average performing team,” Mosser said. “So verifying we are great at what we do with performance metrics earns credibility with executive leadership. At FMOLHS we gained credibility through reducing our annual supply costs and the operating costs of the entire supply chain over four successive years. We did this through improved contracting programs that reduced our supply expenses by more than $50 million.” Internally, Mosser’s team was able to reduce supply chain operational costs during each of the four years by at least 5 percent and concentrated on total cost reporting.

“We did this by understanding the functional costs of the supply chain and implementing cost effective solutions,” he said. “For instance, we spilt out the cost of distribution services through third parties from the supply cost and incorporated those service fees into the supply chain operations budget. Any other costs related to supply chain operations — freight, waste, service fees, etc. — were also built into the supply chain budgets. This gave us a clearer picture of the total cost of the supply chain function. And it provided the hospitals with actual supply cost rather than an inflated number based on a cost plus calculation. Our services are then charged based on what activity we support for each customer organization.”

Basically, Mosser’s team demonstrated to the C-suite it could deliver quality, service and employee engagement around its core operational functions, specializing in “best unit of measure” deliveries directly to patient care areas at lower costs than third-party organizations could deliver.

With a track record and credibility established, Mosser’s team opened the LogisticsOne facility in 2015, which worked to reduce overall supply expense by $8 million to $10 million annually. From there, senior executives have asked the team to investigate a variety of “non-traditional” purchased services.

“This opens the door to investigating and driving insource/outsource decisions based on current organizational capacity and the demand for high-quality services,” Mosser said. “Our future efforts will focus on facility services, non-acute care support, document management services, pharmacy support and eventual commercialization to our partners in the health care community.”

Supply Chain-based business ventures hinge on several factors, Mosser insisted. “First, we need to recognize our team’s capability to succeed,” he noted. “Second, we need to be aware when opportunities present themselves and if we are agile enough to react and support them. Third, we need to be willing to view circumstances from a total cost of operations standpoint, with fact-based decisions rather than what looks like a good idea.”

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**Making Supply Chain’s business case for generating revenue**

While it may not be prudent or logical for Supply Chain departments to pursue revenue-generating business ventures if they don’t have their expense management operations under reasonable control, those progressive teams demonstrating innovation and quality service to clinical customers should pursue available opportunities, experts agree. They share how to shape financial and operational pitches below.

“When introducing new ideas, I find it invaluable to remove emotion from the discussion with factual data and demonstrated practice. At FMOLHS, our Supply Chain team is involved with many pilot programs where we test new ideas in a smaller environment, in order to validate the concept, and also establish baseline metrics that are measurable.

“Historically, Supply Chain teams had little credibility in offering new business techniques, especially those focused on revenue seeking organizations. But as more and more Supply Chain leaders have transitioned from other industries, we’re finding the methods used in manufacturing, retail and grocery can apply to healthcare – even outside the supply chain world.

“Understanding current process, data interoperability and total cost of ownership of a particular function serves as our key for presenting a new business case. Using a LEAN approach to identify waste and redundancy helps support the need for change. Using performance metrics to support a new approach has allowed us to sell an idea and initiate a pilot program that will test its effectiveness. Once the pilot either proved successful, or identifies the need for improvement, further steps in operationalizing become nothing more than action items on a project plan.”

**William Mosser, Vice President Materials Management, FMOL Health System and LogisticsOne**

“Supply Chain Management made the business case for revenue-generating opportunities through our ability to close operational budget gaps while still focusing on the mission of Mayo Clinic. We selected opportunities that have the ability to transform healthcare supply chain management and better control costs. These activities were also a natural derivative of the work already being done, and therefore not a significant distraction. We focused on a few large initiatives and ensured we had discipline and methodology behind out process. We were also well-networked and understood the needs of other healthcare organizations.”

**Stephanie Matejka, Senior Director, New Business Development, Mayo Clinic**

“You have to first lay the groundwork. We had 10 years of history behind us in both building and implementing business cases. We learned a few key lessons:

- Discus quality, outcomes and operational impacts first
- Talk about risks and rewards in all of the areas
- Provide likely ranges for the plan, such as timelines and financial results, not just providing a singular date or return
- Use a solid financial model that looks at a full business cycle, not just one or two years, and focuses on hard benefits, not soft
- Test your business case on a few internal and, if possible, external advisors that you can trust to provide objective feedback
- Realize that building a business case is an iterative process, you will adjust it several times along the way.”

**Greg Meier, Vice President, Finance, ROI**

“First off, we kept in mind that key phrase from the practice of medicine: Do no harm. Before launching into any commercialization effort,
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we made sure our work wouldn’t come at the expense of UPMC and its core mission. After that, we asked if we could truly create value for other health systems, what the costs of building a commercial hardened solution would be, whether we could market on a national basis, and how these costs would ultimately add value to the enterprise. That’s what we’ve done with Prodigo and Pensiamo—we’ve hardened their offerings so that they will work in any environment. And then we’ve leveraged our reputation for excellence to market these solutions nationally.”

**Robert A. DeMichiei, Executive Vice President and Chief Financial Officer, UPMC**

“For a collaboration with Finance, Tax, Legal, Physician leaders and Supply Chain a detailed feasibility study was conducted by Cleveland Clinic to determine the viability and creation of an LLC. Following the feasibility study, a business plan ensued to provide a structure and financial outlook to the business proposition considered. Financial metrics and organizational shells were modeled to provide leadership a complete and detailed review of the business venture being proposed.

“Much as a case needed to be built within Cleveland Clinic, the same had to happen within Vizient. Once both parties agreed that there could be a case for taking Exceleate to market, there was a significant amount of collaboration to build out the model and gain approval from our respective leadership teams.

“Numerous presentations to a variety of select leaders in both organizations ensued with the culmination of a final presentation to each company’s c-suite executives. Once the business case was evaluated, vetted and approved by both leadership teams, sub-teams began working on executing the first phases of the business plan.”

**Simrit Sandhu, Executive Director, Supply Chain Operations, Cleveland Clinic**

“The Supply Chain leader has to remove his institutional executive hat and don his tenacious entrepreneur hat to develop a business case with solid evidence of the market potential and five-year revenue forecast with acceptable ROI. Not only does this change of perspective need to occur with the new venture team, but the individuals must also be prepared to place their internal credibility and external reputation on the line to develop this new business opportunity.

“At Pensiamo, we are fortunate to be part of UPMC because not all health systems have the vision, resources or ability to launch commercial ventures. UPMC harnesses the strength of its clinical, technical, business, and capital resources to develop, test, and deploy healthcare products and services that improve the lives of patients across the globe and reduce costs. Through UPMC Enterprises, the commercialization and innovation arm of UPMC, we have access to an impressive team with expertise in healthcare investing that’s second to none.”

**Jim Szilagy, President and CEO, Pensiamo, and former Chief Supply Chain Officer, UPMC**

**Supply Chain’s Great Reawakening?**

Imagine turning a small portion of what historically represents a cost center into a revenue generator. Supply Chain may have started as a profession pursued caution by controlling expenses even as they acquire products and services for their organizations. Yet a small number of progressive organizations see their ability to redeploy resources away from core activities. If you are going to enter the market as a service provider, you need to ensure your ability to support the growth with knowledgeable seasoned employees who will represent you well within the market.

“Understanding your strengths, what you do differently than others and if that is replicable. Do your homework to understand your likelihood of success. Plot the program when possible to better understand your market, revenue potential and costs.

• Culture of excellence. Position your organization as an indispensable resource to your own organization and others you might serve.

**Simrit Sandhu, Executive Director, Supply Chain Operations, Cleveland Clinic**

• Authentic purpose. It’s important to pin down your “why.” This should be your company’s North Star guiding every aspect from recruitment to customer management to product development and sales.

• A powerful brand. If you want to create a scalable business, you have to understand how crucial it is to build brand equity and emotional connections with your customers.

• Partnership and collaboration. Doing everything yourself can be tempting but being humble enough to find a partner who can truly collaborate and help you scale is essential.

• Community. Building an ecosystem that is fluid and dependable through teamwork help to maintain the growth of your venture.

• Flexible, adaptive leadership. To continue growing, executives and leaders need to keep evolving at the right pace. This requires introspection, self-awareness, and a keen sense of adaptive, flexible leadership to evolve with your strategy — both long and short.

**Bill Tousey, RN, Vice President, Cooperative Services of Florida**

LeeSar and Cooperative Services of Florida are not a traditional Supply Chain department. These companies were designed to be a supply chain “laboratory” that continuously seeks out new approaches to member value creation. Visionary leadership, strategic planning, coordinated execution, and member support have enabled us to realize multiple successful initiatives over the last 15 years.

**Jim Szilagy, President and CEO, Pensiamo, and former Chief Supply Chain Officer, UPMC**

The key attributes for launching a successful product or enterprise are motivation, the ability to work as a team, and recognition of the opportunity. Not only does the team have to have the talent, capacity, and technology to launch a new venture, there also must be a strong market need for products and services. And don’t underestimate the need for top-notch legal and other shared services support, as well as longitudinal investment from the provider as critical factors in success. Sheer will, desire, perseverance and courage on the part of the new venture team are essential for the challenge of transforming a progressive, well-performing, in-house department to a commercial, for-profit organization.

**Robert A. DeMichiei, Executive Vice President, Cooperative Services of Florida**

The department, and even more so, the larger organization, needs to be committed to the struggle that is ahead. Health systems have many priorities, many challenges that can get in the way. Don’t expect overnight success — the sales cycle in healthcare is a long one. You must be committed to the process and to the time involved in creating value through a startup. Additionally, the organization needs great talent, great process and great technology. Those capabilities need to be in place and be robust because they’re going to be stressed and taxed. Launching a commercial venture isn’t for the faint of heart.

**Greg Meier, Vice President, Finance, ROI**

• [Supply Chain] has individuals that have had significant experience beyond provider-based supply chain, particularly in sales.

• It is considered strategic to the hospital/IDN, not just a service provider.

• It has strong overall operations and financial performance.

• It is able to overcome barriers, not be stymied by them.

• It can objectively look at and challenge itself.

**William Mosser, Vice President, Materials Management, FMOL Health System and LogisticsOne**

I believe the key attributes of an organization ready to launch a revenue-generating initiative are:

• Organizational credibility

• Executive support

• Team self-awareness

• Agility and tenacity in implementing change

• Willingness to take on risk.
Making a difference for patients.

For over 50 years we have focused on developing products for minimally invasive treatments to make a difference for patients. However, we recognize the need to look at more than medical devices.
A lengthy study of four surgical specialties has determined that *Clostridium difficile* infection (CDI) is a major risk factor for postoperative patients, although incidences varied.

Although it has been shown that CDI is associated with increased cost, morbidity and mortality in patients after surgery, this is the first to examine *C. difficile* rates across multiple surgical specialties.

"This study has great importance as the landscape of repayment for elective surgical procedures changes," said the study’s lead author, James Bernatz, MD, a surgeon with the Department of Orthopedics and Rehabilitation Medicine at University of Wisconsin Hospital and Clinics, in Madison. "With more surgeries being reimbursed as bundled payments, hospitals are pressured to limit costs. As *C. difficile* infection has been found to increase length of stay by one week and double the cost of care, it is clearly a postoperative complication to be avoided."

Dr. Bernatz and his colleagues conducted the study at a 592-bed tertiary care academic center. They used the hospital’s quality improvement database to review admissions to the orthopedic surgery, neurosurgery, trauma surgery and general surgery units from January 2014 through July 2016. Patients who underwent an inpatient surgical procedure, and did not meet the exclusion criteria, were surveyed.

They found 52 cases of CDI among 11,310 surgical admissions to four hospital units: general surgery, neurology, orthopedics and trauma. In all 52 cases, patients had a PCR-positive test result more than 72 hours after admission and within 12 weeks of discharge, making the incidence 0.80 cases per 1,000 patient-days.

The trauma unit had the highest rate at 9.5 CDI cases per 1,000 admissions (11 cases over 1,160 admissions during the study period). General surgery had 30 cases among 3,447 admissions for a rate of 8.7; orthopedics had six cases among 4,339 admissions for a rate of 1.4; and neurology had five cases among 2,364 admissions for a rate of 2.1.

A number of risk factors were surveyed, including the use of antibiotics. Regarding antibiotic use, the researchers found that the odds of CDI increased 3.34-fold when the perioperative antibiotic is continued more than 24 hours after surgery, outside of the perioperative window. Antibiotic use, other than the perioperative antibiotic, while in the hospital also was associated with 2.2 times greater odds of CDI. And exposure to antibiotics as long as six months before surgery increased the odds of CDI more than threefold.

Other significant risk factors included number of hospital admissions in the past year and proton pump inhibitor or histamine type 2 receptor blocker use in the previous six months.

Source: *Infection Control Hospital Epidemiology* 2017;1-4.

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**OPERATING ROOM**

Get more mileage with a hybrid OR

by Valerie J. Dimond

Facilities that succeed in attracting top surgical staff and top patient satisfaction scores know the value of a top-shelf surgical suite. Having a state-of-the-art operating room isn’t just another item on a surgeon’s wish-list anymore. It’s become an essential asset that providers need in order to support current and future surgical procedures, complex instrumentation, and workflow demands.

Getting an OR renovation project off the ground may seem like a colossal undertaking but with sharp, strategic planning, consistent collaboration with the right stakeholders, and savvy vendor and product selection, the process can go smoothly. *Healthcare Purchasing News* asked those in the know what facilities need to think about before, during, and after a surgical suite renovation.

**HPN: What do various specialty surgeons and OR staff typically want inside their surgical suites today and why?**

**Pamela Rockow, Director of Marketing, Surgical Workflows, Getinge:** Regardless of the surgical discipline, members of the surgical team expect to have at their disposal all of the tools they need to meet the heightened expectation of achieving positive patient outcomes. At the same time, they are acutely aware of the financial impact of effective surgical workflows and OR scheduling. Up to 65 percent of an institution’s revenue is generated in the OR.

Consequently, surgeons, in particular, want such amenities as the latest advancements in surgical lighting that minimize the need for manual light head adjustments during surgery while providing consistent illumination to help them distinguish subtle differences in tissue color.

As far as tables are concerned, busy ORs require a highly versatile design that enables fast OR turnover while minimizing the need to store underutilized specialty tables. Flexible table positioning is the key to ensure optimal safety and comfort for both the surgeon and patient. Any new or renovated OR moving forward should also accommodate OR integration and image-guided surgeries, because the “OR of the future” has already become the Hybrid OR of today.

**Laura Holly, Director, Marketing and Product Management, Image Stream Medical:** Identifying each surgeon’s clinical, technical, and procedural needs for the various procedure rooms is a key component to a successful surgical renovation. An imaging-centric hybrid OR has very different requirements than an otolaryngology clinic and will need to support the hospital’s own clinical workflow, not one that is dictated by a vendor. The committee will ask the clinical team to map the clinical disciplines involved, the types of procedures performed, the number of procedures performed daily, and the required clinical workflow for each discipline. An important question specific to the room, is to understand if it will be used solely for a certain procedure type or if it will require a high degree of flexibility to accommodate multiple procedures.

Surgeons seek simplicity so he or she can focus on delivering high-quality patient care. This may come from making it easy to hear their personal playlist in the room as they prepare, or the ability to review the procedure images with patient’s families after a successful surgery. This is the same motivation for other medical staffs like biomed, IT, and even equipment planners and architects.

