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.”

WATERBURY, 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.


Renewing the oldest vital sign
Temporal Artery Thermometer validated by more than 70 published clinical studies

BY FRANCESCO POMPEI, PH.D.

Ever 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 other 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.

Exergen Corporation
400 Pleasant Street
Watertown, MA 02472

For more information, please call 617-923-9900 x6234,
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**Reaping the back 40**

In a world easily and readily distracted by an abundance of fickle multimedia noise, a four-decade span represents a long time.

Better yet, 40 years represent a dedicated commitment — redundancy acknowledged and intended for emphasis.

That’s how long Healthcare Purchasing News (and two heritage names — Purchasing Administration, followed by Hospital Purchasing News) has been covering the healthcare supply chain profession and industry without interruption.

And for good reason, too. Why? HPN’s founder, the late Bill McKnight (Bellwether Class of 2009) recognized the inherent and indelible value that Supply Chain — in form, function, intelligence and responsibility — brings to a healthcare organization and the healthcare industry in general. After all, Supply Chain truly touches every area and everything.

Fifty years later, that philosophy continues to ring true. Four decades later, HPN’s team members from editorial, advertising, production and administration all adhere to it as well.

As we celebrate HPN’s 40th anniversary all year long, we ask our readers to look back and forward at key industry and professional trends as you see them and complete a four-question survey.

We debuted the survey at our booth at the IAHCSCMM conference in Nashville in May; we plan to offer it at our booth at the AHRMM conference in Washington, DC later this month.

As the longest-running trade publication continually covering the healthcare supply chain profession, we invite you to celebrate with us by briefly sharing your insights on the past, present and future. Answer as many as you can in a few sentences.

1. What do you believe has been the most significant news event/item about Sterile Processing and Distribution (SPD) and/or Supply Chain Management Operations that HPN has covered during the last 40 years and why?
2. What do you believe has been the most innovative development/improvement in Sterile Processing and Distribution (SPD) and/or Supply Chain Management Operations within the last 40 years and why?
3. How do you individually or your department — plan to save your organization money this year?
4. What do you foresee as the most intriguing development/improvement to come to the Sterile Processing and Distribution (SPD) and/or Supply Chain Management Operations profession within the next 10 years and why?

Submit your responses to me via email at rickdanabarlow@hpnonline.com.

We will continue to promote this survey throughout the summer via the Daily Update on HPN Online. We plan to share the results with readers in the fall as we cap off a capstone year.

On behalf of everyone at HPN, thanks for reading and supporting us through the decades as we look forward to and plan for the path ahead.
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FDA extends UDI compliance dates for Class I and unclassified devices

The FDA intends to extend the compliance dates for the unique device identification system (UDI system) requirements for medical devices that generally present a lower risk to patients (certain class I and unclassified devices), such as manual surgical instruments and mechanical wheelchairs.

The FDA and industry have already implemented requirements for higher-risk medical devices (class III; implantable, life-supporting or life-sustaining (I/LS/LS); and class II devices), including implants and other devices that support and sustain patients’ lives, such as artificial joints, heart valves and automated external defibrillators (AEDs).

A significant number of device labels now display UDIs, and the UDI database (Global Unique Device Identification Database – GUDID) is already a large repository of device identification information. As of May 1, 2017, more than 4,000 device labelers had submitted 1.4 million records to GUDID. With successes come challenges, and implementing UDI is no exception.

For example, after fully considering the time needed to meet UDI requirements, many labelers asked FDA for extensions to comply. In addition, FDA identified complex policy and technical issues that need resolution, such as how UDI applies to products such as medical procedure trays that contain implantable devices and instruments.

Providing accurate and timely support to labelers has also been challenging, due to the sheer number and wide diversity of devices. At the same time, the FDA realizes that a truly successful UDI system of national scope must be able, life-supporting or life-sustaining devices because labelers of these devices must already be in compliance with UDI requirements.

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WHO updates Essential Medicines list with new advice on use of antibiotics

New advice on which antibiotics to use for common infections and which to preserve for the most serious circumstances is among the additions to the WHO Model list of essential medicines for 2017. Other additions include medicines for HIV, hepatitis C, tuberculosis and leukemia.

The updated list adds 30 medicines for adults and 25 for children, and specifies new uses for 9 already-listed products, bringing the total to 433 drugs deemed essential for addressing the most important public health needs. The WHO Essential Medicines List (EML) is used by many countries to increase access to medicines and guide decisions about which products they ensure are available for their populations.

New advice: 3 categories of antibiotic

In the biggest revision of the antibiotics section in the EML’s 40-year history, WHO experts have grouped antibiotics into three categories – ACCESS, WATCH and RESERVE - with recommendations on when each category should be used. Initially, the new categories apply only to antibiotics used to treat 21 of the most common general infections. If shown to be useful, it could be broadened in future versions of the EML to apply to drugs to treat other infections.

The change aims to ensure that antibiotics are available when needed, and that the right antibiotics are prescribed for the right infections. It should enhance treatment outcomes, reduce the development of drug-resistant bacteria, and preserve the effectiveness of “last resort” antibiotics that are needed when all others fail. These changes support WHO’s Global action plan on antimicrobial resistance, which aims to fight the development of drug resistance by ensuring the best use of antibiotics.

WHO recommends that antibiotics in the ACCESS group be available at all times as treatments for a wide range of common infections. For example, it includes amoxicillin, a widely-used antibiotic to treat infections such as pneumonia.

The WATCH group includes antibiotics that are recommended as first- or second-choice treatments for a small number of infections. For example, the use of ciprofloxacin, used to treat cystitis (a type of urinary tract infection) and upper respiratory tract infections (such as bacterial sinusitis and bacterial bronchitis), should be dramatically reduced to avoid further development of resistance.

The third group, RESERVE, includes antibiotics such as colistin and some cephalosporins that should be considered last-resort options, and used only in the most severe circumstances when all other alternatives have failed, such as for life-threatening infections due to multidrug-resistant bacteria.

FDA approves first cancer treatment for any solid tumor with a specific genetic feature

The U.S. Food and Drug Administration granted accelerated approval to a treatment for patients whose cancers have a specific genetic feature (biomarker). This is the first time the agency has approved a cancer treatment based on a common biomarker rather than the location in the body where the tumor originated.