For this reason, it is critical that the hospital shares the workflow for each procedure space and where the technology needs to integrate with existing workflows. Focusing on a hospital’s internal workflow provides the opportunity to overcome obstacles that make surgery cumbersome.

**Aaron Young, Marketing Manager, Stryker:** The specific requirements vary widely based on surgical specialty and the types of cases that will be performed in these operating rooms. In general, sur-
geons and staff want rooms that are well-designed and which optimize intra and inter-operative workflow and which enable them to focus on their patients. In addition to the common equipment used for routine surgical cases, the room must also be able to accommodate specialized equipment that may be transported into the room for more specialized procedures. It’s expected that this equipment can be brought in before or during a case and easily connected without disrupting the other equipment and systems in the room.

Jake Isley, Senior Product Manager, Olympus of Americas Corporation: Surgeons want technologies that enable informed decision-making and drive efficiencies. Forward-thinking staffs demand more than just ‘surgical equipment,’ and are seeking ways to collaborate and connect in real time.

Noreen Cioffi, Marketing Manager, Architectural Systems and Healthcare Design, Draeger: We see a need for both flexible surgical suite design and a need for targeted designs for dedicated procedures, such as minimally invasive.

Hybrid OR’s are also a fast-growing trend; these complex OR’s bring quick point-of-care assessment for the surgeons and greatly improve overall patient care. The complexity of equipment needed in these Hybrid OR’s requires a very precise and coordinated design.

Kevin V. Shanahan, Executive Workplace Consultant, Architectural Systems, Draeger: Certain surgical disciplines have very specific needs, and the operating room suite must incorporate physician preferences in terms of spatial requirements. For example, a right shoulder procedure will require very specific spatial configuration. Cardiac operating rooms require careful mapping of where perfusion will be positioned and potential vein harvesting at the end of the operating room table. 3D renderings of rooms which map specific dimensions of all equipment in the room assist in confirming that the surgeon’s needs are achieved.

Gulam Khan, Senior Vice President, Procedural Solutions, STERIS Corporation: While early integrated suites focused mainly on routing video, modern integrated suites offer a broader reach by seamlessly connecting the surgical staff with information, teams, and processes located outside the OR. For example, with STERIS integration solutions, clinicians within the OR can consult with remote specialists in real time, or pull real-time information from electronic medical records. The safety and satisfaction of staff and patients remain top-of-mind, and the methods for meeting those needs continue to improve.

With the continual rise in minimally invasive and robotic surgeries, the surgical suite is challenged to accommodate new imaging modalities. STERIS offers an in-room display that pulls real-time critical patient data forward. SAFE (situational awareness for everyone) replaces white boards, paper checklists and allows the surgical team to employ the most robust dynamic universal protocol. Surgeon led procedure verification can now be widely implemented with this dynamic board that is configurable to meet each facility’s policies.

Can a facility’s existing equipment/technologies be blended into the new OR infrastructure? What can and cannot be integrated and why?

Holly: Yes, in many cases however, it will require a vendor-neutral solution to integrate all of the equipment both new and old. Hospitals look for ways to reduce cost and many find if it avoids a single vendor solution it maximizes both clinical and financial value.

Patient outcomes are the priority and each hospital has its own preferences and reasons for the equipment it purchases or chooses to keep as a legacy solution. To accomplish this, it needs an integration solution to integrate with a variety of procedure room equipment in multiple procedure rooms across the entire enterprise. Ideally, the integration can provide a foundational technology needed for not only today, but for tomorrow in however the hospital’s services evolve.

In addition to the medical equipment, booms, and lights in the actual procedure room, hospitals require seamless interoperability with electronic health record (EHR) systems, picture archiving and communication systems (PACS) and vendor-neutral archives (VNA). The goal for hospitals is beyond just integration, it is for automation that improves patient care, ranging from patient safety and room distractions to increasing the quality of surgical imagery and team communications.

Isley: In regards to imaging and integration, it is indeed possible to incorporate existing equipment into a given design, and better plan for future renovations. For example, customers should research a vendor’s ability to accommodate multiple video platforms (e.g., 2k, 4k, 3D) into the surgical suite, even if it means using other vendor’s equipment. This customer-centric approach gives the planning committee more flexibility rather than being locked into a single vendor, or having to purchase all product categories at the same time.

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**Operating Room**

*Image credit: STERIS*
OPERATING ROOM

How has OR technology improved in recent years? Does it offer something it didn’t five to 10 years ago?

Rockow: To be sure, people were surgically treated with much success five to 10 years ago because the foundation of current surgical lights, booms and table technology had already been established. With notable exceptions (hybrid OR technology for image-guided procedures and OR integration platforms), enhancements to surgical workflows have been evolutionary in design.

Perhaps the greatest contribution these relatively new and emerging technologies offer today that wasn’t available a decade ago is a track record of evidence-based performance that significantly has reduced the perceived risk of adoption.

Daniel Walters, Surgery Customer Solutions Manager, GE Healthcare: Technology has evolved and improved drastically in recent years. Regarding surgical imaging capabilities in the OR, there has been advancement in CMOS flat panel detectors in mobile C-arms. GE Healthcare introduced several new surgical C-arm imaging systems — such as the OEC Elite CFD mobile C-arm and the OEC Elite MiniView mini C-arm — to bring enhanced visualization of detail during surgical imaging through CMOS flat panel detectors to our customers, as well as larger monitor displays and ergonomic enhancements.

In addition to surgical imaging advances, there is generally more equipment in an OR for advanced or complex surgical procedures. For ergonomic enhancements, the new OEC Elite CFD C-arm provides enhanced maneuverability and reach around the patient table and an articulating monitor display arm for ease in visibility and reach. For extremity procedures, the OEC Elite MiniView mini C-arm offers enhanced ergonomics with SmartLock, a one-button push to lock the C-arm in place, rather than requiring surgeons to turn multiple locks. To address tight surgical spaces, GE Healthcare offers an integrated system with an OEC 9900 surgical C-arm and GE Venue ultrasound system, combining two systems into one.

As for OR tables, they have evolved to become more flexible. Tables can now be outfitted for a greater variety of procedures. Within the OR, there are frequently additional monitors to display clinical information. As display technology advances, so has the availability of higher resolution and larger LCD displays.

Cioffi: Technology relating to OR booms have improved more specifically with advance-ments in lighting and accessories that are required in various surgical procedures. Adapting to the complex ancillary equipment being used in the OR is essential for the booms overall flexibility and use. We are seeing more cable management solutions as well.

What do planning committees need to be aware of when it comes to booms?

Rockow: As the complexity and diversity of procedures increase — especially in the Hybrid OR — the deployment of a flexible ceiling supply unit has become virtually mandatory to facilitate provider-patient interactions and enhance safety, especially wherever space is at a premium.

Cioffi: Research conducted on OR design has found the location of booms to be a major disruptor in surgeries. Nursing staff often spend crucial time maneuvering or changing positions of key equipment due to poor boom layouts. Planning committees need to ensure the feedback and participation of the clinical team early in the planning phase. It is vital that planning committees focus on the optimal use of the OR and ensure that all considerations have been outlined.

Map out the spatial requirements for each surgical discipline; each procedure may require different equipment and configurations. 3D modeling and mock-up simulations are also great tools to help plan this space.

Young: Gathering feedback and recommendations from all stakeholders is a daunting task and critical input is not always incorporated into the final room design. For instance, the mounting locations of equipment booms are an important consideration. During a recent project, we hosted a design session to confirm that the final room drawings were correct. We discovered that the boom placement identified through previous design sessions would not allow for optimal workflow in the new room. In real time, we were able to move the boom mounting location and show the nursing staff what the room would look like, in life-size scale, using the HoloLens. After confirming the new placement would provide better room coverage and reach, the room design drawings were finalized.

What are some of the most common pitfalls when renovating and how can your company help facilities avoid them?
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OPERATING ROOM

Holly: We have a team of skilled installation experts that help to ensure minimal downtime and disruption, while delivering rooms that are installed and configured to the exact specifications of our client’s clinical users. For example, specifying the location of room displays and imaging source wall plates is painless to change early on, but once cable is pulled and walls are built, it becomes an expensive and difficult change order.

The earlier we understand how integration can best support the hospital’s goals, the more value we can add to help clarify the client’s specific needs and reduce project risk. This is more than a check-the-box questionnaire; it is a process of collaboration with clinicians to understand their workflows, and designing room configurations to complement these workflows. It may also entail developing site-specific room drawings, assisting with initial site and IT infrastructure verification, like server requirements, network configuration, remote support access, and EHR integration details.

Kahn: STERIS mock rooms create a convenient and immersive setting for evaluating STERIS technologies first-hand, feeling their ease of use and seeing the clarity of the surgical video. Customers have found mock rooms invaluable for visualizing the minimal footprint of STERIS systems, and creating a powerful side-by-side comparison to the outdated systems they currently use. In addition to mock rooms, STERIS uses a virtual reality OR simulator to show the surgeon, anesthesiologist, and other surgical personnel’s vantage points in a case-specific setting.

What would you want supply chain and purchasing teams to know about your product line? Why is it a good investment?

Rockow: Hospital administrators and architectural planners often struggle to create the ideal footprint for the OR, and other heavily equipped areas knowing the likelihood that emerging technologies and patient care strategies could render the initial floor plan inadequate in meeting anticipated, but yet unknown, needs in the future.

Unfortunately, permanent construction is difficult and costly to modify at a later date and could result in a lengthy period of downtime when room utilization is on the rise. That’s why Getinge created the VARIOP System of walls, ceiling, doors and windows that can be disassembled and re-assembled at a fraction of the time and cost with minimal downtime to accommodate future expansion and new technologies.

Hospital surroundings are rapidly changing to reflect the increasing emphasis on environmental aesthetics that is widely acknowledged to improve job satisfaction and morale in the workplace and a sense of well-being among patients. VARIOP’s individually printed wall elements create a comforting ambience in a virtually unlimited selection of custom motifs and colors. In addition, ceiling-high glass doors and other glass elements allow additional light to enter the room while establishing the visual perception of spaciousness within smaller confines.

VARIOP’s modular design incorporates a comprehensive selection of made-for-each-other wall panels, doors, glass elements ventilation units and an integrated ceiling system (including room lighting) supported by a solid substructure. Individual elements are easy to assemble and disassemble without special tools, reducing installation time, debris, dust and noise.

VARIOP’s innovative suspended ceiling system also provides fast access to air...
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conditioning, medical gases and electrical connections for maintenance and repair. In addition, ceiling components are easy to disassemble, facilitating changes to the ceiling’s integrated air-supply unit, operating lights, ceiling service units and room lighting when expanding or modifying room configurations.

In addition, VARIOP’s large, smooth surfaces are easy to clean and disinfect to help speed room turnaround. Powder-coated finishes can be specified to inactivate or inhibit bacterial growth.

Walters: With years of clinical and service specialists supporting customers, GE Healthcare brings clinical expertise in planning OR suites with an equipment offering to serve a broad range of clinical specialties. GE Healthcare has a new line of surgical C-arms, OEC Elite, which feature advanced flat-panel detectors with choice and clinical versatility. From dedicated surgical suites to general surgery with broad range of patient case mix, GE Healthcare’s OEC Elite C-arms are a smart choice for surgical teams. GE Healthcare also offers tables, monitors, lights and pendants that are modular and expandable with configuration flexibility — perfect for meeting healthcare providers’ dynamic needs. This breadth enables a customer to have a more streamlined planning process and single source purchasing of primary surgical equipment.

Young: Earlier this year, we introduced the ByDesign Experience powered by HoloLens. This cutting-edge technology allows us to virtually design an operating room to exact specifications with our proprietary software. Our customers then wear a Microsoft HoloLens headset which brings their future OR vision to life right before their eyes.

We’ve invested in this technology because we believe that optimal operating room design is critically important. It is included as part of our overall consultative design process and there is no charge for this capability. Incorporating ByDesign and HoloLens into the design process will help to shorten timelines, reduce costs, and increase predictability of the project as a whole. Clinicians provide feedback on the room design and layout which is then provided to equipment planners and architects immediately, shortening the time it takes to make meaningful, clinically-relevant changes. We believe that all of these factors ultimately combine to improve patient outcomes.

Eddie Mitchell, CEO, Image Stream Medical: We believe that integration requires an enterprise-wide vision and approach. We focus on the capabilities to support connections across the enterprise, from ENT to ORs to a facility’s most advanced hybrid spaces. Organizations appreciate the time and money in providing a single solution that allows clinicians to have a consistent yet custom workflow that meets its enterprise standards.

We make sophisticated technology transparent. Our solutions simplify the complex, freeing care teams to focus on what matters most — caring for their patients. Because technology should help clinicians, not frustrate them, we focus on not overwhelming our customers with long feature lists but provide an intuitive, clinical workflow-congruent, solution that is scalable and open in architecture, while calling for minimal infrastructure requirements.

Cioffi: Draeger offers a complete line of architectural systems with over 20 configurations of service columns, including lift options in single or double arm systems. Our supply booms are designed with even surfaces and rounded edges for easy cleaning for faster turnaround times in your OR. Organize your space with a wide array of service column and service head options with flexible shelving and storage solutions without expensive, messy construction or renovation. Draeger offers hundreds of accessory...
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Make cross-contamination a thing of the past with aScope 3 single-use flexible scope for bronchoscopy.

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The Challenge

Is my bronchoscope really clean?

The Solution
possibilities including rails, baskets, and shelving to complete your workplace, organize consumables, and provide space for instrument trays. Our booms are a sealed, closed system with integrated cable management to prevent cable clutter and tripping hazards. A navigation light can be integrated into all our systems, which illuminates indirect light onto the floor and ceiling; this prevents glare and provides a softer, low-light particularly for minimally invasive procedures.

We have decades of experience in building custom OR spaces that reduce costs associated with delayed cases, poor organization of equipment, and inefficient workflows.

We have an in-house Architect, Designer, and Project Manager dedicated to each installation. Draeger’s 3D Tool software also allows your team to experience your space virtually during the design phase, with the ability to make changes in real-time. We also have a Design Center where you can experience our products first-hand and a full OR set-up for workshopping your design. All of these great tools can help you make an informed decision and avoid costly design errors.

Kahn: It is always a big decision to move forward with OR renovation projects but investing in the right infrastructure can allow hospitals to reach their full potential. An environment of care that best supports positive surgical outcomes, allowing multi-disciplinary teams to be efficient and precise while enhancing communication among care providers is everyone’s goal. Operating rooms in today’s hospitals require strategic partners that are committed to fully understanding and supporting their unique needs and demands. STERIS provides a complete, single-source portfolio of OR products and solutions that delivers innovation, efficiency, investment protection, responsive service and support.

Provide an example of how you can help facilities build the OR with the future in mind – and why it is important.

Rockow: MAGNUS Operating Table System is at the heart of the Getinge Hybrid Surgical Suite. This table is designed to accommodate a wide range of surgical disciplines and procedures to keep a Hybrid OR fully scheduled and profitable – even if only a portion of the current workflow is dedicated to image-guided interventions.

MAGNUS can also be seamlessly synchronized with leading imaging systems from GE, Philips Healthcare, Siemens Healthineers and Toshiba Medical System to eliminate any integration issues that could compromise imaging or table performance.