Keytruda (pembrolizumab) is indicated for the treatment of adult and pediatric patients with unresectable or metastatic solid tumors that have been identified as having a biomarker referred to as microsatellite instability-high (MSI-H) or mismatch repair deficient (dMMR).
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2017 SUPPLY CHAIN DEPARTMENT OF THE YEAR

Fairview puts the ‘i’ in teamwork: Investment

Supply Chain pros pave, solidify clinical, financial relationships

by Rick Dana Barlow

Business enthusiasts, corporate moguls and frequent viewers of television’s “Shark Tank” recognize the value in spending money to make money – and more of it, if possible. They call it “investing” in their products and people – and not necessarily in that order.

The Supply Chain team at Minneapolis-based integrated delivery network Fairview Health Services feels the same way but for far more altruistic reasons.

In healthcare when C-suite executives spot tremors in financial operations and spy pools of red ink in departmental budgets, they typically call for cuts in consumption patterns, contract prices, labor levels and even service lines.

To some that reaction seems like low-hanging fruit on one side or the lowest common denominator on the other. For Fairview, it motivates Supply Chain to take the road less traveled, to demonstrate the inherent value in what they do and the services they provide to justify investment as it leads to reduction.

Operating out of a converted railroad warehouse Fairview’s Supply Chain team has been spending more to spend less.

Say what now?

Supply Chain has been taking on more work and more customers over the last few years as part of a “center of excellence” approach to managing all aspects of supply chain activities, according to LeAnn Born, Vice President, Supply Chain.

“We’re spending more in Supply Chain, but less across the system by ensuring that people are working at the top of their licensure,” Born told Healthcare Purchasing News. “An example would be to have an inventory specialist do work that was previously being done by a department leader but at a lower hourly rate.”

Born’s team plugged data collected on supply chain expenses and hourly staff rate differences into return-on-investment formulas to create a pro forma recommendation that drew C-suite support for the plan.

“In most situations, budgeted FTEs were transferred from the departments where the work was done to Supply Chain,” Born said. “There were also some examples of work being done by so many people in such small portions of FTEs that the organization decided to invest in new resources to do the work, understanding that the return was based on supply expense reductions.”

Born acknowledged that Supply Chain’s reorganization several years ago to a corporate center of excellence (COE) model was not easy, but allowed the department to bring in “shadow supply chain services” that were being delivered throughout the organization.

“We were able to see our work with fresh eyes and drive consistent services in areas we had not been aware of previously.”

Staff changes and “many ideas for new work we wanted to accomplish” motivated the restructuring, according to Born.

“We were able to modify positions and right-size our senior leadership complement with additions to supervisor-like positions. This recognized the talent of those not interested in people leadership, but ready for career advancement through project specialist roles,” she said. “We were aware of some people who were ready for advancement in their positions, but not necessarily ready for too big of a jump. These new positions allowed for a reasonable step up for them.”

Born categorized efforts as a “a redeployment of existing FTEs that allowed projects to get done more efficiently while ensuring that customer and staff needs were a priority on a daily basis.” This way, site-based supply chain leaders didn’t have to divert their attention from internal customers and employees to focus on such projects as product conversions, “leaning” PAR inventory locations and construction/remodel work.

In short, Fairview Supply Chain embarked down a path toward managing all inventory locations, contracting and purchasing processes throughout the system from a centralized location that has drawn C-suite and clinical support.

Because Supply Chain added services to cover new inventory locations, new clinics brought into the IDN and the new Clinics and Surgery Center building, the department expanded a bit to handle the increased responsibilities. In fiscal year 2015, Fairview Supply Chain budgeted for 300 FTEs and $23.75 million in operating expenses, but actually recorded 307 FTEs and $23.43 million. For the first three months of the current fiscal year, projections of 326 FTEs and $5.89 million are showing up instead as 313 FTEs and $6.04 million to date. New non-labor expenses were moved to Supply Chain from other departments, affecting the operating expense in excess of budget.

“We have focused on staff working at the top of their skill level and have created mid-level and other more economical positions that have actually increased service,”
indicated Jessica Freitag, System Director, Supply Chain. “We have a culture of constant process improvement.”

Through their foundational efforts in solidifying operations under a COE model, Fairview’s Supply Chain team has delivered centralized leadership and consistent service to its customers throughout the IDN – hospitals, clinics, ambulatory surgery centers, home care and corporate services. These efforts are rooted in teamwork, process and transactional efficiencies, effective contractual oversight, centralized sterile processing services and dedicated supplier relationships that balance clinical issues with business issues to drive high-quality patient care.

Supply Chain relies on clinician supply chain ambassadors in selected areas and dedicated “supply chain clinical integration teams” focused on product decisions, and paired “accountable executives” with operational and physician leaders around service lines. Supply Chain’s internal framework forges successful relationships with their suppliers and group purchasing organization as they tap into these companies for consulting, data and technical acumen to reinforce their processes.

Because these strategies and tactics funnel into the organization’s aim to perform as a recognized “center of excellence,” HPN chose Fairview Health Services Supply Chain team as the 2017 Supply Chain Department of the Year.

Developing trust

Supply Chain’s “culture of constant process improvement” strives to minimize surprise and uncertainty, according to Freitag.

“We do try to standardize our approach to our work and our customers whenever possible,” she said. “We deployed Service Level Agreements across all sites so our customers know what to expect of us. It is good and preferable to be organized and have exceptional teamwork in your own department when you work with other departments as much as we do.”

To become a “trusted partner and asset” to Fairview, Supply Chain has helped to reduce clinical labor expenses as part of an overall goal of reducing non-labor expenses.

“We have taken on more work without asking for FTEs when the work was minimal to the area or we felt our work group could absorb it,” Freitag said. “I am referring to incremental additions as well as work previously done by others in the organization. I call it a ‘reduction’ and not ‘maintenance’ because of the amount of work we’re talking about and because we have reduced work for clinicians and leaders across the organization so they can focus on their core duties.”

Examples include adding equipment to the centralized mobile medical equipment model managed by Supply Chain, absorbing additional customers with Inventory Specialist support, adding linen support to new areas and assuming responsibility for capital requisitioning, she noted.

“There has been a significant give and take over the years where we identify efficiencies and instead of reducing staff we create capacity to do more to support our customers,” Freitag said. “We are always being asked to do more because we are good at what we do.”

Of course, Born, Freitag and the entire Supply Chain team strive to “understand the tipping point between absorbing and over-loading.”

Team-oriented

Following the results of an annual Towers Watson employee engagement survey last year, Supply Chain chose to focus on improving teamwork in a quest to raise further the fairly high score they received. Participating in a series of team-building projects that included a “buddy system” and “job shadowing,” Supply Chain learned ways to become more cohesive and function as a unified group. This has benefits within the department and strengthens relationships with other departments. Ultimately, it supports the organization as it cares for its patients.

Supply Chain’s buddy program generated a particular success story with inventory specialists across different regions at Fairview. Tina Good, Supply Chain South Regional Manager, cited efforts by Inventory Specialists Jeff Kolhei at the Maple Grove campus in the North Region and David Overton at the Fairview Southdale campus in the South Region as particularly noteworthy.

“David and I have been working together at Southdale doing a major re-label and cycle counting,” Kolhei noted. “I’m helping with this project at another site and recognizing that there are so many extras to a central supply room, like purging and bin-to-bin transfers and the list can go on and on. One great bonus is that I have the chance to connect with all the Inventory Specialists at Southdale. They were just names on a paper before I was paired with David. Now I can truly...
say that I know Tenzin [Ngawang], Aldo [Lopez], Jason [Fields] and Andrew [Dealy].

So much extras to the central supply work, but you earn so much extra in work relationships especially when you get to work with people in person and learn from each other.”

Supply Chain launched the buddy system for inventory specialists to start, according to Freitag.

“We paired newer people with more experienced people and paired like roles at different sites with one another as a learning and relationship opportunity,” Freitag said. “We also have paired Purchasing Specialists with Inventory Specialists through job shadowing efforts. These two roles connect so much electronically and we wanted each to understand what the other does better.”

Accounts Payable, Purchasing and P-cards also focused on teamwork.

“The benefits gained from our deliberate focus on teamwork include increased efficiency and the ability to focus different thought processes on a common problem,” said Sandy Compton, Director, Accounts Payable and Purchasing. “The team better realizes that when we work together we’re able to accomplish more than we could on our own. Our teamwork has produced outcomes that are more efficient, thoughtful and effective. Each team member is benefiting from the trust they’ve built with one another, the respect they have for every Supply Chain team member across the system, mutual support they have and all have a great sense of accomplishment at the end of each day.”

This group determined how to reduce receipt accruals and increased use of prompt-pay discounts, Compton added.

Clinical customer service
Supply Chain Clinical Integration (SCCI) teams form the nucleus of Supply Chain’s relationship with doctors, nurses, and operational leaders to focus on product evaluations and decisions, service line operations and other value analysis efforts, according to Born.

In many cases, Supply Chain uses a triad approach by partnering with an operational leader and a physician leader to concentrate on meeting customer needs and pursuing continuous improvement opportunities across the organization. Efforts span hospitals, clinics, ambulatory surgery centers and home care operations. Supply Chain also recruits “accountable” executives to “bring visibility to the project as a priority, assign responsibility to operational leaders and help to break down barriers when they pop up related to the project,” Born said. Fairview appoints accountable executives to those challenging projects expected to drive more than $100,000 in savings.

Supply Chain contributes value analysis facilitation, contracting, transactional efficiency and business intelligence to leverage data in making decisions, she added. Key success stories from this process emerged in the areas of spine services, cardiovascular services, surgical services, and the construction of Fairview’s Clinics and Surgery Center (CSC) facility about two years ago.

Fairview operates 25 SCCI teams across the system that range from multi-purpose teams to those focused on value analysis to those that meet on an ad hoc basis, according to Born. [See SCCI team list on HPN Online.]

“These teams manage the requests for new products, identify standardization opportunities either to fewer suppliers or to fewer products from a single supplier, and identify and eliminate unnecessary variation in how products are used,” Born said. Unique SCCI Teams generated cost reductions that ranged between $400,000 and $2.5 million for products purchased by their service line in 2016, she continued. Consensus-driven value
We engaged VIE Healthcare when we decided to analyze our existing outsourced rehabilitation services’ vendor for our Rehab Centers and determine what other options existed for us in the marketplace. We knew that it would be a difficult task for our internal team to accomplish with the amount of resource allocation needed to be successful and to truly understand the financial cost reduction opportunity that existed for our health system. VIE was the perfect partner for us to accomplish our goals. VIE has a tremendous knowledge of the purchased services marketplace and provided insights on how to best develop a strategy for the complex review we needed. They were able to discuss the important clinical, operational and financial aspects with each of our different stakeholders.

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– Vice President of a Northeast Health System

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analysis teams have generated more than $50 million in savings during the past several years and are on track to meet a savings goal of $10 million this year, she added.

In the spine segment, participating spine surgeons provided feedback on implant criteria and product differentiation among a variety of suppliers for the $14-million annual expense category.

“The first phase of our spine work created price integrity,” said Sofya Mikhelson, System Director, Supply Chain Contract Services. “Attention was placed on ensuring that similar products were priced similarly through the contracts. Price benchmarking suggested that even without consolidation of suppliers, we could achieve better pricing if our surgeons were engaged and willing to eliminate suppliers that would not meet our benchmark price points. The next phase will attempt to consolidate to fewer vendors.” The spine project generated more than $2.5 million in cost savings and served as a baseline for further progress within the category as well as a blueprint for how to approach other areas down the road, she added. Total joints (hips and knees) may represent a future area. “We were not ready to reduce the number of suppliers in the total joint space and felt that we had decent pricing for an all-play construct model,” she noted. Through a dedicated Clinical Integration Project Manager, Jen Schnabel, and Contract Specialist, Georgia Cochrane, Supply Chain has worked with Fairview’s cardiovascular service line leaders to help them more effectively manage costs in such product areas as cardiac rhythm management, drug-eluting stents and heart valves. Born attributed some of the successes to Cardiovascular Services being recognized across Fairview as a system service line with physicians belonging to a common group. She linked similar successes in the laboratory and radiology categories to shared clinical services across Fairview that benefit from coordinated supply and equipment decisions.

In a joint venture with the University of Minnesota Physicians group, Fairview opened a Clinics and Surgery Center (CSC) facility last year where Supply Chain played an integral role in planning, designing and implementing patient-centered care. Supply Chain manages and restocks exam room and specialty carts and other key supply storage areas on a daily basis for the facility. This amounted to $1.4 million in additional inventory alone, and increased Supply Chain’s overall expense stream to $23.6 million in May, up from $16.6 million back in December 2015. Prior to opening the CSC in February 2016, Freitag indicated that “clinical staff used to buy many items on P-cards and have other clinic staff manage supplies.”