Available carbon-fiber tops for the entire body accommodate 3D-quality 360° imaging up to 84.6 inches in length. Table rotation up to 350° helps provide an extremely wide range of positioning possibilities. The ample open space beneath the table and patient improves freedom of movement for staff and equipment, simplifies cleaning, and reduces clutter.

MEERA Multi-Disciplinary Mobile Operating Table makes it possible to perform 90 percent or more of the OR’s surgical procedures on a single accessory-enriched mobile platform that reduces the need to invest in capital intensive and underutilized specialty tables.

More than 400 available accessories accommodate 45 or more patient positioning options. In addition, MEERA’s compact and concave table base allows...
members of the surgical team to stand as close as possible to the patient to help reduce muscle fatigue during lengthy procedures, regardless of the surgery type. Plus, MEERA’s extended adjustment ranges accommodate a wide range of positional requirements and personal preferences.

Young: The traditional approach to designing a surgical suite starts with the creation of two-dimensional drawings that are then mocked up in an open space, typically with cardboard cut-outs or manufacturer-supplied equipment trusses where we hang equipment. This approach is costly and time-consuming and it typically only allows for a mock-up of a single room and a limited number of surgical case scenarios. However, incorporating Stryker’s ByDesign Experience with HoloLens, we can simulate real-time movement and positioning of equipment within the room. This enables everyone, from scrub tech to surgeon, to visualize workflow within the room for a wide variety of cases and to provide feedback which can be immediately updated for the final design. This ensures that there are no surprises when the final surgical suite is built.

Mitchell: Second, is our innovation philosophy to “future proof” our technology solution. We invest heavily in research and development to recognize the emerging standards in innovation and incorporate these advances into a solution that meets and sometimes exceeds the evolving clinical communication and business needs of a hospital. The value may come in the form of simplifying patient flow, increasing room-turnover times, or solving high-level business challenges.

We are vendor neutral. ISM wants to stay true to each customer’s requirements both today and in the future. Our main priority is to work with all the vendors the customer selects such as lighting, booms, imaging, and endoscopes. Why is that important? As the facility’s requirements evolve across its procedure spaces, we can continue to provide the foundational technologies needed without holding the customer hostage as a vendor that only connects to our own equipment.

Kahn: In a time when technology is making rapid advances in the OR, the ability to solve the challenges of today, while accommodating the needs of tomorrow, is critical. Through our OR Integration Systems, we focus on supporting patients and hospital teams alike, now and into the future, through easy-to-use and scalable technology that supports the operative workflow.

Isley: While selection of the proper imaging and/or integration provider is key to the overall success of a project, the product lifecycles are shorter in those categories and there will be easier ways of changing direction after a few years if something is not working as designed. The bigger problems tend to be related to poor construction decisions. It can be difficult to convince a customer that spending an extra $10,000 per room on new ceiling structures is a requirement, rather than a ‘nice to have,’ but best practices in room design may warrant just that recommendation. One way to future-proof a room is to include multiple mounts with dual plates at each location. An ounce of planning is worth a pound of renovation.

When renovating the OR, who should be on the planning committee?
Visit www.hpnonline.com/get-more-mileage-with-hybrid-OR/ for the full interview. Plus, for tips on how to integrate all-day UV disinfection into an OR renovation, visit www.hpnonline.com/or-uv-integration/.
INFECTION PREVENTION

Hand to hand combat

Improved formulations and monitoring improves hand-hygiene compliance

by Susan Cantrell, ELS

It has been almost 200 years since discovery of the connection between handwashing and reduction of infection in the healthcare setting. Yet, most healthcare facilities still struggle to enforce hand-hygiene (HH) compliance. Fortunately, there are a variety of solutions available to help healthcare workers (HCWs) to improve.

A report recently published in the American Journal of Infection Control found that patient involvement can also help up HH-compliance rates of physicians. Results showed that when patients used a patient empowerment tool (PET), there were positive results: 64 percent of adult patients and 70 percent of parents of admitted children believed the PET made them feel more in control of their care; parents were nearly 20 percent more likely than adult patients to speak up if a physician did not cleanse his or her hands. HH-compliance rates increased from 48 percent, which is the normal average, to approximately 75 percent.

Breaking the cycle of skin damage

Skin damage from repeated hand cleansing is a major reason for non-compliance. Products that not only cleanse but heal encourage HH compliance while helping to break the cycle of damaged, painful skin due to constant cleansing.

Healthy skin is the first line of defense against colonization by pathogens that can be transferred from HCWs’ hands to patients. Dry, cracked hands hurt, but they also provide a multitude of tiny nooks and crannies for pathogens to hide and breed.

Greg Skorczewski, Advanced Technical Service Specialist, 3M, described contributors to damaged skin, as well as solutions. "Formulation matters," he stated. "Damaged hands are prevalent among healthcare professionals because of frequent handwashing with harsh agents. Many HCWs report having problems with their hands, including dry, scaly, cracked skin; red, blotchy skin; or stinging. The frequency of exposure to antimicrobial agents is among the most common reasons cited for damaged skin.

"Maintaining skin-barrier function as an adjunct to antimicrobial activity is a key consideration when selecting HH products," continued Skorczewski. "3M Avagard D and Avagard (chlorhexidine gluconate 1 percent and ethyl alcohol 61 percent, w/w) Surgical and Healthcare Personnel Hand Antiseptic with moisturizers delivers substantive emollients that have been shown in clinical studies to maintain skin integrity and enhance skin hydration."

Skorczewski noted the importance of addressing HCW likes and dislikes in hand cleansers, because if a user does not like the product they are less likely to comply. “3M Avagard D and Avagard Surgical and Healthcare Personnel Hand Antiseptic with moisturizers are formulated with a unique, patented, liquid-crystalline emulsion system. In addition, the Avagard Gel antiseptic is formulated with an aloe-based emollient. The Avagard Foam antiseptic rounds out a choice of emollients to meet user preference, which has been shown to be a significant factor in sustaining HH compliance.”

Skorczewski referred to research that evaluated the effects of those products. "All three studies assessed subjects’ hands for skin dryness, erythema, appearance, moisture content, and intactness. The unique formulation of Avagard D and Avagard Surgical and Healthcare Personnel Hand Antiseptic with moisturizers preparation was shown to be less drying and more gentle to the skin than traditional handwash agents by maintaining the integrity of the stratum corneum, which was associated with statistically significantly better skin-condition scores for appearance, intactness, moisture content, and sensation."

Joey Suntken, Marketing Vice President-Healthcare, GOJO, agreed that formulation is critical. "Expert formulation is essential to achieving efficacy without causing severe irritation from high-frequency usage."

Avagard Surgical and Healthcare Personnel Hand Antiseptic with moisturizers, from 3M

PREVENTION UPDATE

Nursing home workers often fail to change gloves, risking spread of infection

The failure to change gloves is common among certified nursing assistants (CNAs), and may be a significant cause of the spread of dangerous pathogens in nursing homes and long-term healthcare settings, according to a study published in American Journal of Infection Control, the journal of the Association for Professionals in Infection Control and Epidemiology (APIC).

CNAs are often the main providers of care in long-term care facilities (LTCFs), with significant patient contact. If a CNA uses gloves incorrectly, pathogens can easily be spread to patients and the environment, leading to healthcare-associated infections (HAIs). Researchers estimate that between 1.6 million and 3.8 million infections occur in LTCFs annually. Infections in LTCFs cause approximately 388,000 deaths per year and cost between $673 million and $2 billion annually.

In the study by Deborah Patterson Burdsall, PhD, RN-BC, CIC, of the University of Iowa College of Nursing, researchers examined the degree of inappropriate glove use in a random sample of 74 CNAs performing toileting and perineal care at one LTCF. Inappropriate glove use -- defined as a failure to change gloves, and when surfaces were touched with contaminated gloves -- was frequently observed.

The Centers for Disease Control and Prevention (CDC) recommends standard precautions requiring all CNAs to wear personal protective equipment, especially gloves, to avoid contact with blood, secretions, excretions, or other potentially infectious materials that may contain pathogens. CNAs must change gloves as a standard precaution at the following glove change points during patient care: when the gloves have touched blood or body fluids; after the CNA completes a patient task; after the gloves have touched blood or body fluids; after perineal care at one LTCF. Inappropriate glove use -- defined as a failure to change gloves, and when surfaces were touched with contaminated gloves -- was frequently observed.

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Infection Prevention

Ken said that GOJO worked with a dermatitis specialist to identify the leading causes of severe skin irritation from washing, including irritating ingredients.

“We formulated the new PURELL Healthcare HEALTHY SOAP products with CLEAN RELEASE Technology to be free from harsh preservatives and gentle on skin. Using a proprietary surfactant system, this patent-pending, non-antimicrobial soap reaches into skin’s cracks and crevices, removing over 99 percent of soil and germs. It also works better than regular soap on dry and irritated skin, leaving 3.4 times fewer germs behind.”

Last year, GOJO also launched PURELL Healthcare Advanced Hand Sanitizer ULTRA NOURISHING Foam, which is enhanced with skin conditioners proven to improve skin condition in three days, even with frequent use. “It also kills 99.99 percent of the most common illness-causing germs in a healthcare setting, including methicillin-resistant Staphylococcus aureus (MRSA) and vancomycin-resistant enterococcus,” Sunksen said.

He believes that lack of ready availability of HH products is another reason for noncompliance, noting, “GOJO is helping to overcome this challenge with breakthrough dispenser technology. PURELL ES8 dispensers feature AT-A-GLANCE refill design, allowing a healthcare facility’s staff to easily monitor when a refill needs to be replaced. Each new refill comes with its own energy source: a coin cell battery integrated into the refill. When the empty refill is returned, it gets fresh product and fresh energy in one step, and a 68 percent reduction in battery waste, compared to leading touch-free systems on the market. This means soap and sanitizer dispensers are always ready and functioning. All PURELL ES8 dispensers can be integrated with optional GOJO SMARTLINK plug-in modules to track HH compliance, receive alerts when dispensers need service, or add other upgrades as technology evolves.”

Donna Santoro, Vice President and General Manager, Vi-Jon Inc., talked about how their products address the importance of formulation in maintaining healthy skin. “Ecolab keeps hand health top-of-mind when we are formulating our products. We have a sanitizer that actually improves hand health after 14 days, soaps with emollients to help nourish skin during the wash, and lotion and cream to help moisturize the skin when needed.”

Elyptol is a hand antiseptic with a formula that deviates a bit from others. Sue Barnes, RN, CIC, FAPIC, Independent Infection Prevention Consultant, described how Elyptol is different from other alcoholic hand sanitizers. “The active ingredient, eucalyptol, is an essential oil that is added to the Elyptol formula, harnessing nature’s strengths to create a sanitizer that moisturizes and cleanses the skin without any toxic ingredients. The unique formula also helps minimize the likelihood of allergic reactions and contact dermatitis. Additionally, the therapeutic aromatherapy property of Elyptol encourages frequent use, which facilitates compliance with the WHO 5 Moments of HH protocol.

“Essential oils, such as eucalyptol, provide a number of therapeutic properties including skin healing, aromatherapy, antibacterial properties against pathogens, anti-inflammatory and antioxidant properties, and anti-anxiety benefit,” added Barnes. “Scent, in particular, has been shown in various settings to enhance HH compliance. In a study by Birnbach et al, fresh scent was a variable introduced to enhance HH compliance among novice healthcare providers. Of 165 participants, 51 percent in the fresh-scent group demonstrated a higher rate of HH compliance. The author concluded that HH behavior may be influenced by cues in the environment such as scent.”

Noting that the effect of this innovative hand sanitizer has not yet been scientifically tested, Barnes noted, “However, Elyptol, won a New Hope NEXTY award at Natural Products Expo in September 2016. These Awards are globally recognized as the best in class in the Natural Products sector, given to products that display the utmost in innovation, integrity, and inspiration, delivering more healthful, trusted, and sustainable products to consumers. Elyptol also won the ECRM Finalist Retail award and the International Design Award.”

Compliance improves with electronic monitoring

New Scientist recently reported on a pilot study1 performed by the Swiss Federal Institute of Technology in Lausanne that takes compliance monitoring to another level, stating, “Using a combination of depth cameras and computer-vision algorithms, a research team has tracked people around two hospital wards and automatically identified when they used gel dispensers. The trial was so successful that the group is now going to fully kit out three hospitals for a whole year, to see if it puts a dent in the stubborn acquired infections statistics.”

They collected images of unidentifiable individuals from cameras installed overlooking corridors, patient rooms, and alcohol-based gel dispensers, among other places. Only 30 of 170 people correctly used the gel dispensers. While secret shoppers are only capable of identifying whether dispensers are used correctly, cameras can provide a continuous view of everyone moving in and out of different locations 24 hours each day.

Also, there are effective electronic monitoring options available and excellent advice to consider.

The Handwashingforlife Institute’s mission is to advance the science of HH and solve common HH challenges around the world. Jim Mann, Executive Director, Handwashingforlife Institute, connected the dots between accuracy in monitoring and changing HCW behavior. “Electronically assisted HH monitoring converts random handwashing into a controllable and verifiable process. Application of this technology makes it possible to motivate behavior change from the c-suite to bedside care. The meeting of agreed standards drives a report shared first with the worker and on up through the hierarchy, including risk management. Data then drives the professionalization process and assures a patient-first culture. Data defends the patient from the budget-first decision-maker. Handwashing performance becomes a career-critical measurement for all caregivers and a key indicator of supervisor leadership.”
Mann offered advice on three key features to look for in HH monitoring systems, explaining also why accuracy of reporting is important when persuading budget keepers of the necessity of electronic monitoring systems. “There is an array of handwash monitoring technologies to choose from when matching up specific goals with the most appropriate system. The WHO Five Moments provides an outline. All measure two of the five, the ‘rub-in’ and ‘rub-out.’ The best systems are those that go beyond ‘in-out’ compliance, providing reminder cues that can be visual, audio, or a gentle vibration of the identification badge.

“A second valuable feature is the ability to capture and report hand washes within the patient room. This gives credit to the caregiver and motivates consistent compliance. In one system, the technology can differentiate a soap-and-water handwash from one with alcohol hand sanitizer. If the wrong one is used in a room where a patient has Clostridium difficile, the caregiver is reminded.”

Thirdly, noted Mann, “Hand-hygiene compliance systems are major money savers when considering the cost of a single healthcare-acquired infection (HAI) but may be considered unnecessary by the budget-first breed. Their satisfaction of the status quo often stems from their infection-prevention department reporting 90 percent compliance to JCAHO rather than the reality, which could serve as a baseline for continuous improvement, the true Joint Commission standard.

“Electronically assisted observations are the new gold standard for compliance because they can be objectively verified. These systems expose the fiction perpetuated by observation-only operations.”

Ron Chappuis, Vice President of Marketing, DebMed, part of SC Johnson Professional, commented on what HCWs are up against regarding accurate HH measurement. "Most hospitals use direct-observation methods, capturing only a small percentage of HH events and usually only during room entry and exit. Studies have shown around half of HH opportunities occur at the point of patient care. It is thought that opportunities in the patient room, such as before aseptic tasks or after fluid exposure, may have potentially even greater contamination risk than room entry and exit. To date, infection preventionists and unit teams haven’t found a good way to evaluate performance in these situations.”