Under the new system, four CSC delegates meet with supply chain representatives, physicians and operational leaders to make
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   We offer a completely transparent pricing model providing full access to an extensive, à la carte menu of services with no hidden charges, and no service or membership fees to access our comprehensive contract portfolio or any other service offering.

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2017 SUPPLY CHAIN DEPARTMENT OF THE YEAR

Supply Chain pulls data from Fairview’s electronic health record system “to look at what products are used for different procedures and by different physicians,” Born indicated. “This is blended with the price we paid for these products through our ERP.” They’ve addressed peripheral and biliary stents, drug-eluting stents, pacemakers and ICDs, endomechanical products and vessel-sealing devices to date. “We have looked at differences in quantity per case and sizes of products used,” she continued. “Data do not usually tell us which product is most effective. However, when we identify variation, it allows us to have conversations with physicians to understand if there are reasons for different products or if physicians were simply unaware of the products being used by their colleagues or unaware of the cost of the items.”

Back in 2012, Supply Chain expanded its contract management system to function also as a system repository for product and purchased services contracts. The system’s automated tools enable them to review supplier performance expectations and manage expirations, according to Mikhelson. Furthermore, Contracting developed a risk assessment tool that helps business owners understand specific contractual language when they agree to work with the IDN.

Several years ago, Supply Chain also established a collaborative “Per Patient Day” shared-risk-and-reward relationship with Covidien (recently acquired by Medtronic) with incentives around availability and consumption patterns. The partnership has been so successful that they continue to add certain commodity products to the growing program, which now exceeds $1 million in Medtronic products, according to Born.

Editor’s Note: For more details on Fairview’s award-winning Supply Chain team, including their promotional efforts, their growing System Central Sterile Services Department, as well as relevant statistics and a staff listing, visit www.hpnonline.com/category/magazine/2017/july-2017/.

Tech infusion
Supply Chain wields a lot of technological capabilities in various areas throughout the system, including automated drug and supply cabinets from Omnicell and Pyxis for higher-cost products (but two-bin Kanban for lower-cost, and medium- to high-velocity products), and a materials management information system where they also automate daily procure-to-pay transactions via electronic data interchange (EDI) and produce more than 1 million automated transactions each year. Currently, their EDI transaction rate stands at 99 percent, which allowed Supply Chain to eliminate one FTE through attrition. GHX has recognized Fairview Supply Chain as part of its national Top 50 “Best in Class” for the past several years and as a member of the exchange’s elite “Millennium Club” for two consecutive years.

To manage new product requests and product evaluations, Fairview Supply Chain relies on MedApproved’s web-based application to navigate the process system-wide.

“We needed a documented, consistent approach to ensure appropriate review of requests by SCCI teams and a clear way of making decisions,” said Kelly Nelson, System Director, Business Development and Project Management, who left Fairview at press time last month after 13 years of service. MedApproved’s online application offered an “affordable way of accepting requests and allowing collaboration” among and within the SCCI teams, Nelson added. “Challenges were faced in the past where one site would make a decision to deny a request for a new product and then another site would approve it,” Nelson recalled. “Fairview’s current process allows us to document how the decision was made. It is possible to use products for certain procedures, but a product should not be limited at one site and allowed at another site for the same procedure.”

Supply Chain uses Blue.Point to record and analyze how products are used. “Blue.Point helps us benchmark the price we’re paying for items, but more importantly, helps us understand variation in how we are using products and offers evidence-based alternative ways to use products,” Born said. Endomechanical products represent one example. “Blue.Point reminds us to look at the use of articulating products to see if there is an opportunity to use a straight product or to fire the maximum number of times allowed prior to opening a new stapler. This helps us save money in ways that go beyond the price we pay for a product.”

Blue.Point usage pairs well with MedApproved, according to Laurel Sampson, System Director, Business Development and Project Management. “MedApproved is helping us decide what to bring into the organization,” Sampson said. “Blue.Point looks at how we use the product.” Supply Chain plugs into the Fairview’s Oracle/PeopleSoft enterprise resource planning (ERP) system to analyze expense data through its group purchasing organization (GPO) tools from Premier.

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**Patient monitoring — TMI?**

Making sense of sensory overload

by Valerie J. Dimond

When it comes to monitoring patients, most clinicians would agree that they could use another set of eyes on the back of their heads and 10 more hands to do the job. Instead, caregivers are often tasked with having to do more with less.

“Our customers, particularly respiratory therapists and nurses on the general and medical-surgical floors, are being asked to manage more patients at once than ever before,” said Julia Strandberg, Vice President, General Manager, Medtronic Health Informatics & Monitoring. “With the expansion of continuous monitoring protocols and systems, clinicians have an abundance of patient data that they are supposed to address, interpret, and use to prioritize patient care. However, depending how monitoring systems are designed and implemented, many clinicians have said that they often have too much information to process and not the right tools to efficiently aggregate patient data. As a result, they may be overwhelmed by patient data and not able to use it as it is intended — to inform and improve patient care.”

Fortunately, new and innovative technologies are emerging at a steady pace to assist healthcare workers in making sure that brains, skin and every organ in between get the right care and attention — at the right time — so patients can heal faster and go home.

**Vitally important**

The customizable Medtronic Vital Sync Monitoring & Clinical Decision Support (CDS) solution was launched in May and has several modules designed to improve workflow and communication. The Vital Sync virtual patient monitoring platform gathers patient information that clinicians can access remotely via data analytics, CDS apps and reporting. This feature can be accessed on the spot using a web-enabled device. The Vital Sync physiological patch, also wireless, is a lightweight device applied to a patient’s sternum to continuously collect physiological data — heart rate, respiration, single-lead ECG and body position — which automatically transmits to the Vital Sync system. The Vital Sync Weaning Readiness and SBT Monitoring app allows clinicians to set weaning readiness criteria and alerts for mechanically ventilated patients. It remotely tracks the breath-by-breath progress of each patient through a spontaneous breathing trial, alerting clinicians whenever patients fall outside the predefined thresholds. The Vital Sync Early Warning Score app provides early warning scores that are based on automated calculations that will indicate if a patient is at risk of deterioration before it becomes critical.

“The first clinical warning signs of a Code blue can appear as early as 6 hours prior to an event; an Early Warning Score system that gathers data from multiple parameters can be highly valuable,” Strandberg said. “The criteria settings within our CDS apps are based on published, proven clinical protocols and based on a subscription model that is scalable — it can be deployed on a single floor or across an entire hospital system so they may scale up during flu season or other times of high patient traffic.”

**Special-need patients**

Caring for very overweight patients usually presents unique challenges. For example, obtaining an accurate blood pressure reading on obese patients, who are already at high risk for cardiovascular disease, renovascular disease, and other medical problems, can be tough to achieve.

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OPERATING ROOM

ments on these patients because it is not possible to select a properly sized BP cuff,” explained Cory Stahl, Global Marketing Manager, Monitoring Solutions, GE Healthcare. “As a consequence, clinicians use upper arm cuffs to measure NIBP from the forearm, an application for which such cuffs are not clinically validated. Use of upper arm cuffs in this manner has been shown to underestimate systolic blood pressure by as much as 10 mmHg.”

GE’s CRITIKON RADIAL-CUF, the first clinically validated BP cuff, was introduced three years ago to be used exclusively on the forearms of obese patients. And since the disposable cuff (free of DEHP and natural rubber latex) remains with the same patient throughout his or her hospital stay, it provides an added way to help halt the spread of infection.

“Our study found a clinically significant difference in the accuracy of NIBP measurements between the CRITIKON RADIAL-CUF and the conventional upper arm cuff when both were used on the forearm,” Stahl added. “In our study the upper arm cuff underestimated systolic blood pressure by almost 10 mmHg (mean error = -9.85 mmHg) compared to the value for the RADIAL-CUF (mean error = -0.12 mmHg). Another measure of the accuracy of the cuff is the percentages of readings that are within 10 mmHg of the reference value. With the CRITIKON RADIAL-CUF, almost 90 percent of the systolic readings met that criteria, with the upper arm cuff only slightly more than half of the readings were within 10 mmHg.”

Moms and babies also have special needs that require careful monitoring and attention. In early May, PeriGen Inc. launched the PeriWatch HUB, a software module for labor and delivery units that allows caregivers to continuously prioritize patients based on abnormalities in vital signs, fetal heart rate and labor progression from an electronic dashboard.

“With the HUB perinatal dashboard we aim to facilitate earlier identification of deteriorating patients. Since delayed response to critical conditions is the most common human error leading to adverse events, there is a strong clinical need for this application,” stated Matthew Sappern, Chief Executive Officer at PeriGen.

“At MedStar Health, Cues (the fetal monitoring pattern recognition module of HUB) has been found to help reduce NICU transfers and lower the need for fetal resuscitation by over 50 percent,” added Sappern. “Another system, this one in the Pacific Northwest, tells an anecdotale of how the use of PeriWatch Curve, the labor progress module of HUB, helped them avoid doing a cesarean section for one of their patients.” (See photo: PeriWatch HUB dashboard by PeriGen Inc. at www.hpnonline.com/patient-monitoring-tmi/.)

Preventing pressure injuries

Despite how preventable they are, hospital-acquired pressure ulcers (HAPUs), or pressure injuries, are all too common in the healthcare setting. Everyone knows that patients must be turned regularly in order to avoid pressure injuries. But getting it right isn’t easy — especially when relying on traditional methods.

“Most healthcare institutions depend on nurses to manually observe patients and intervene when needed to help prevent immobility-related conditions like pressure ulcers, pneumonia and patient deconditioning,” said Mark Smith, Vice President, Sales and Marketing, Leaf Healthcare. This labor-intensive approach to monitoring is time consuming, inefficient and often impossible for busy staff. What nurses tell us is that they want a patient monitoring system that automatically monitors and documents mobility and alerts them when necessary so they can more easily identify and focus on the patients who need the help.”

Enter the Leaf system, a wireless, award-winning patient monitoring tool that cues caregivers at the precise time when a patient needs to be repositioned to alleviate pressure from hi-risk areas. The single-use patient sensor is waterproof, weighs less than an ounce and operates on batteries that last three weeks. The disk is placed on the patient’s upper anterior torso to track and monitor body position 24/7 whether he or she is in bed, on a chair or walking. The data is constantly delivered to any web-enabled device with color-coded visuals and countdown timers to help clinicians quickly identify and prioritize patients who will need to be turned. The technology is also customizable to accommodate turning periods and angle, tilt angle and other protocols. It even notes when a patient self-turns and starts the clock over automatically — a unique feature that saves nurses significant time and energy by not having to make unnecessary trips to patient rooms.

“A presentation at the Symposium on Advanced Wound Care meeting last fall showed how one hospital intensive care unit cut their HAPU rate by more than 50 percent by using the Leaf sensor on critically ill patients, said Smith. “Even more dramatic results from a 1,200-plus patient, randomized controlled trial at a major academic research medical center are pending publication. Another hospital experienced a 79 percent reduction in expenditures for rental beds and specially support surfaces when it began using Leaf to ensure patients were turned and repositioned more regularly.”

Stop the noise!

Today’s monitoring technology is improving and that certainly makes patient care easier and more effective to carry out but there is a hitch: alarm fatigue. Day in and day out clinicians get hit in the ears with dozens of alerts. It’s not surprising some become desensitized to the noise and when that happens, serious accidents can occur. Missed ventilator alarms, for example, is on ECRI Institute’s Top 10 Health Technology Hazards for 2017. False alarms are another problem that often occurs because parameters or thresholds were set improperly.

“A key challenge on the general care floor to nursing in regards to continuous monitoring is the significant impact of alarm communication, particularly as it relates to false alarms, on providing adequate coverage of patients,” said John Zaleski, PhD, CAP, CPHIMS, Chief Analytics Officer, Bernoulli. “Patient-to-nursing ratios in these environments can range from 5:1 up to 12:1, which means there is a significant workflow burden to nursing and adding to that burden by communicating alarms from devices that provide continuous monitoring could indeed increase risks and patient safety.
hazards rather than decrease them due to the constant potential for distraction.”

Bernoulli’s Respiratory Depression Safety Surveillance (RDSS) solution is designed to help reduce the problem. Launched in March, RDSS offers patented analytics with multi-variable thresholds that can be customized and measured continuously.

“The key to addressing false alarms is correlating events that, when taken individually, may not be actionable, but in combination, may be,” said Zaleski. “The RDSS platform provides connectivity to a hospital’s existing fleet of pulse oximeters and capnography from a wide range of vendors. It utilizes comprehensive real-time data to provide active patient monitoring, eliminating the exclusive reliance on individual device alarms to inform clinicians regarding the patient’s condition. RDSS also integrates with mobile clinical communication tools to deliver the right alarms and alerts to the right caregiver at the right time.”