Explaining how their system takes HH monitoring to the next level, Chappuis explained that DebMed Electronic Hand Hygiene Compliance System is a badge-free system that captures 100 percent of HH events, providing accurate compliance scores based on the WHO 5 Moments and Centers for Disease Control and Prevention guidance. “The way the system works is simple,” said Chappuis. “All dispensers, any brand, are monitored to record all HH events. The data is transmitted wirelessly, every day, to an offsite server, without using Wi-Fi or the hospital’s information technology infrastructure. The number of events is compared to the number of opportunities,
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The Theraworx Protect Advanced Hygiene and Barrier System is a nontoxic, broad spectrum, low pH alternative to chlorhexidine gluconate (CHG) for patient bathing and hygiene. The patented formulation preserves the natural lipid structure of the stratum corneum, the outer layer of the epidermis, optimizing the permeability barrier of the skin and preventing trans-epidermal water loss and skin drying. Low pH is also the key to the naturally antimicrobial acidic mantle of the stratum corneum.

Our nontoxic formulation means our bathing system has eight cloths, not six, including cloths for face and perineum, in addition to traditional cloths, removing the algorithm for the bedside nurse. So, finally, true “full body” bathing can be achieved with a single product.

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When clean is not enough.
based on the level of care, to report HH compliance rate.”

An easy-to-read dashboard report, available online or by email, provides data that tracks progress, offering a basis for performance improvement. “Reports are available for each unit, for any period of time desired, and always include the baseline starting point to show the improvement trends,” said Chappuis. “The dashboard also compares performance among units, allowing teams to benchmark against the rest of the facility. Room reports provide soap versus sanitizer use, which is useful for tracking compliance with C. diff protocols.”

Some users might appreciate the anonymity of the BioVigil Monitoring System. It doesn’t use badges reporting on individual staff members; rather, it reports performance by the unit. “It’s been clearly shown that a blame-free environment and collaboration are essential features of a successful safety culture,” observed Chappuis.

“Recently, a peer-reviewed study demonstrated that use of the DebMed Monitoring System yielded a significant correlation between unit-specific improvements in compliance and reduction in MRSA infection rates. Greenville (South Carolina) Memorial Hospital, a 746-bed teaching hospital, achieved a 25.5 percent increase in HH compliance and reduction in MRSA infections during the 33-month study period. The study estimated $434,000 in hospital cost savings.”

Brent D. Nibarger, Chief Client Officer, BioVigil, explained that their system utilizes active reminders, tones and vibrations, as visual illuminated hand symbol to alert users and patients if HH is needed or has been performed. “These two features dramatically modify caregiver behavior and accountability to protocols. BioVigil clients report sustained compliance and 30 percent to 85 percent reduction in overall infection rates. The system also automates all data collection and reporting activities across dozens of metrics.”

“If hand sanitizer use or hand washing with soap and water takes place at different times, in different ways, at different locations, and for different reasons,” said Nibarger. “The BioVigil system captures, reminds, and differentiates between all the various WHO 5 Moment events and behaviors. The BioVigil system also automatically reminds a user if certain protocols are not followed; for example, failure to wash hands with soap and water, versus use of sanitizer, will trigger a user alert upon exiting from a C. diff room.”

Nibarger told Healthcare Purchasing News that a data survey performed on more than 60 million collected HH events from clients across the U.S. supports achieved and sustained a 97 percent HH compliance level on a 24/7/365 basis.

The experience of the Cleveland (Ohio) Clinic parallels this claim. An efficacy study recently published using BioVigil system for 12 weeks in an organ-transplant unit. A second eight-week study was performed in a cardiothoracic surgery ICU. The BioVigil system collected 267,566 total HH events. Data showed a sustained 98 percent and 97 percent HH compliance level, respectively.

White Plains (New York) Hospital enjoyed a similar experience. “BioVigil was used in an eight-bed ICU and 25-bed step-down ICU for 11 months.” The system collected 632,404 HH events, as compared to 480 manual observations, said Nibarger. A compliance goal of 95 percent was sustained and exceeded. “They also observed an 83 percent reduction in multidrug-resistant organisms, central-line-associated bloodstream infection, and catheter-associated urinary tract infection rates; however, a study period of longer duration is necessary to achieve statistical significance. Results are expected in the fourth quarter of 2017.”

Ecolab has another product that can help facilities step up compliance.” Burzycki said, “We monitor in the patient zone, promoting safe interactions when a HCW both approaches and leaves the patient. These zones can be used anywhere from a private or semi-private room to the post-anesthetic care unit, neonatal intensive care unit, or emergency department.

“We also have Immediate Action Monitoring, so that HCWs can identify when they are compliant or noncompliant, simply by looking at lights on their badges or listening for an audio cue,” explained Burzycki. “Additionally, we provide robust reporting that will help to identify trends and change behavior. Having individual compliance data, such as when opportunities are being missed, can help to identify issues in workflow. Knowing department compliance can help to motivate groups to better themselves and not let their peers down. All of this is part of the Ecolab Hand Hygiene Program, where we are able to have an impact on outcomes by providing the products specifically formulated for the healthcare environment, robust information, service provided onsite by our 100-plus healthcare specialists in the field, and training, whether that be signage around dispensers or in-services.”

Burzycki said they are already seeing results with their program. “Compliance averages above 85 percent. The entire attitude around HH changes. Having a non-intrusive system that lets HCWs know when they are and are not being compliant, and also lets patients and others know that information, changes the way that it is viewed. Burzycki added, “Having products focused on the healthcare environment ensures that when compliance does increase, hands will still stay healthy.”

References
Germ-X® delivers an advanced regimen of hand hygiene products for infection control. This simple program combines an Antibacterial Hand Wash for cleansing, our patented high efficacy alcohol-based Advanced Hand Sanitizer for sanitizing, and our breakthrough Moisturizing Hand Sanitizer Lotion specially formulated to soften and condition skin without compromising antimicrobial efficacy. Add the versatile OmniPod™ dispensing system and you have the ultimate solution for today’s healthcare professionals.

Experience the Germ-X® difference
Getting a handle on instrument storage

by Kara Nadeau

Effectively processing surgical instruments is itself a tremendous challenge where central sterile/sterile processing department (CS/SPD) professionals must employ a variety of skills (e.g., science, manufacturing principles, operations, customer relations, etc.) to get the job done. And the responsibility doesn’t end when a product is sterilized — CS/SPD staff members have to ensure that instruments are stored and then transported to the operating room (OR) in a way that protects them from damage and maintains their sterility, often within the limitations of tight, outdated spaces.

Another important consideration is protecting staff members from harm. For example, while the Association for the Advancement of Medical Instrumentation’s (AAMI) guidelines state that no loaded tray should be heavier than 25 pounds, it’s not uncommon for CS/SPD professionals to handle orthopedic trays that are far heavier.

To keep instruments protected and free of contaminants during storage and transport, and protect CS/SPD technicians from on-the-job injuries, there are many options available.

Take holistic approach to storage and transport

According to Case Medical CEO Marcia Frieze, because CS/SPD staff face many challenges when containing and storing surgical instruments — instrument damage, sterility maintenance, turnaround, identification of contents, transport, staff and patient safety — they must take a “360-degree approach” that addresses all of these issues.

“At Case Medical, we take a holistic approach to containers and storage solutions by considering how products are used and to ensure that information is readily available to address any concern,” said Frieze. “What is critical is proper reprocessing of items and maintaining the sterility of these items until they are used for patient care.”

Case Medical offers a complete set of solutions that support sterility maintenance during storage and transport. This includes:

- Containers that are universal, corrosion resistant and compatible with all sterilizers and devices based on manufacturers’ instructions for use (IFU).
- Case carts that are designed for containers and supplies to fit properly, and have perforated, smooth shelves (no wire). This design feature avoids tears when wrapped sets are pulled or placed in storage.
- Disposition monitor with locking feature that differentiates “clean” and “biohazard” or used sets placed in closed case carts.
- Tamper evident seals that not only secure the container contents, but can also identify processed sets that are ready to go and a biohazard seal to identify those that are soiled and must be reprocessed.
- CaseTrak360 software program, which provides tracking, tracing and instructions throughout the reprocessing cycle. Sets are identified and labeled and then tracked via 2D barcodes using the CaseTrak360 solution.

Maximize your space

Many CS/SPD professionals said their greatest challenge is a lack of space needed to contain and store instruments properly. Spaces built years or decades ago often cannot accommodate the growing number of surgical instruments required by today’s ORs.

“When a department is loaded with instrument sets and sterile supplies it impacts the workflow within the department,” said Ian Loper, Vice President of Sales & Marketing for DSI. “Blue wraps are then stacked on top of one another mak-
The Aesculap SterilContainer™ System helps meet the real world demands of sterile processing.

- **Keep patients safe** – Blue wrap users report 5–10% of sets delivered to the OR have holes and may be contaminated.*
- **Operate Efficiently** – Corner guards and tray liners, typically used to protect wrap from holes, add time and cost.
- **Minimize Waste** – 5% of total hospital waste is blue wrap.*

Every day, blue wrap users are converting to the SterilContainer System to drive efficiencies and optimize patient safety. That’s the real world.

Visit www.aesculapusa.com/wraptorigid to learn more.

*Data on file.

**Confidence in our Products. Trust in our Expertise.™**
ing it hard for the staff to ergonomicallly pull inventory for cases, and the bottle necks within the department build, which impacts the overall efficiency and productivity of employees. Ultimately the department becomes fundamentally compromised and out of compliance. When stacking blue wraps it increases the chance of tears and compromises the sterility of the sets. From our findings, there is often too much inventory and not enough space to effectively manage and store the valuable instruments.

DSI’s High Density Container Tray Storage Systems are highly effective in consolidating valuable instrument sets into a smaller footprint, which saves a CS/SPD 30 percent of its valuable floor space, according to DSI data. By consolidating the rigid containers and blue wraps into a small space, the CS/SPD can store more sets, open up the aisle space for egress compliance, avoid stacking blue wraps, and easily identify the correct sets when needed. DSI’s ergonomically designed shelves are easily pulled out of the storage system, which not only improves workflow but also enhances staff safety when they are storing and handling heavy orthopedic sets. The system also includes dust covers, the option of stainless steel pullouts, and low profile stainless steel wire shelves.

Go vertical

David Phillips, Marketing Manager for Hänel Storage Systems, explains how most CS/SPDs are out of space because they are landlocked, have a low ceiling height, inefficiently use their space, or have a combination of these issues. Another factor is the growth in tray quantity due to the increasing complexity and number of orthopedic cases. “If SPDs utilize automated vertical storage to store their containers, they use the entire vertical height of the room, which saves valuable floor space and delivers containers to the staff at an ergonomically correct height.”

HänelSoft Inventory Control Software in the CS/SPD storage areas of a hospital, integrated with Hänel Rotomat Vertical Carousels, produces space savings, productivity enhancements and inventory control and security. With HänelSoft controlling the details of container turnover (first-in-first-out), expiration, location and available quantity, there is no more need to worry about compliance and where an instrument tray is located. The ability to quickly search across container identifier, set number and set description with an instrument tray can be the root cause of instrument-tray errors. HänelSoft not only has the capability to manage the Rotomat’s inventory, but can also be expanded to track inventory on external shelving, carts and more.

Meet customer demands

Troy Scroggins, Product Manager, Steril-Container Systems. Aesculap, points out how the right instrument storage solutions and containers can help CS/SPD professionals meet the demands of the OR, which needs the right instruments, in the right condition at the right time.

“Holes in sets, lack of reprocessing efficiency, missing or wrong instruments (due to poor organization/optimization), and dull or broken general and specialty instruments can all lead to case delays, as well as higher costs,” said Scroggins. The Aesculap SterilContainer System has a rigid bottom that cannot be penetrated, punctured or torn; reducing the chance of case delays. The container system can be used with a wide variety of baskets, racks and instrument organization system (IOS) holders/components to organize and secure instrument sets. All of which can be used to sterilize pre-configured orthopedic, spine and specialty medical device instruments. Aesculap also has a wide variety of baskets, racks and instrument organization system (IOS) holders/components to organize and protect instrument sets. They can be used to sterilize pre-configured orthopedic, spine and specialty medical device instruments.

Get organized

Drawing upon his past experience of being an CS/SPD technician, Marcus Super, CCSVP, Director of Sales & Marketing for Summit Medical (now an Innovia Medical Company), recalls that one of the greatest challenges he faced was the lack of proper trays as it relates to instrumentation handling and longevity. “SPD staff manage a large variety of instrument trays, most of which are not designed to properly organize and protect instrumentation throughout the use cycle,” said Super. “When you lack in this area it negatively impacts instrument organization, sterility and cleanliness, and can even cause instrument damage, as well as propose potential risks to staff. A messy tray can be the root cause of instrument-on-instrument damage, instrument tip damage from poking through a basket, a punctured sterile barrier, lengthy reprocessing times and possible injuries during the decontamination process.”

Summit Medical’s customized InstruSafe Instrument Protection Trays are made of durable, highly perforated aluminum and silicone instrument holders that lock down delicate instruments with 360 degrees of
Trays You Can Trust.

Our trays secure and protect your instruments the way you care for your most cherished possessions.

Protection isn’t expensive, it’s priceless.

InstruSafe® Instrument Protection Trays provide 360 degrees of protection for your instruments during sterilization, transportation and storage. Our trays are validated for steam and low temperature sterilization cycles for both sterile wrap and popular rigid containers.* Each tray is organized so that every instrument has its own position within. If one of our 100 preconfigured designs isn’t the perfect fit for your instrument set, no problem! One of our product specialists will work with you to create a custom solution.

*A full list of validations and intended use can be found at www.instrusafe.com

Your trusted leader for instrument longevity — contact us to start reducing your instrument repair and replacement costs today!

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CS CONNECTION

protection during sterilization, transportation, storage and in the OR. InstruSafe Trays are constructed with strong, quality materials to reduce breakage and frequent replacement, as well as to meet a facility’s unique instrument set needs. With a variety of FDA 510(k) sterilization cycle clearances, these trays are a smart, easy upgrade for use with both wrap and rigid containers.

Protect your assets

Hospitals and other healthcare facilities invest hundreds of thousands of dollars in surgical instrumentation. Mismanagement of this critical asset can lead to costly repairs, repurchases, excess inventory, and in some cases, a surgeon not having what he/she needs for a case.

“When hospitals have inventories in the tens of thousands of surgical instruments, keeping them in good working condition is critical to keeping costs down in the SPD,” said Alicia Diaz, Product Marketing Manager for BD. “During assembly and storage, instruments may become damaged due to accidental dropping of trays and/or mishandling. Rigid sterilization containers can provide protection against damaged instruments as well as sterility maintenance. These systems offer a trusted method to store sterilized instruments until they are ready to use. With container accessories, containers can be customized so instruments can be secured and organized within the container basket. Rigid sterilization containers provide peace of mind that instruments will be protected and organized until they are ready to be used.”

BD Genesis low-temperature sterilization containers help protect and organize heat and moisture-sensitive surgical instrumentation during low-temperature sterilization. They are available in a variety of sizes to accommodate a facility’s surgical inventory. Low-temperature compatible baskets and accessories are also available to help organize instrument setup. The Genesis container system consistently provides a return on investment and is a green alternative to sterilization wrap.