Bernoulli recently collaborated with an East Coast hospital to conduct a study that is published in the Journal of Biomedical Instrumentation & Technology. The outcomes were notable. “Passing multiple series of data through a multi-variable rules engine that monitored the values of HR, RR, SPO₂ and ETCO₂ in order to determine which alarms to send to the nurse-call phone system brought the number of respiratory depression alerts down to 209—a 99 percent reduction,” said Zaleski. “More importantly, the RDSS analytics alerted for every patient that experienced an actual respiratory depression episode requiring intervention.”

Todd Plesko, Vice President of Product Strategy, Vocera Communications, adds a slightly different perspective. “While alarm fatigue is a well-documented concern in healthcare, perhaps even more critical is interruption fatigue,” Plesko said. “Interruption fatigue occurs when care team members are distracted by alarms, alerts, and notifications as well as text messages, phone calls, overhead pages, etc. All of these distractions and interruptions add to clinicians’ already heavy cognitive load. In addition to taking time away from direct patient care, constant interruptions can cause critical alarms to actually be missed or ignored, causing a patient safety issue.”

The Vocera alarm management solution manages alerts, alarms and notifications from more than 120 clinical systems, text messages and voice calls from a single platform. Once the facility’s clinical protocols are programmed into the Vocera Platform, it begins to filter actionable vs. non-actionable events, prioritizing them and sending alerts only to the appointed or available clinician via his/her preferred communication device.

“Clinicians can easily distinguish between alarms from multiple sources and different priorities based on the audio and visual...
information sent directly to their device of choice — whether it’s an iOS device, Android, Blackberry, laptop or workstation,” Plesko said. “The Vocera Platform acts like an air traffic controller, managing all the interruptions to help ensure smooth workflows. Real-time information and notifications such as early warning sepsis alerts, critical lab alerts, and patient vitals enables care teams to respond quickly and appropriately. All alarm events and responses are date- and time-stamped and logged in real time, providing robust data and an audit trail to identify potential gaps in communication and processes. Analytics from the solution help hospital leaders better understand alarm trends per bed, unit, staff, alarm type, alarm density, distribution and response times.”

With only 16 percent of frontline nurses satisfied with the current alarm management system at Sentara Princess Anne Hospital in Southern Virginia Beach, the facility decided to implement the Vocera platform. The results were noteworthy. “Data showed a 54 percent reduction in secondary NICU alarms within 30 days of integrating the alarm management technology with the RTLS system,” Plesko said. “Prior to integrating the Vocera system with the RTLS, NICU nurses said they experienced alarm fatigue 95 percent of the time while on shift. After implementation, this same nurse population said they experienced alarm fatigue less than 16 percent of the time during their shift.”

The EarlySense contact-free monitoring system is another way to continuously monitor and better manage alarms — and it requires no leads, sensors or cables. “The sensor is placed under the bed mattress and wirelessly and continuously monitors heart rate, respiratory rate and motion,” said Tim O’Malley, President, EarlySense. “This makes it very comfortable for the patient, while also providing health teams with accurate, real-time data and collecting thousands of valuable readings over a four-hour rounding period. With the EarlySense system, the alarm frequency in a typical eight-hour shift can be as low as two to three alarms. In comparison, other devices, such as telemetry and oximetry, can generate hundreds of alarms per shift.”

Newton-Wellesley Hospital in MA implemented an Early Detection initiative which included the EarlySense system and saw a 59 percent reduction in alarm response time. Additionally, according to research sponsored by EarlySense and published in the American Journal of Medicine, EarlySense’s continuous monitoring system was found to decrease code blue events by 86 percent, reduce patient falls by 43 percent, and reduce pressure ulcers by 64 percent. It also helped decrease total length of stay and ICU transfers. HPN

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Increasing susceptibility of Staphylococcus aureus in the U.S.

Findings from a study that looked at susceptibility trends of Staphylococcus aureus in U.S. hospital patients showed that key antibiotics used to treat the bacteria became more active over the course of the study, a rare occurrence. Researchers at JMI Laboratories evaluated susceptibility trends of antibiotics from 2009 to 2015 by testing clinical isolates from medical centers across the U.S. The research was presented at the ASM Microbe conference in New Orleans, LA.

“Results showed that S. aureus’ rates of resistance to certain antibiotics decreased over time, which isn’t often seen,” said presenting author Helio S. Sader, MD, PhD, Senior Director, Microbiology & Surveillance at JMI Laboratories. The rates of S. aureus being resistant to oxacillin (MRSA) decreased from 47.2% in 2009 to 43.6% in 2015, and more recent data from this program showed a further decrease to 42.2% in 2016.

Resistance to other antibiotics, such as levofloxacin, clindamycin, and erythromycin, also showed some decrease during the same period, whereas susceptibility to cefaroline, trimethoprim-sulfamethoxazole, and tetracycline remained stable.

Furthermore, cefaroline remained very active against methicillin-resistant S. aureus (MRSA) (97.2% susceptible) and methicillin-susceptible S. aureus (100.0% susceptible) with no marked variations or trends during the study period. One important result is that S. aureus resistance to daptomycin, linezolid, vancomycin, and tigecycline remained extremely rare with no sign of increasing.

Researchers tested a total of 19,036 clinical isolates from 42 U.S. medical centers to determine how susceptible S. aureus would be to antibiotic agents. JMI used broth microdilution methods, the gold-standard method, to test susceptibility. Medical center staff participating in the AWARE program followed a common study protocol to send collected bacterial isolates to JMI Laboratories to test how susceptible the isolates were to specific antibiotics.

During the late 1990s, people in the U.S. started to become infected with MRSA outside hospitals, in community settings, and this community-acquired MRSA (CA-MRSA) spread rapidly. CA-MRSA greatly changed how clinicians treated some community-acquired infections, especially skin and soft tissue infections and respiratory tract infections in children. Community-acquired MRSA was susceptible to trimethoprim-sulfamethoxazole, clindamycin, and tetracycline, and the bacteria was less susceptible to erythromycin and fluoroquinolones; however, CA-MRSA clones evolved and became more resistant to other antibiotic agents.

INFECTION PREVENTION

No crash courses in crisis management

Collaboration, cooperation are key to any disaster preparedness plan

by Kara Nadeau

March 2017 report from the Scowcroft Institute of International Affairs at the Bush School of Government and Public Service at Texas A&M University found the United States is ill prepared for the growing threat of global pandemics. Contributing factors include the anti-vaccine movement, ineffective outbreak response, limited health screening requirements and discrepant vaccination requirements for immigrants and refugees, and inadequate surge capabilities at healthcare facilities in the case of a high-impact infectious disease outbreak or other emergencies.

What have facilities learned from Ebola and other sudden catastrophes? To be well prepared for the unexpected, healthcare facilities must be armed with the right resources, education and expertise to handle a crisis. In this article, we explore ways to improve emergency preparedness and outbreak response from an infection prevention (IP) perspective, offering insights from industry experts, and new products/solutions to help in this effort.

An organization-wide strategy and structure

Nancy Dupont, Director of Epidemiology/Infection Prevention and Control at UConn Health, became interested in healthcare emergency preparedness efforts after the 9/11 attack. She was part of a statewide workgroup in Connecticut where she collaborated with individuals from different area hospitals and state and local EMS personnel on a plan to manage emergencies while sustaining businesses, including hospitals, in the case of a future disaster. In Dupont’s case, as the Director of Epidemiology in an academic medical facility, she had to consider how the hospital, along with its on campus medical and dental schools and outpatient medical facilities, would be prepared and maintain operations.

In order to prepare for the unexpected, Dupont urges healthcare organizations to put in place an organization-wide strategy and structure. It is important to continually drill and identify opportunities for improvement. At UConn Health, she is part of an emergency preparedness committee that must take into consideration a wide range of factors in the event of an infectious disease outbreak. Everything from ensuring staff is properly trained, effectively manage the safe handling of a patient who arrives at any portal of entry, to disposition of the equipment and supplies used in the care of that patient.

“It’s a tremendous challenge because one never knows what might be encountered,” said Dupont. “Several years ago when there was an issue of exposure to anthrax in Connecticut, someone came into our emergency room (ED) with a magazine that contained something that looked like white powder resembling anthrax. Then a few years later during the Ebola outbreak in Africa a woman called our ED to tell us that her son, who had been working at an Ebola treatment facility in Africa, wasn’t feeling well and that they were on their way to the ED. Then she hung up the phone. You have to be as prepared as possible for the different scenarios that may come your way, which is an incredible challenge.

“One final but exceptionally important component to the process is to conduct a situation debriefing with all members of the team to identify what worked well and the opportunities for improvement,” Dupont added.

BJC HealthCare has established a system-wide incident command structure. Rather than each hospital managing an outbreak on its own, BJC HealthCare makes system-level decisions that impact all of its facilities. For example, they leverage larger hospitals with more resources to take a primary role in managing patients, rather than letting smaller facilities struggle with the burden. Debbie Mays, Emergency Preparedness and Safety Director for BJC HealthCare, stresses the importance of senior leadership support, stating:

“In the case of an outbreak it is not business as usual. Under our incident command structure we can speak and act for the system without having to go to 15 different hospital presidents or CMOs to secure approval like you would with everyday business decisions. That allows us to move quickly enough to facilitate the event.”
Cross-functional collaboration
Because an infectious disease outbreak impacts practically every area of a healthcare facility, from frontline clinical staff to housekeeping, Dupont suggests that hospitals and health systems partner ahead of time with all of these key stakeholders when developing a response strategy.

“The relationship building must be done before a disaster, outbreak or other unforeseen event because you need to establish a trusting relationship,” said Dupont.

“With Ebola, a massive group of leaders came together frequently from all departments in the facility. For example, we collaborated with clinical engineering to identify the plan in event of an emergency, if particular equipment was needed or there was an equipment failure in the infected patient’s room. Another example is our partnership with housekeeping and environmental health and safety to address trash removal from the patient’s room. When it comes down to it, emergency preparedness is a real team effort.”

Supply management
A critical stakeholder in emergency preparedness is the supply chain team. Both Mays and Dupont note that it is a tremendous challenge to have the necessary supplies on hand in preparation for an outbreak, without having excess inventory that will expire and lead to costly waste.

At BJC Healthcare, all of its hospitals keep relatively low, just in time (JIT) inventory. Sometimes it relies on its distributor to store emergency supplies on its behalf. Furthermore, during activation of incident command centers, its supply chain department orders personal protective equipment (PPE) and other emergency preparedness products from a system level rather than having each of its 15 hospitals order individually so that there is equity across all facilities.

“Our incident command works proactively with supply chain because without some pre-planning and a general foundation, we may not be able to get the PPE that we need to safely take care of patients,” said Mays.

“We have also been working on more effective ways to cache supplies for emerging illnesses. Rather than having multiple supply caches throughout our health system where products are at risk of expiring or damage, we are exploring how to manage these items through our regular supply chain processes so that we have greater control over and visibility to them.”

PPE preparation
“One key challenge infection preventionists face in emergency outbreak response preparation is developing a practical outbreak response plan, including a PPE stocking plan for a wide range of potential risks,” said Jason Burnham, Associate Director, New Business Development at Halyard Health. Although identifying funding and maintaining a supply of PPE for a wide array of threats can be daunting, partnering with suppliers who can supplement PPE stockpiles rapidly is vital.

Halyard Health has many PPE products that are designed to enable hospitals to effectively manage outbreaks. Halyard’s FLUIDSHIELD N95 Particulate Filter Respirator and Surgical Mask with SAFETY SEAL are NIOSH-approved respirators that provide ASTM-rated fluid protection and help to keep healthcare professionals and their patients safe. Like many of Halyard’s PPE products, both respirators are sourced and manufactured in North America. Halyard also maintains surge capacity in its plants for high-use products such as respirators, facemasks, and gowns, which enables the company to respond quickly during an outbreak to rapidly supplement local stockpiles.

Temperature management
“Identification of fever is a major challenge, since it is the first and most common symptom in an infectious outbreak, and central to patient care during an outbreak,” said Dr. Marybeth Pompei, Senior Vice President and Chief Clinical Scientist, Exergen Corporation.

“To minimize any possibility of spreading the disease, the temperature must be taken noninvasively. Infected patients will have temperature monitored frequently, requiring a method that is quick and easy for the clinician. Isolation patients, particularly during the most dangerous outbreaks such as Ebola, require the thermometers to be isolated with the patient.”