Maintain sterility

CS/SPD professionals spend a tremendous amount of time and effort processing surgical instruments in an effort to ensure sterility at the time of use on a patient. As Lindsay Brown, Clinical Education Manager at Key Surgical, points out, the diligent work the staff has done leading up to sterile storage could be compromised if the containment devices used or the sterile barrier created don’t function as intended.

“It’s easy to, in a way, check out of the process once a package is sterilized and say to yourself ‘I’ve done all I can do for these instruments so I’m moving on’ and give little consideration to the truth that the sterile barrier applied prior to sterilization still has a hugely important job to do,” said Brown. “Sterile packaging and containerized systems have intended uses. Instrument sets and devices such as scopes have specific baskets that are designed to give the best results during sterile storage and transportation in terms of protecting that investment.

IAHCSMM’s ENDOSCOPE REPROCESSING MANUAL

IAHCSMM partnered with industry experts and leaders in endoscope reprocessing to develop the IAHCSMM Endoscope Reprocessing Manual. This 15-chapter manual will serve as a valuable education tool and resource for endoscope reprocessing managers, technicians and others who are seeking to enhance their endoscope reprocessing knowledge and practices. Some of the important topics addressed include:

• Regulations, Standards and Resources
• Point-of-Use Cleaning, Transport and Leak Testing
• Cleaning Processes for Flexible Endoscopes
• Endoscope Inspection and Preparation
• High-Level Disinfection and Sterilization Processes for Flexible Endoscopes
• Endoscope Handling, Storage and Transport

Endoscope Reprocessing Manual: $80/Member, $90/Non-Member
Endoscope Reprocessing Workbook: $50/Member, $60/Non-Member
Endoscope Reprocessing Boxed Course: (Includes Manual and Workbook) $120/Member, $140/Non-Member

Visit www.iahcsmm.org for more details on pricing, full contents and the accompanying workbook.
IN THE OR AND SPD. The V. Mueller™ Genesis™ container system offers low temperature containers as part of its trusted lineup. Especially developed for low temperature, hydrogen-peroxide sterilization, as well as prevacuum steam and 100% ethylene-oxide sterilization cycles, these containers will help protect and organize your heat- and moisture-sensitive surgical instrumentation. The Genesis container system is a green alternative to sterilization wrap and consistently provides a return on your investment. Discover the protection of V. Mueller. Discover the difference of BD.

In celebration of Central Service Week 2017, BD would like to thank all CS staff members for their dedication and hard work.

Learn more about the full line of Genesis system containers at bd.com/GenesisLowTemp

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Knowing how to properly choose, apply and trust your process as a CS tech is where the challenge lies. According to Brown, scope baskets from Key Surgical are the perfect containment device to use in the sterilization process of rigid scopes. Constructed of durable stainless steel, the baskets feature fixed silicon brackets that help hold a rigid scope in place during sterilization and transportation. A fully removable lid allows for easy placement of the scope in the basket. The lid slides into place on the basket and locks with an easy-to-use locking mechanism. The baskets are available in various sizes, with the largest basket including a small mesh basket to hold scope accessories. They are compatible with steam, ETO and gas plasma sterilization.

Keep it covered
“The most important job after reprocessing instruments is making sure they remain safe and ready for use,” said Matthew Smith, Marketing Manager for Healthmark. “Storing reprocessed healthcare products appropriately is crucial to avoid environmental contamination and compromise of any packaging. Items like our new ‘Clean Bags’ have been created to keep items covered after reprocessing. Efficient labeling is also an important factor. Easy identification of contents and ‘clean’ status takes the guesswork out of which items have been reprocessed and which items have not. These bags are ideal for transportation and storage.”

Healthmark Industries’ designed its new self-seal CLEAN Bag to keep items covered after reprocessing. The 8” x 14” tamper evident self-seal bags are clear and printed with “CLEAN” in green lettering for easy identification of contents and “clean” status. According to the company, they are ideal for transportation and storage.

The safety of sealed
“Sterility maintenance continues to be a hot topic in many CS/SPD departments,” said Mike Faulkner, President of Sales, Innovative Sterilization Technologies. “Both rigid containers and wraps present unique challenges when it comes to maintaining sterility.”

Faulkner says the unique technology behind the company’s ONE TRAY System makes it a “truly sealed container.” He adds that ONE TRAY features a lifetime warranty. If the product is damaged, the customer can return it to Innovative Sterilization Technologies’ Ohio-based manufacturing facility, where it will be repaired to factory specifications. If the ONE TRAY cannot be repaired, the company will replace it.

“That technology, combined with our lifetime warranty, gives you peace of mind that each ONE TRAY is continually providing optimal sterility maintenance,” Faulkner added. “No more questioning the integrity of your rigid containers, postponing/cancelling surgeries due to the inherent issues with wraps, and no more investing in new trays to replace the ones that are beyond repair.”
Not many things are guaranteed for life.

ONE TRAY® SEALED Sterilization Containers are.

ONE TRAY® - One Standard of Care - ONE TRAY® is a 510(k) cleared rigid sterilization container intended to sterilize medical devices in a terminal steam sterilization cycle, and provide for the safe storage, transport and assured delivery of the enclosed medical devices. Efficient. Safe. Storable. Durable. Secure. Invest in the Best!
What follows are frequently asked questions regarding the Tennessee Central Service (CS) technician law. The full document may be found at https://www.iahcsmm.org/images/Advocacy/Certification_Bills/TNFAQ.pdf.

Q What does the Tennessee Central Service technician law require?
The Tennessee Central Service technician law requires new CS technicians to be certified and all CS technicians to maintain continuing education credits. Certain individuals are grandfathered in and do not have to be certified (“grandfathering” is a provision in which an old rule continues to apply to some existing situations, while a new rule will apply to all future cases). The law requires 10 hours of continuing education for all practicing CS technicians annually (even for those who were grandfathered).

Q Which healthcare institutions are required to have certified CS technicians?
Hospitals and ambulatory surgical treatment centers are required to have newly-hired CS technicians certified; however, these healthcare institutions are subject to other conditions. Please see other questions below.

Q May a person who was employed as a non-certified CS technician prior to January 1, 2017, switch facilities without having to become certified?
Yes, provided the non-certified CS technician meets the grandfathering clause requirement. To be grandfathered as a CS technician, a CS technician must provide a written request to his/her existing healthcare institution to obtain evidence that he/she was employed as a CS technician in a healthcare institution prior to January 1, 2017. Therefore, individuals who had different job titles may not switch facilities by being grandfathered in as CS technicians. He/she must be certified as a CRCST or CSPDT to switch facilities and work as a CS technician.

Q Who may healthcare institutions hire as CS technicians?
A CS technician must provide evidence to his/her employer of meeting one of the following requirements:
   a. Successfully passed a nationally accredited CS technician exam, and holds and maintains CRCST or CSPDT; or
   b. Provides evidence of employment as a CS technician in a healthcare institution prior to January 1, 2017.
   c. As of January 1, 2017, when the law went into effect, a healthcare institution may employ a person who has not passed the certification exam for two years from the date of hire. By the two-year anniversary of the individual’s hire date, he/she must obtain the CRCST or CSPDT.

Q May a healthcare institution hire a person who has not yet passed the certification exam?
Yes. As of January 1, 2017, when the law went into effect, a healthcare institution may employ a person who has not passed the certification exam for two years from the date of hire. By the two-year anniversary of the individual’s hire date, he or she must obtain the CRCST or CSPDT.

Q May a healthcare institution hire a person who is not certified, but has been employed as a CS technician in a healthcare institution prior to January 1, 2017?
Yes. A healthcare institution may hire someone as a CS technician if he/she was employed as a CS technician in a healthcare institution prior to January 1, 2017. Healthcare institutions may require CS technicians to hold CRCST or CSPDT credentials.

Please note: The International Association of Healthcare Central Service Material Management (IAHCSMM) and Josephine M. Colacci, Esq., provide the information in this document for informational purposes only and do not offer legal advice. IAHCSMM and Colacci recommend that individuals or healthcare facilities consult with their attorneys for answers to legal questions. The information in this document should not be considered complete or exhaustive and may not reflect the most current information. As a result, IAHCSMM and Colacci do not represent that the information in this document is complete, accurate and up-to-date.
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CS QUESTIONS • CS ANSWERS

Washer testing; washer disinfector inspections

by Ray Taurasi, Principal, Healthcare CS Solutions.

Our corporate Supply Chain headquarters recently signed a partnership with a new group purchasing agency and we have been mandated to purchase only items that are on the contract to achieve fiscal cost savings goals. I don’t think that the products we are forced to use are always cost effective. The IFU for the washer test we now have to use requires us to test every level of the washer where as our previous test only required testing one shelf in the washer. The center shelf, by position, presents the greatest challenge to the washer, so if that shelf passes it seems to me all the shelves would pass. Of course a manufacturer would put testing each shelf in their IFU because they know we are required to follow their instructions and this would generate more profit for them. When I brought this to my manager’s attention she said the corporate standards committee selected the new test based on quality and overall value. I would appreciate your thoughts on this, which might help me wake these folks up.

I am afraid that you are not going to like my answer as I respectfully have to disagree with you regarding your rationale for only wanting to test the center shelf of your washer. I believe that to get a full and accurate assessment of a washer’s performance it is absolutely necessary and advisable to test each level of the washer. The washer racks are very important pieces of equipment with movable parts and mechanisms that must perform precisely. Each level of the rack has spinner arms, excluding the top and bottom levels. Spinner arms attached to the bottom and top of the chamber deliver water and mechanical cleaning action to the top and bottom shelves while the spinner arms on the other rack levels perform the same function. The racks also have connections that align to water feed lines. Discrepancies in the performance of spinner arms and or water delivery on any level will impede the washer functioning and cleaning efficacy. The washer’s performance therefore could differ on any level; testing just one level does not provide an adequate or true assessment of the washer’s overall performance. It sounds like the decision to switch washer testing devices was the consensus of a committee that evaluated the product based on its features, advantages, and quality assurance benefits and not merely pricing.

We are conducting daily testing of our instrument washers. The test is conducted at the start of the morning shift. The test is just placed in the washer without any preliminary inspection of the machine. In my previous job each day the shift supervisor was responsible to perform a physical inspection of each machine before a tech would run the performance test. I never knew what the supervisor was looking for but it seemed important and like a good idea. Are physical inspections necessary and if so what should be included in an inspection?

To maximize the efficient performance of processing equipment, such as washer disinfectors, it is very important to conduct regular inspections of the equipment and its parts. It is also very important to remember that the washer racks are also pieces of processing equipment and need to be carefully maintained and inspected prior to use.

Below is a listing of some of the key points that should be a part of the routine inspection of washer disinfectors.

- Spray nozzles are free from any debris or obstructions: Visually inspect all spray nozzles on the washer racks and in the washer chamber. If any of the nozzle holes are occluded, the water flow and pressure can be impeded, adversely affecting the washer’s performance. The washer water is re-circulated during the cycle and it carries soiled matter in it which may get lodged in the spray arms. The spray arms need to be cleaned regularly.
- Holes in the spray arms are directed at the target surface: Some washers have spray arms that may become loose during use and turn causing the spray to be misdirected from the instruments. Most spray arms have holes on two sides; the holes should be directed straight up and down.
- All spray arms are present: As strange as this may sound, I can’t tell you how many hospitals I have gone into and have found spray arms completely missing and yet the machines are still being used. If a spray arm is missing the washer cannot function properly as the water pressure and distribution will be greatly diminished affecting mechanical cleaning action. The washer should not be utilized if a spray arm is missing. I have often found the missing spray arms in the instrument orphanage for unidentified surgical instruments.
- Spray arms spin freely: Test spray arms to be certain that they spin smoothly and evenly.
- Drain screens at bottom of washer are free of debris: The drain screens at the bottom of the washer chamber capture debris from the sets. The screens need to be removed and cleaned at least daily or more frequently depending on use. Clogged screens can impede water flow and drainage which will affect the washer’s cleaning efficacy.
- Instrument rack coupling aligns properly with manifold: Be certain that the washer water/solution supply inlets align properly with the washer rack manifold. If mismaligned, water flow, distribution and pressure will be affected and will not allow the washer to function properly. Inadequate water pressure will prevent the spinner arms from moving properly. Also, inadequate water pressure diminishes the mechanical cleaning action.
- Spray arm bushings are present and not damaged: Be certain that all bushings, couplers, washers and the like are present and free of any cracks or damage.
- Detergent/chemistry delivery lines are clear and functional: Visually inspect all detergent and other chemistry delivery lines and connection ports: Be certain they are clear, clean, and free of any obstructions, air entrapment and kinks. Also inspect tubing for any signs of wear, breaks or leaks. If there are defects in the delivery lines, cleaning agents and proper concentration levels may not be administered and the wash cycle will be ineffective.
- Check all chemical, detergent levels are adequate: Be certain that all detergents and other chemical containers are at adequate supply levels and confirm that the delivery dispensing lines are properly connected to the correct container.
- Observe overall condition of washer: Internal chamber walls and surfaces should be clean and free of stains, scaling and any other signs of soil build up. These are signs of problems that may affect the efficacy of the washer’s performance and cleaning outcome. Stains and scaling may be indicative of problems such as water quality, excessive chemistry concentrations and the like. Be certain that any applicable gaskets, seals, recorders are in order and proper condition.
- Verify that the chamber light is working: Washers have windows and internal lights to allow you to observe their performance during the cycle. During the cycle you should observe that spin arms are moving as they should, that no instruments or trays are interfering with the washer’s performance. Observe for water flow and that there are no signs of over-sudging, etc.

SUBMIT YOUR QUESTIONS
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STORE & TRANSPORT CLEAN ITEMS WITH CONFIDENCE

Healthmark offers three new solutions for wrapped trays & clean items

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Made from spun polypropylene, the Gorilla Bags™ have a high tensile strength and are used as an outer protective layer applied over the standard hospital practice barrier package. The physical properties of the material offers increased resistance to tearing and splitting during transportation and storage.

Due to the Gorilla Bags™ high permeability, they’re applied before sterilization as it does not impede the steam from entering the package. Simply place the wrapped barrier package inside the Gorilla Bag™, fold the lip three times, seal the bag close with autoclave tape, label the package appropriately and place package in the autoclave for sterilization.

Gorilla Bags™ are available in 3 sizes: 40x70cm, 50x70cm, & 60x70cm

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Appropriate storing of reprocessed items is crucial to avoid environmental contamination. Healthmark has developed a simple solution, the new Self-Seal Clean Bag and Clean Cover. Created to keep items covered after cleaning, disinfection or sterilization, the tamper evident Self-Seal Clean Bag is clear and printed with “CLEAN” in green lettering for easy identification of contents and “clean” status. Also ideal for transportation and storage, is the clear, 5”x36” 3 Mil Clean Cover.

Self-Seal Clean Bag
Available in two sizes: 6”x9” & 8”x14”

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What’s new in AAMI ST79:2017?

by Susan Flynn, BESc, CSPDT

AAMI ST79 Comprehensive guide to steam sterilization and sterility assurance in health care facilities is a go-to resource for all healthcare facilities that have steam sterilizers. The standard is as relevant and applicable to clinics with table-top sterilizers as it is to ambulatory surgery centers and acute care hospitals with larger steam sterilizers. AAMI ST79 is also referenced throughout The Joint Commission’s High-Level Disinfection (HLD) and Sterilization BoosterPak. Accreditation surveyors are tuned into the practice recommendations included in the document and expect to find a current copy of this evidence-based guideline accessible to front-line staff. AAMI recently published a new edition, ST79:2017, and this self-study article reviews some of the new information and key changes in the revised document.

Customers sometimes call the 3M Sterilization Tech Line knowing that a particular recommendation is somewhere in ST79 but are unable to locate it to show their colleagues. The 2017 edition was designed to be more accessible to the reader, with recommendations in clear “should” statements (often bulleted) rather than buried in long paragraphs. The document explains that, “Should” indicates that among several possibilities one is recommended as particularly suitable, without mentioning or excluding others, or that a certain course of action is preferred but not necessarily required, or that (in the negative form) a certain possibility or course of action should be avoided but is not prohibited.” (Foreword) When you begin reading your copy of ST79:2017, remember that the verb “should” is a cue to an upcoming recommendation. Beyond the formatting changes designed to provide critical content in a consistent format, the changes in this edition of the document are rather subtle and incorporating these new guidelines into your practice should be relatively painless.

HVAC

Section 3 of AAMI ST79 provides design considerations for sterile processing areas. Heating, ventilation, and air conditioning (HVAC) parameters for operating rooms and sterile processing areas have been a recent source of discussion. These discussions have led to an industry consensus around the use of the American Society of Heating, Refrigeration, and Air Conditioning Engineers’ (ASHRAE) Standard 170, Ventilation of Health Care Facilities. Eliminating specifying recommended temperature and humidity ranges altogether, the revised AAMI ST79 instead refers the reader to the HVAC parameters given in ASHRAE 170, thus harmonizing the recommendations between the two standards. This may make for easier discussions with your facility engineers. ST79:2017 recommends, “The healthcare organization should identify which version of ASHRAE 170 will be used based on when the HVAC system was initially installed or last upgraded.” (Section 3.3.5.5) The burden of monitoring compliance with the HVAC parameters is slightly modified, with ST79 now recommending:

- “Facility engineering personnel or designated responsible personnel should establish policies and procedures for monitoring and maintaining HVAC parameters within the sterile processing areas.
- Procedures should include maintaining records of monitoring results that are retrievable either from a central system or a local log.” (Section 3.3.5.5)

You may wish to initiate a discussion with your Facilities Engineering team to verify their ability and willingness to comply with these recommendations.

Guidance on response measures to any excursions from the desired operating parameters is also addressed, with ST79 recommending: “If a variance in the HVAC parameters occurs, sterile processing personnel in combination with a multidisciplinary team (e.g., facility engineer, infection preventionist, risk manager, sterile processing manager or designated personnel) should conduct a risk assessment.” (Section 3.3.5.5)

Recognizing that the design temperature recommendations for decontam in ASHRAE 170 (60-73°F) may cause anxiety, a new Annex Q, Alternatives for keeping cool in the sterile processing environment, was added to ST79:2017. The annex explains that our bodies use evaporative cooling to help regulate body temperature when a person’s core temperature becomes too high. As the PPE worn in decontam can reduce the ability of sweat to evaporate, the annex provides strategies for improving employee comfort including short-
Personnel considerations
AAMI ST79:2017 continues to recommend that both Sterile Processing supervisors and personnel be qualified and competent. It is recommended that supervisors complete a sterile processing management certification exam and that other personnel “performing sterile processing activities should be certified within two years of employment.”(Section 4.2)

Loaners
Expanded guidance on loaned or borrowed instrumentation is included in AAMI ST79:2017. (Section 5.2.3) This includes establishing a formal procedure with industry representatives for the receipt and use of loaned instruments and having a comprehensive facility policy. The policy should include processes to ensure that: applicable IFUs are provided before the loaner is received; the weight of loaned sets does not exceed 25 pounds; loaners are provided such that the facility has sufficient time to process them upon receipt; and records of loaner transactions are maintained. This section has a new recommendation: “Late receipt of loaned instruments should not be used to justify IUSS.”

IUSS
And that takes us nicely to the next topic! ST79:2017 features a new definition and clear guidance on immediate-use steam sterilization (IUSS). IUSS of unwrapped items is no longer an option as it is recognized that rigid containers protect sterilized items from contamination. Section 10.2.3 states: “IUSS should not be used for purposes of convenience or as a substitute for sufficient instrumentation. Instrument inventories should be sufficient to meet anticipated surgical volume and permit the time to complete all critical elements of reprocessing.” IUSS should be kept to a minimum and should be used only in urgent clinical situations.

Items processed by IUSS should:
- a. be decontaminated as specified in Section 7;
- b. be placed in a rigid sterilization container system that is intended for the cycle parameters to be used;
- c. be used immediately and not stored for later use or held from one procedure to another; and
- d. be identified as IUSS.”

Loading and unloading sterilizers
The section on preparing instruments for sterilization is broadly similar in this edition. As accreditation surveyors sometimes overinterpreted the word open in the sentence “All jointed instruments should be in the open or unlocked position with ratchets not engaged,” this statement has been simplified to read: “Ratcheted instruments should be unlocked” in the 2017 edition. (Section 8.2)

Updated figures in Section 10.1 depict the recommended loading of sterilizer carts, with rigid containers placed below absorbent materials.

What cycle should be run for Device X?
Follow the validated sterilization parameters provided in the device manufacturer’s IFU.

One significant revision is the removal of the reference tables that provided typical sterilization parameters for gravity-displacement and dynamic-air-removal steam sterilization cycles. Instead, the reader is reminded to reconcile the validated cycle parameters found in the device, sterile barrier system (aka packaging) and sterilizer manufacturers’ written IFUs. (Section 10.2) ST79:2017 also states, “Sterilization cycles used by the health care facility should be FDA-cleared and should incorporate sterilization monitoring accessories (e.g., CI, BI, PCD) and sterilization packaging labelled and cleared for that sterilization cycle.” (Section 10.2.2.1)

ST79 continues to recommend that terminally sterilized load items be allowed to cool before being touched. A new statement reads, “The use of an infrared gun or temperature sensing device and a defined temperature (i.e., 24°C [75°F]) may be used.” (Section 10.3.1)

Quality control
Cleaning Verification
One key change is the frequency at which mechanical cleaning equipment, such as automated washer-disinfectors and ultrasonic cleaning equipment, should be routinely monitored. A rationale statement explains, “Steam sterilization cannot be assured unless proper cleaning of the device and reduced bioburden and soil was achieved. Verification and documentation of automated cleaning processes through objective means is an important aspect of quality control.”

It is now recommended that mechanical cleaning equipment be monitored daily.

It is now recommended that mechanical cleaning equipment be monitored daily and the results be documented. (Sections 7.6.4.5 and 13.2) ST79 states that, “Methods of verification include: a) directly testing individual instruments for residual soils (e.g., ATP, protein, hemoglobin); b) employing a test device that is a consistent and repeatable challenge to the cleaning effectiveness of the equipment; and c) monitoring critical parameters to evaluate the performance of the mechanical cleaning equipment.” (Section 13.2)

Is your automated washer equipped with a printer? ST79:2017 recommends that such printers be located on the clean side of pass-through washers and that the printout be checked and initialed by operators.

With manual cleaning, it is important that cleaning agents be appropriately diluted. ST79:2017 recommends that, “When using an automated chemical delivery system/device or sink proportioner, the automated doser should be routinely verified or calibrated.” (Section 7.6.3)

Sterilization monitoring
AAMI ST79 continues to recommend a steam sterilization quality assurance program which includes the use of physical monitors, internal and external chemical indicators, and biological indicators. A high-level overview of the sterilization process monitoring recommendations contained in AAMI ST79 is provided in Table 1, next page. The table includes the familiar column headers: routine load release; routine sterilizer efficacy monitoring; qualification testing; and product quality assurance testing.

Chemical indicators
When preparing sets for sterilization, have you noticed that most chemical indicators (CIs) are now labeled by ‘type’ rather than ‘class’ of CP ANSI/AAMI/ISO 11140-1:2014 specifies the performance requirements, test methods, and labelling requirements for CI manufacturers. Since this standard was released in 2014, CI manufacturers have been busy testing their products against the performance specifications and then updating the devices and labeling to reflect the new categorization term ‘type’. AAMI ST79:2017 also uses this new terminology. In general, the use and application of chemical indicators did not change (see sidebar next page.) but the ‘type’ designation in ST79 now aligns with the labeling on the CIs actually available on your prep and pack stations.
Nonimplant load release

Routine load release guidance is split into two buckets: nonimplants and implants. Loads that do not contain an implant should be monitored using physical monitors (i.e., the print-out), chemical indicators, and may be monitored with a Process Challenge Device (PCD) containing: a BI; a BI and a Type 5 CI; a Type 5 CI; or a Type 6 CI. The use of the verb may, rather than the verb should, indicates the use of a PCD is optional for nonimplant loads. The decision about whether to release a load is made after evaluating the available data.

Implant load release

As biological indicators are the only monitoring tool that demonstrate the lethality of the sterilization process, AAMI ST79:2017 continues to recommend that implant loads be monitored with a PCD containing a biological indicator and a Type 5 integrating indicator. The implant should be quarantined until the BI result is available. (Sections 13.5.3.2 and 13.6.3) In defined emergency situations, the implant can be released on the basis of the Type 5 integrator contained with the PCD but the BI should still be incubated and the result documented. (Section 13.6.3) An example Exception Form for emergency load release documentation is provided in Annex K. This form continues to be a good tool to collect the reasons for emergency release. The collected data can be reviewed during quality improvement meetings so that mitigation measures can be identified and implemented.

Table 1—Sterilization process monitoring recommendations

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<th>Nonimplants</th>
<th>Implants</th>
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<td>Physical monitoring of cycle</td>
<td>Physical monitoring of cycle</td>
</tr>
<tr>
<td>External and internal CI monitoring of packages</td>
<td>External and internal CI monitoring of packages</td>
</tr>
<tr>
<td>Optional monitoring of the load with a PCD containing one of the following:</td>
<td>Monitoring of every load with a PCD containing a BI and a Type 5 integrating indicator</td>
</tr>
<tr>
<td>a BI</td>
<td></td>
</tr>
<tr>
<td>a BI and a Type 5 integrating indicator</td>
<td></td>
</tr>
<tr>
<td>a Type 5 integrating indicator</td>
<td></td>
</tr>
<tr>
<td>a Type 6 emulating indicator</td>
<td></td>
</tr>
<tr>
<td>Weekly, preferably daily (each day the sterilizer is used), monitoring with a PCD containing a BI. (The PCD may also contain a CI.)</td>
<td>For sterilizers larger than 2 cubic feet and for IUSS cycles, monitoring is done in a fully loaded chamber.</td>
</tr>
<tr>
<td>In IUSS cycles, monitoring may be done in an empty chamber.</td>
<td>For dynamic-air-removal sanitizers, daily Bowie-Dick testing in an empty chamber, if applicable.</td>
</tr>
</tbody>
</table>

Note: See Section 15 for general guidelines on how to assess the specific label claims of new products that become commercially available.

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底版说明：

Annex K. This form continues to be a good tool to collect the reasons for emergency release. The collected data can be reviewed during quality improvement meetings so that mitigation measures can be identified and implemented.

INTERNAL CHEMICAL INDICATORS

The guidance on the use of internal chemical indicators is slightly modified and now reads, “One or more internal chemical indicators should be placed within each package, tray, or rigid container. These indicators can be any type (Type 3, 4, 5, or 6) but preferably a Type 5 or Type 6 indicator as these types of CIs provide the user with more information on the critical steam sterilization parameters.” (Section 13.5.2.2.2)

This section goes on to state: “Internal CIs should be placed so that:

a. one CI is visible to the person opening the package;
b. CIs are in the area or areas considered least accessible to steam penetration; and
c. all applicable written IFU are followed.”

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MONITORING IUSS STERILIZERS

Previous editions of ST79 recommended end-user assembly of a representative BI PCD (typically a BI and a CI placed in an IUSS container) to monitor IUSS cycles. This new edition recommends use of a commercially available BI PCD for sterilizers larger than 2 cubic feet, which includes IUSS sterilizers.

Testing a loaded chamber is recommended, however, as described in Table 1, for IUSS cycles, monitoring may be done in an empty chamber.

Routine efficacy monitoring of gravity IUSS sterilizers is done using a representative BI PCD assembled using the same type of tray that is routinely processed. (Section 13.7.4.1)
Susan Flynn is a Technical Service Specialist with 3M Infection Prevention Division. She is routinely involved in troubleshooting products - especially concerning contamination. Susan’s role at 3M includes providing education for customers and sales personnel on improving the performance of the sterilization process and implementing best practices. Susan is a certified Central Sterile Processing and Distribution Technician. In addition, she is a member of several AAMI working groups.

Routine Bowie-Dick testing
For dynamic-air-removal sterilizers, AAMI ST79 continues to recommend that: “A Bowie-Dick (Type 2 CI) test should be performed each day the sterilizer is used, before the first processed load.” (Section 13.7.6.1) As with BI PCDs, note that while facilities may assemble their own towel test packs, the standard now recommends the use of commercially available pre-assembled Bowie-Dick test packs. (Section 13.7.6.2)

Summary
All health care facilities that utilize steam sterilization should have a copy of this latest edition of ANSI/AAMI ST79 on hand and accessible to staff. The publication of this new edition provides a great opportunity to revisit your facility’s policy and procedures to ensure they are aligned with current guidance. In particular, policies that may need refreshing include:
• with your facilities engineer, alignment of sterile processing area temperature and humidity operating parameters with the applicable ASHRAE 170 standard and a plan on who will monitor these parameters
• loaners
• frequency of testing mechanical cleaning equipment
• the use of internal chemical indicators
• the monitoring of pre-vacuum sterilizers used for IUSS

What’s new in AAMI ST79:2017?
Circle the one correct answer:

1. ANSI/AAMI ST79 is the go-to resource for steam sterilization in all healthcare facilities.
A. True B. False

2. AAMI ST79:2017 recommends that staff performing sterile processing activities be certified within two years of employment.
A. True B. False

3. AAMI ST79:2017 recommends that mechanical cleaning equipment be monitored weekly.
A. True B. False

4. HVAC parameters for sterile processing areas should be based on the version of ASHRAE 170 that was applicable at the time the facility HVAC system was initially installed or last upgraded.
A. True B. False

5. AAMI ST79:2017 recommends that one or more internal CIs (preferably Type 5 or Type 6) be placed within each package.
A. True B. False

6. AAMI ST79:2017 recommends that all loads containing implants be monitored with a PCD containing a BI and a Type 5 chemical indicator.
A. True B. False

7. In documented emergency situations, the Type 5 integrator within the BI PCD may be used for early release of an implant.
A. True B. False

8. Strategies to improve employee comfort in Decontam include staying hydrated and shortened work periods.
A. True B. False

9. For automated washers equipped with a printer, the printer should be located on the clean side of pass-through washers.
A. True B. False

10. Receiving loaner instruments late is a valid reason to perform IUSS.
A. True B. False

References
1. The Joint Commission. High-Level Disinfection (HLD) and Sterilization BoosterPak. December 2015.
2. ANSI/AAMI ST79:2017, Comprehensive guide to steam sterilization and sterility assurance in health care facilities. ©2017 Association for the Advancement of Medical Instrumentation, Arlington, VA.

Susan Flynn BESC, CSPDT
Susan Flynn is a Technical Service Specialist with 3M Infection Prevention Division. She is routinely involved in troubleshooting and addressing questions about sterilization processes. Susan’s role at 3M includes providing education for customers and sales personnel on improving the performance of the sterilization process and implementing best practices. Susan is a certified Central Sterile Processing and Distribution Technician. In addition, she is a member of several AAMI working groups.
New Technology

Tanzania announces world’s largest drone delivery service for critical medical supplies

Tanzania announced that it is launching the world’s largest drone delivery service to provide emergency on-demand access to critical and life-saving medicines. Beginning in the first quarter of 2018, the Tanzanian government will begin using drones to make up to 2,000 life-saving deliveries per day to over one thousand health facilities, serving 10 million people across the country.

The drones and delivery service are built and operated by Zipline, a California-based automated logistics company. In October of 2016, Zipline and the Government of Rwanda launched the world’s first national drone delivery service to make on-demand emergency blood deliveries to transfusion clinics across the country. Since the October launch, Zipline has flown more than 100,000 km (over 62,000 miles) in Rwanda, delivering 2,600 units of blood over 1,400 flights.

The global problem throughout both the developed and developing world, access to life-saving and critical health products is hampered by what is known as the last-mile problem: the inability to deliver needed medicine from a city to rural or remote locations due to lack of adequate transportation, communication or supply chain infrastructure.

The result is that all too often someone in need of lifesaving care does not receive the medicine they need to survive. The Solution Countries across east Africa are leading the world in developing cutting edge solutions to the last-mile problem by pioneering on-demand drone delivery of life-saving medicine. Rwanda launched the world’s first national drone delivery operation in October of 2016.

Tanzania will make on-demand drone delivery of blood transfusion supplies, emergency vaccines, HIV medications, anti-malarials and critical medical supplies like sutures and IV tubes. Working in conjunction with the Tanzanian Ministry of Health and the country’s Medical Stores Department (MSD), Zipline will establish four distribution centers across the country.

The first distribution center, located in Dodoma, the country’s capital, will begin its first flights in the first quarter of 2018. Three additional distribution centers will follow. Each of the four distribution centers will be equipped with up to 30 drones and is capable of making up to 500 on-demand delivery flights a day.

The drones can carry 1.5 kilos (3.3 lbs) of cargo, cruising at 110 kilometers (68 miles) an hour, and have a round trip range of 160 kilometers (approx 100 miles). Health workers place delivery orders by text message and receive their package within 30 minutes on average. Zipline’s drones take off and land at the distribution center only, requiring no additional infrastructure at the clinics it serves. Deliveries happen from the sky, with the drone descending close to the ground and air dropping the medicine to a designated spot near the health centers.

Products & Services

Who chooses the gatekeepers?

Compliance credentialing software for safety, security should carry Supply Chain’s stamp

by Rick Dana Barlow

Accessing certain areas of a hospital should be easy enough for clearly identifiable clinical and administrative staff, patients, their family members and friends.

Most everyone else should satisfy established parameters and qualifications for the health, safety and welfare of everyone.

In other words, they should jump through plenty of hoops to guarantee little-to-no chance of aberrant and derelict behavior, violent outbursts, contagious diseases and illnesses, random malfeasance and unauthorized and unwanted solicitation because backgrounds must be thoroughly vetted and health records up-to-date.

Supply Chain hooked into the credentialing world more than a decade ago, selecting from nearly a dozen of software companies, or developing something in-house, a product to install to qualify sales representatives for clinical, medical/surgical, other healthcare and non-healthcare products and pharmaceuticals (search hpnonline.com for our extensive coverage through the years, including a list of players). By 2010, the industry extended the need for credentialing via the HITECH Act to encompass all business associates entering and moving throughout the facility, including delivery services for flowers, packages and even pizza.

Over time, industry demand for credentialing software failed to sustain the number of competitors and corporate options available so many of the companies succumbed to mergers and acquisitions. Today, several relatively common names prevail either as product offerings of familiar companies or under an entirely different brand name.

Because compliance credentialing extends beyond simple supplier access, questions can be raised about Supply Chain’s contributions to and influence on software selections, as such decisions logically may reside with the Information Technology department. After all, IT has to figure out how to plug any credentialing software into the hospital’s system, which can include enterprise-resource planning and electronic health record capabilities. Further, IT has to ensure any and all systems safely sit behind rigid firewalls as a cybersecurity measure to prevent against hacking.

Round holes, square pegs?

As compliance credentialing morphs into a much larger issue, where does Supply Chain fit into the mix?

At or near the top of the sourcing, influencing and decision-making heap, experts tell Healthcare Purchasing News.

“First, a well-managed compliance and credentialing program involves all stakeholders, from compliance and Supply Chain to IT and clinical departments,” said Chris Luoma, Vice President, Product Management, GHX, which offers its Vendormate service.

“Second, a high-functioning supply chain works with every department in the enterprise — administration, IT, clinical, etc. — to standardize vendor relations, contracting, on boarding, compliance and logistics across the various relationships a health system must have. Finally, standardized vendor relationships and business processes simplify the process for third parties. This simplification leads to higher compliance rates. When you take all of this into account, it becomes obvious that Supply Chain owns a critical component of a successful compliance and credentialing program. As such, Supply Chain professionals should be involved.
When a health system evaluates and chooses a compliance and credentialing software package.

Justin Poulin, RN, CMRP, Vice President of Sales, Green Security, contends that Supply Chain’s connections and influence as this market segment emerged justifies their deep involvement.

“Supply Chain has extensive experience with compliance credentialing software,” Poulin noted. “This knowledge is extremely valuable in the sourcing process and is a resource to the departments that have not utilized a similar service. Many healthcare facilities have disparate systems and varied processes for managing non-employees. Those systems and processes are often deployed in silos relative to the departments that they support, such as Guest or Information Services, Security, Facilities, Engineering, Operating Room, Human Resources and Supply Chain. In some cases, no process has been established for a certain category of non-employees, such as vendors, contractors and visitors. The gaps created by those silos present a challenge to enforcing compliance. Supply Chain is engaged across the enterprise and has established critical relationships within the organization that are instrumental in closing gaps and establishing a standardized process for managing non-employee access.”

Julie Walker, General Manager and Vice President of Vendor and General Credentialing, symrpl, advocates for Supply Chain’s influence and leadership in the area of compliance credentialing.

“Supply chain has traditionally taken the lead role in sourcing and selecting compliance credentialing software, given health care industry representatives have been the primary focus for non-employee credentialing,” Walker said. “As the definition of healthcare personnel has expanded to include contractors, service providers, researchers, students, volunteers, etc., and pressures to minimize foreseeable risks to patient and staff safety increased, we’re seeing more stakeholders like Compliance, Facility and Risk Management, Infection Control, and IT/Data Security involved in the credentialing system selection and decision-making process.

“Supply Chain should continue to play a lead role in sourcing, evaluating, and selecting compliance credentialing software,” she continued. “Supply Chain is responsible for managing the largest and highest risk-credentialed population and have the most extensive knowledge and proven experience in effectively selecting, implementing, and managing credentialing systems. They should be encouraged to collaborate with other key stakeholders, as needed, throughout the process.”

**Bridging with IT**

Yet as the Information Technology department oversees wired and wireless hardware and software connectivity and integration what specifically can Supply Chain contribute to the implementation process after sourcing for fixed and mobile capabilities and features?

Louama acknowledges that IT oversees components of a compliance and credentialing program, including system and network access, infrastructure and technical security. But that’s only part of the process.

“A truly complete program extends far beyond that and is woven into everyday business processes — ordering, contracting, physical access, logistics and payment — with suppliers,” he insisted. “Supply Chain specializes in not only negotiation and contracting, but also in optimizing business processes. With this in mind Supply Chain is a valuable resource to leverage in the selection process and is necessary to ensure that compliance is part of a health system’s operations. When compliance is not a separate process, but rather part of the standard process, health systems get higher adherence and minimize exposure to risk.”

IT maintains hardware and software to reduce or eliminate downtime, according to Poulin.

“Typically, IT departments prefer systems that are secure and require limited human resources to maintain,” he said. “However, IT is not responsible for the vision. Supply Chain leaders are skilled communicators who can share their vision and gain buy-in throughout the organization when deploying a new technology. They also have the project management skills to keep the implementation on target and ensure the vendor is held accountable for meeting the expectations set during the sourcing process.”

If anything, Supply Chain should serve as a bridge with IT on the compliance credentialing front, according to Walker.

“Supply Chain serves in an important role relative to sourcing and implementing credentialing solutions,” she indicated. “Specifically, their key responsibility is to effectively communicate system requirements with IT and collaborate to determine specifications necessary to ensure initial and ongoing system success. Also, most credentialing solutions are delivered using a Software as a Service (SaaS) model, versus on-premise software. Thus, the primary role of IT has been to evaluate credentialing system’s data security and related requirements. This step will ensure compliance with PHI, HIPAA, PII, and other industry requirements and standards.”

Walker urged healthcare organizations to keep Supply Chain plugged into the compliance credentialing process, no matter how diverse and extensive it grows.

“Supply Chain has extensive experience and a rich perspective in determining necessary credentialing solution needs, including key features and benefits, and as such, should maintain the lead role in the sourcing and implementation process,” she said.

**Editor’s Note:** For an historical retrospective on the compliance credentialing industry segment, search hpnonline.com using the terms “Vendor Credentialing” or “Supplier Credentialing.” Furthermore, visit the Consortium for Universal Healthcare Credentialing for additional information at https://www.universalhealthcarecredentialing.org/.
**WORTH REPEATING**

“Supply Chain has extensive experience and a rich perspective in determining necessary credentialing solution needs, including key features and benefits, and as such, should maintain the lead role in the sourcing and implementation process.”

Julie Walker, General Manager and Vice President of Vendor and General Credentialing, symplr

“Regardless of the surgical discipline, members of the surgical team expect to have at their disposal all of the tools they need to meet the heightened expectation of achieving positive patient outcomes. At the same time, they are acutely aware of the financial impact of effective surgical workflows and OR scheduling. Up to 65 percent of an institution’s revenue is generated in the OR.”

Pamela Rockow, Director of Marketing, Surgical Workflows, Getinge

“SPD staff manage a large variety of instrument trays, most of which are not designed to properly organize and protect instrumentation throughout the use cycle. When you lack in this area it negatively impacts instrument organization, sterility and cleanliness, and can even cause instrument damage, as well as propose potential risks to staff. A messy tray can be the root cause of instrument-on-instrument damage, instrument tip damage from poking through a basket, a punctured sterile barrier, lengthy reprocessing times and possible injuries during the decontamination process.”

Marcus Super, CCSVP, Director of Sales & Marketing for Summit Medical

“Electronically-assisted HH monitoring converts random handwashing into a controllable and verifiable process. Application of this technology makes it possible to motivate behavior change from the c-suite to bedside care.”

Jim Mann, Executive Director, Handwashingforlife Institute

“That’s the first big test: If you believe you’ve taken a high stakes business problem and solved it successfully, then it’s obvious to conclude that others could benefit from it, too.”

Robert A. DeMichiel, Executive Vice President and Chief Financial Officer, UPMC

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**PEOPLE & OPINIONS**

**Demystifying disinfectant contact time**

Moving beyond “wet” and “dry”

by James S. Clayton, Director of Laboratory Sciences, PDI

Effective environmental disinfection in the healthcare setting is imperative to maintaining a low bioburden and helping prevent the spread of healthcare-associated infections. Recent studies have shown that environmental contamination plays an important role in the transmission of Methicillin-resistant Staphylococcus aureus (MRSA), Carbapenem-resistant Enterobacteriaceae (CRE), Clostridium difficile and Norovirus. For proven disinfection of the environmental surfaces in healthcare settings, users turn to Environmental Protection Agency (EPA) registered disinfectants.

**All disinfectants are not created equal**

While healthcare professionals rely on the extensive information provided by EPA-regulated disinfectant products, individual product labels can vary greatly. In the United States and Canada alone, you’ll find a plethora of registered disinfectant products for sale, with several notable distinctions. Among the six most common chemistries used for hospital disinfectants, users will find extensive differences in contact times, label language, efficacy, concentrations and personal protection needed for proper usage.

Of these variances, contact time is a common area of confusion for healthcare staff. It is normal to see varying contact times for different micro-organisms with the same use directions. At the same time, products from the same manufacturer can carry different language and instructions for use. Not surprisingly, it can be difficult to decipher the specific language and use directions on one product versus another. As a result of this confusion, proper compliance deteriorates.

Specifically, upon review of the commonly used disinfectant wipes on the market, there are a number of different iterations of use directions in the context of contact time, including:

- Repeated use of the product may be required to ensure that the surface remains visibly wet.
- Allow surface to remain wet for x minutes(s).
- Allow treated surface to remain wet for x minute(s).
- Allow surface to remain treated for the specific contact time.

**The problem with wetness**

The majority of manufacturers encourage users to ensure a surface remains wet for the duration of the contact time, using additional wipes if necessary. There are multiple flaws with this approach that contribute to staff confusion and a lack of compliance.

First, there is the practicality of observing wetness, especially if the contact time is fairly long (e.g., 10 minutes). Environmental services teams are expected to work quickly to turnover rooms, and typically do not have the time to wait and observe the surface for the stated contact time until, in their opinion, it dries.

That begs another important consideration: “wet” and “dry” are subjective terms, open to individual interpretation. Additionally, temperature, humidity, air flow and the specific surface material all play a role in how quickly a disinfectant (or any liquid) will dry. In fact, the surface may even dry faster than the manufacturer-recommended contact time. Should the environmental services professional then continue to keep the surface wet?

**Contact time ≠ Wet time**

In order to gain an accurate understanding of the meaning behind ‘contact time,’ one must examine the manner in which efficacy of disinfectants for hard non-porous surfaces are assessed by the EPA. Most importantly, the EPA does not require...
test surfaces to remain wet during the test method thus, the concept of ‘wetness’ is irrelevant in measuring contact time.

To demonstrate a specific example, we dissected the method used for evaluating disinfectant wipes: the AOAC Germicidal Spray Test modified for towelettes, although the same principal applies for ready-to-use spray formats.

Test micro-organisms are dried upon a glass surface prior to being treated by the disinfecting wipe in a standardized manner with environmental controls. Following the desired contact time, the glass surfaces are placed in a neutralizing growth medium to inactivate the active ingredient and determine if the test micro-organism(s) have been eradicated. The contact time is determined based on testing by the manufacturer, but must be no more than ten minutes in accordance with the EPA regulations. During the contact time, the liquid delivered on the glass surface by the wipe is exposed to the air, simulating a typical healthcare environment. As such, the glass surfaces will exhibit varying levels of wetness according to the test conditions.

Specific to *Clostridium difficile* and *Candida auris* only, the EPA’s interim guidance documents require pre-saturated wipes (towelettes) disinfectants to provide additional supporting evidence that the surface remains wet for the given contact time. The wetness determination study is in addition to the efficacy study and is detailed in footnote under eligible product types.

In short, environmental professionals should wipe the surface, allow it to be treated and remain undisturbed for the stated contact time (e.g. 2 minutes). As long as the surface is wiped and remains undisturbed (regardless of perceived ‘wetness’ or ‘dryness’), efficacy can be assured, as this process aligns with the required EPA testing methodology/registration.

Continuing education for staff around these nuanced topics will help equip healthcare professionals with the necessary tools in the quest for optimum compliance and enhanced patient outcomes.

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**References:**
2. *C. difficile* - Industry circulated document not in the public domain
PRODUCT PICKS

Cloud-based, data-driven cleaning system
Tork EasyCube is a cloud-based service that collects real-time data from connected devices. Displayed in an easy-to-use web application, precise information directs cleaning teams to exactly where they are needed. The Tork dispenser’s sensor technology, visitor counter units and DCUs measure visitor numbers and refill levels. Data from individual devices is displayed in the Tork EasyCube cloud-based application; and measurements track and predict use. The collected information can be used to plan for increased efficiency, and a more proactive and flexible approach to cleaning.

TORK
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Breast biopsy system with imaging technology
Hologic’s Brevera Breast Biopsy System with CorLumina Imaging Technology, is a real-time breast biopsy and verification system that is designed to increase biopsy accuracy with real-time imaging. It delivers valuable information at the point of care, enhances workflow, improves the patient experience and streamlines the entire biopsy process from start to finish. It combines tissue acquisition, sample verification and advanced post-biopsy handling in one, integrated system. Designed for 2D and 3D breast biopsy, the system allows physicians to perform fast and efficient procedures that save costs and improve the patient experience.

HOLOGIC
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Contained tissue extraction system
The Olympus Contained Tissue Extraction System combines the PneumoLiner tissue containment device, and laparoscopic PK Morcellator to provide certain appropriate, low-risk patients with a laparoscopic surgery option to avoid open hysterectomy and myomectomy. The PneumoLiner conforms to every abdominal size, avoiding intra-abdominal folding which can restrict movement, visualization, or inadvertent capture by the morcellator. It provides a barrier between target tissue and non-targeted abdominal contents, and maintains a barrier to the escape of fluids, cells and tissue fragments. The PK Morcellator’s anti-coring, tip-integrated peeling tip promotes peeling on target tissue and avoids tissue coring. Smoke management maintains clear visibility of the morcellator, the target tissue and collateral tissue while providing faster morcellation speed.

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HYGIENE PRODUCT SPOTLIGHT

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AVADIM TECHNOLOGIES, INC.
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*Effective at eliminating 99.99% of many common harmful germs and bacteria in as little as 15 seconds.
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Submit your name for our Hall of Fame

Each year HPN recognizes the best and the brightest teams and individuals and sets aside a permanent place for them all in our Hall of Fame. But we need YOUR nominations. Below is a brief listing of awards and links to each to help you submit your most worthy candidates.

JEANNIE A. AKRIDGE SCHOLARSHIP AWARD
“The Jeannie A. Akridge Memorial Scholarship” – a tribute to the memory of former HPN Managing Editor Jeannie Akridge – awards one lucky sterile processing professional an opportunity to win tuition to the annual International Association of Healthcare Central Service Material Management (IAHCSMM) conference.

Nomination details:
http://www.hpnonline.com/hpn-hall-fame/#JA
Deadline: November 30, 2017

CS/SPD DEPARTMENT OF THE YEAR
Sterile processing leaders and their staffs are recognized for the dedicated team effort required to make central service successful and ever improving.

Nomination details:
http://www.hpnonline.com/hpn-hall-fame/#CS
Deadline: March 2, 2018

SUPPLY CHAIN MANAGEMENT DEPARTMENT OF THE YEAR
Healthcare Purchasing News recognizes and honors Supply Chain Management leaders and staff for effective and efficient supply management. We salute the noteworthy hospitals with top-notch teams.

Nomination details:
http://www.hpnonline.com/hpn-hall-fame/#SCMDOY
Deadline: May 15, 2018

P.U.R.E. AWARD FOR SUPPLY CHAIN-FOCUSED PHYSICIANS
We want to recognize physicians who have made solid contributions to supply chain operations – activities, practices and thinking – and we want to further solidify and strengthen the clinical bonds between physicians and supply chain professionals.

Nomination details:
http://www.hpnonline.com/hpn-hall-fame/#PURE
Deadline: May 30, 2018

SUPPLY CHAIN OPERATIONS WORTH WATCHING
What makes a supply chain team worth watching? What they’re doing and why they matter in the areas of cost-cutting, efficiency-driven, clinically motivated and patient-centric concepts, ideas, activities and outcomes.

Nomination details:
http://www.hpnonline.com/hpn-hall-fame/#SCOWW
Deadline: September 28, 2018

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Turn-key delivery solution
Midmark’s turn-key Delivery Services provides customers with a single point of contact for all project coordination efforts, simplifying the process and minimizing the time a customer spends managing projects. From the time of purchase, the Midmark team coordinates off-site, pre-configuration of equipment and accessories to reduce disruption to customer facility operations, streamlining what used to be a cumbersome delivery process. A Midmark-trained team provides delivery, set-up and functional testing of equipment while meeting the specific facility and operational needs of the customer.

MIDMARK
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Advanced suturing device
ProxiSure Suturing Device features wrist-like maneuverability and curved needle in an advanced device that improves suturing precision in tight spaces. Surgeons are able to reach the desired angle, control bites, and secure knots, as well as to have maximum control of the needle during suturing and knot tying, which may reduce the risk of needle loss. ProxiSure assures highly intuitive tissue repair experience and is well suited for bariatric, general, colorectal, and gynecology procedures. The curved needle improves a surgeon’s ability to suture a variety of tissue layers, including flat surfaces.

ETHICON
Visit www.ksrleads.com/?710hp-104

Multi-enzyme detergent for washers/disinfectors
Belimed Inc.’s Protect Concentrate PLUS is a multi-enzyme detergent designed and developed to optimize the cleaning outcomes delivered by Belimed’s high performance washer/disinfectors. It reduces dosing levels which can minimize staff time on activities such as product changeovers and inventory management and provides a lower risk of staff injury related to better ergonomics associated with smaller size containers. Efficiency results from less detergent and fewer product changeovers while processing the same number of loads in the washer/disinfector. The formulation performs consistently at all water hardness levels, minimizing concerns related to water quality.

BELIMED INC.
Visit www.ksrleads.com/?710hp-105
A recent webinar sponsored by the Association for Healthcare Resource & Materials Management (AHRMM) highlighted the need to more effectively and consistently manage data associated with the myriad of products used in healthcare. The webinar, “Identifying Medical Devices with Quality Data,” was presented by the U.S. Food and Drug Administration (FDA) and stems, in part, from work conducted by the AHRMM Learning UDI Community (LUC) to help ensure data in the FDA’s Global UDI Database (GUDID) meets the needs of a variety of healthcare purposes, including supply chain operations, patient care and research.

As background, the FDA UDI rule was created to provide a way for all parties to unambiguously identify medical devices (from syringes to implants) across the medical device lifecycle. The UDI consists of a primary device identifier for a product at a specific unit of measure and a production identifier that includes information such as lot number, serial number and expiration date. In addition to assigning and labelling their products with UDIs, manufacturers are also required to publish additional data attributes for those products to the GUDID. The majority of data in the GUDID is publicly available through a web portal called AccessGUDID that was created by the National Library of Medicine, under a memorandum of understanding with the FDA.

Sounds simple enough, but as with so many things, implementation can present unexpected challenges.

As the FDA and others have learned, it is not just about whether manufacturers have complied with the regulation; it’s also about whether healthcare delivery organizations and other data consumers can use the UDIs and the data available through AccessGUDID effectively.

UDIs can help identify a product no matter where it is in its lifecycle or in the healthcare system. For example,
- Is it for sale in a manufacturer’s warehouse?
- Is it being ordered by a hospital?
- Is it being received and stored at a hospital site?
- Is it use being documented in an electronic health record and/or registry?
- Is its performance being evaluated?
- Is it being paid for by the hospital and/or being charged to a patient?
- Has it been recalled?

These activities are performed by a wide range of healthcare professionals, each of which need different information or attributes about the product. Some of that data will be in the GUDID; other attributes can be obtained from other product content databases. But there is value in all parties calling the same product the same thing, or in other words using the UDI as a reference code to unlock needed data attributes from other sources and still know they are talking about the same product.

Earlier this year, the AHRMM LUC held a series of workshops where providers and manufacturers discussed how to populate the GUDID to make the data as useful as possible for providers. As a result, some manufacturers are interested in updating their records. While this could help improve the quality of data in the GUDID, what about providers and others who may have previously downloaded data from AccessGUDID and loaded it into their various systems. How will they know if a record has changed? One of the potential solutions discussed during the webinar would be for the FDA to include the full history of a record in the GUDID in addition to the most recent version. There was also considerable discussion about the need to retain product records in the GUDID, even for products that have been discontinued, because those products will continue to exist, on hospital shelves and in patients that have had those products previously implanted.

Another topic discussed during the webinar was the value of the catalog number. While optional for manufacturers, many providers said they would like it included in the GUDID. The FDA proposed clarifying the definition of catalog number to be the number used for ordering. This exposed another challenge: for some manufacturers, the number on the label, which is used by clinicians when documenting supply usage, is different than the number used for ordering a product. Ideally, if the UDI were the only way a product is identified, this would not be a problem, but in most cases considerable system and process changes will be necessary before that can happen on a broad scale across healthcare and the many organizations that use product data. The discussion also raised the issue that catalog and other reference numbers often use hyphens to make the numbers easier for the human eye to read, but that can cause problems when using technology that cannot accommodate the extra characters when ordering or recording usage of a product.

Both of these issues demonstrate the importance of master data management (MDM) when it comes to healthcare products and associated attributes. For those not as familiar with MDM, it is typically defined as a means by which an organization creates a master file as a common point of reference to access all of the critical data essential for operations. But because so many different functions and entities in healthcare need accurate and consistent data about products, I would argue that we need MDM across the entire healthcare system, not just individual organizations. Using the UDI as a common reference code and making sure the data in the GUDID is as accurate, accessible and usable as possible are two foundational steps toward this goal. But as mentioned above, there will also be a need to make sure other data attributes not contained in the GUDID are also linked to the UDI to ensure consistency, and for that data, also, to be accurate, accessible and usable. Further, until all of our various systems and processes (manual and automated) are able to use the UDI, we will need business rules engines to make the necessary conversions, e.g., from codes with hyphens to those without, as an example. This truly is an industry wide challenge, with effort required by all parties, but with potential benefits available to all as well.
Kristine S. Russell, President.

I certify that the statements made by me above are correct or other securities: None.

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If pushed, most strategic sourcing managers will admit that their price savings record has been marginal over the last few years, since they and their group purchasing organizations have been hammering away at price concessions from their suppliers for decades.

Yet, time marches on and new and renewal contracts are bid, negotiated or renegotiated every day either to chip away at current prices or to locate new sources of supply to save a few percentage points. It is our contention that this tactic only results in 1 percent to 3 percent savings (total supply expenses/annual savings) annually for healthcare supply chain organizations that are married to price savings as their primary saving tactic.

Unfortunately, this course of action to keep pushing for better prices or even finding new sources of supply isn’t the ultimate answer for a hospital, system or integrated delivery network to bend their supply cost curve. What is needed for strategic sourcing managers to have a breakthrough in cost management is for them to also focus on their healthcare organization’s supply utilization to dramatically increase their savings yield on each contract in which they sign off. Here’s why this is important.

Operate in the know

If you knew you were running 21 percent over in the total cost-per-patient-day (or $126,999 annualized) on your disposable oxygen sensors just as you were ready to renegotiate a new contract, wouldn’t this information give you an edge on your negotiations? You bet it would. That’s why price and supply utilization must be intertwined in your negotiations with your suppliers (including your GPO contracts) if you want to increase your annual savings yields by as much as 7 percent to 15 percent overall.

To paraphrase Wikipedia, strategic sourcing is a purchasing process that continuously improves, evolves and re-evaluates the purchasing activities of a healthcare organization. The biggest life-cycle cost element of a new or existing commodity is its utilization cost, by a factor of 10, 20, 50, or more.

Therefore, a strategic sourcing manager would be malfeasant in this era of value-based purchasing if he/she didn’t approach each contract bid, negotiations or renegotiations with this salient fact in mind. This is because if you save 10 cents on 10,000 widgets you have been buying, when you only should be utilizing or buying 1,000 annually, have you really saved any money for your hospital, system or IDN? Of course not. Yet customarily the 10-cents-per-widget savings would be reported to your hospital, system or IDN’s management as a home run. This is fuzzy math!

Benchmark utilization data

I know that every strategic sourcing manager compares price benchmarks when preparing for bid/negotiations on any commodity group prior to the bid/negotiation event. Yet shouldn’t you be doing the same (benchmarking) with these commodities’ utilization costs? Of course you should be measuring, monitoring and managing all of your commodities’ utilization costs because this is where the real money is – not in price.

Here’s how it works. You have benchmarked the current price of a commodity under bid/negotiations and have set a target price for your new contract. Now you can do the same thing with this same commodity’s utilization cost if you have clinical supply utilization in place. If not, you can do a back-of-the-envelope calculation (e.g., cost per patient day, cost per procedure, cost per test, etc.) on your prior year’s contract utilization data on any product, service or technology you are buying then compare this metric to your peers.

For example, if your electrosurgical supplies are running $44.75 per surgical procedure and your peer benchmark is $21.42 per surgical for a contract year, your hospital is unnecessarily over-spending $186,677 (annualized) on this commodity group. These metrics need to be factored into your negotiations for the next multi-year agreement.

Use benchmarked data

Now that you have calculated a target price and a target utilization rate for your new or renewal contract you are now ready to share your utilization goal with your proposed vendor or vendors. In turn, you will need to ask them to come up with an action plan to rein in their commodities’ utilization to match or exceed your $21.42 benchmark.

This is where the real negotiations begin with your suppliers and the huge savings yields emerge.

The point of this discussion is to encourage you to start partnering with your suppliers to reduce your commodities’ utilization cost at the time of negotiating or renegotiating your contracts. It’s too late to be doing this after a contract is already in place.

In addition to monitoring that you are paying your contracted price, you will now need to have your suppliers report quarterly on your utilization of the products, services or technologies under those contracts.

More that price

Profit or non-profit corporations can’t stay in business today if they only worry about the price they pay. Therefore, all corporations must ensure that every dollar spent isn’t wasted by misuse, misapplication, misappropriation or is a value mismatch to be truly competitive in their marketplace.

Strategic sourcing managers are tip of the spear on this forefront, and therefore can be real supply chain heroes if they not only strive to obtain the best price for the commodities they are buying, but also strive to achieve the best in-use cost for the millions of dollars they purchase annually by including price and utilization in all of their contract negotiations.

Robert T. Yokl is President and Chief Value Strategist of SVAH Solutions. Yokl has four decades of experience as a healthcare supply chain manager and consultant, and also is the co-creator of the Clinitrack Value Analysis Software and Utilizer Clinical Utilization Management Dashboard that moves beyond price for even deeper and broader clinical supply utilization savings. For more information, visit www.svahsolutions.com. For questions or comments, email Yokl at bobpres@strategicva.com

Periscope

Strategic sourcing should hinge on utilization management

Price not enough to bend supply cost curve, savings yield

by Robert T. Yokl
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