New Exergen professional Temporal Artery Thermometer TAT-500S models connected to leading vital signs monitors are now available. The new TemporalScanner models are offered in six different variations to meet a variety of major vital signs monitor requirements, all supporting the use and advancement of Electronic Medical Records (EMR). The connection of the TemporalScanner, an award-winning, breakthrough medical thermometer supported by more than 70 peer-reviewed published studies for accurate, completely non-invasive temperature assessment, eliminates the need for manual entry of data, when connected to vital signs monitors. This significantly aids in the organization, security and confidentiality of patient records.

Distributor support
“You can’t predict an emergency — but you can prepare for one,” said Renee Boyle-Gregorek, Director, Medical Surgical Portfolio Management, Henry Schein Medical. “One of the challenges infection preventionists face during an outbreak or emergency is having access to the right medical supplies and equipment at the right time. By partnering with a distributor, such as Henry Schein, infection preventionists can develop a robust formulary of items according to emergency, and can also have access to multiple suppliers of these products. Infection preventionists should also ensure their distributor has a strong supply chain — such as Henry Schein’s, which includes five master distribution centers stocked with more than 190,000 products — so they can maintain strategic stockpiles of critical supplies during an outbreak or emergency.”

Education and training
During an infectious disease outbreak, healthcare organizations are actively seeking information and refreshing staff on effective response practices. But after the crisis is over, it may be tempting to relax and put emergency preparedness on the backburner. However, according to Dupont, it is imperative to immediately hold a post case debrief to discuss the event’s successes and areas in need of improvement, which will reduce unexpected costs and prevent future vulnerability to exposure. This practice reinforces the organization’s preparedness and its staff’s readiness of any potential occurrences in the future.

“Currently there’s an Ebola outbreak of lesser magnitude in The Congo and I think everybody initially was holding their breath in fear that it was going to evolve into a situation similar to the previous one, but thankfully it is less likely to have a global impact to date partially because it is in a very remote and isolated location,” said Dupont.

“People will be relieved when the outbreak is resolved but you can’t take a break from preparedness. I can’t stress enough how important it is to stay current with information and training because our staff, patients and community are counting on us. There are many reliable resources available to us, such as the CDC, WHO, departments of public health — we must stay on top of the valuable information so that we can deliver an accurate message
to everyone who will be on the frontline dealing with these situations.”

Mays points out how it is impossible to keep all of BJC HealthCare’s 28,000 employees completely up to date and prepared to deal with the next outbreak. Instead, they have assembled core teams within the ER, intensive care unit (ICU) and the lab and other key areas who receive intense, ongoing training so they are fully prepared to deal with an emergency when it arises.

“What we discovered is that it is better to have select groups of staff members to keep trained up versus trying to keep everybody trained,” said Mays. “A good example is Ebola, which requires very intense training on how to don and doff personal PPE. It has to be done correctly because there is no margin of error. These core groups receive this sort of training so that they are ready to respond and be safe whenever the time comes.”

Remember the basics

Hank Carbone, Senior Marketing Manager, Ecolab Healthcare says one challenge is ensuring healthcare workers remain calm and training so that they are ready to respond and be safe whenever the time comes.

Ecolab’s OxyCide Daily Disinfectant Cleaner is an ideal product for emergency/outbreak response, as well as for every day daily use. It kills 33 organisms* in five minutes or less, including Clostridium difficile spores in just three minutes, and meets EPA and CDC guidance for cleaning and disinfecting against Candida auris. It is formulated for daily use by environmental service teams, giving you daily preventive protection against C. difficile and other organisms of concern. It dies without residue to leave surfaces clean looking and is compatible with most healthcare surfaces.

“See EPA product label for a complete list of claims and usage instructions. EPA Reg #1677-237”

PPE removal

“Key to successfully managing through any hospital emergency or community outbreak is not only providing appropriate PPE, but ensuring that adequate staff training has occurred,” said Sheila Mays, RN, BSN, CASC, Executive Clinical Nurse Consultant, Mölnlycke Health Care. “Pathogenic substances can be transmitted after patient care when healthcare workers remove their personal protective equipment.”

In a controlled study, the quantity of virus transfer to hands during PPE removal was measured. In each of the single and double glove phases, PPE were contaminated with bacteriophage and samples were collected upon removal of the equipment. The study results demonstrated single-gloves significantly transferred virus more frequently to participants’ hands during PPE removal than double gloves (78% vs 23%, p <0.007). The CDC recognizes virus transfer as a potential risk and recommends double gloving when handling confirmed and suspected cases of Ebola.

Mölnlycke offers the Biogel double-gloving system in both latex and synthetic sterile surgical gloves. The color of the inner glove is optimized based on the color physics maximizing the sensitivity of the human eye. The puncture indication size is designed to grow quickly and provide a large, visual alert from a distance for the wearer. Faster identification of a breach leads the HCW to change their PPE for optimal protection.

Staff considerations

Dupont says there are many other staff considerations beyond keeping individuals safe from an infection during an outbreak. One challenge is maintaining staffing levels in times of crisis. Healthcare organizations must decide on shift length, where staff members can safely rest and recover, and how quickly they can come back onto a shift. Dupont says there is a great deal of time and thought that goes into establishing the staffing patterns necessary to provide safe patient care.

Another consideration is having provisions so that these individuals can ensure their children are cared for while they are working so they are not burdened with the concern about what’s going on at home.”

Keeping comfortable

Healthmark Industries has added Cool Aids to their PPE line of products. Matthew Smith, Marketing Manager for Healthmark said there are few better ways to beat the heat within the CS/SPD or operating room than these lightweight, latex-free cooling devices. Staff simply submerge the headgear or neckband in cold water for two-three minutes, and then enjoy hours of cool temps. For additional heat relief, pair in one of the Cool Aids vests, which utilize cold packs core body cooling.

“Often, infection preventionists are wearing so much personal protection equipment during an outbreak crisis that they will find themselves very hot and uncomfortable,” Smith said. “They face the challenge of how to keep themselves cool while wearing the necessary equipment to keep themselves safe. Products such as Cool Aids can be comfortably worn under PPE to provide cooling relief for hours. Beanies, skull caps, neckwear and cooling vests are available for important areas of the body for regulating core body temperature.”

Prepare now for the future

Dupont adds that healthcare organizations that are planning or currently engaged in construction projects or renovations should consider how they can work emergency preparedness into their plans.

“Opportunities may arise for building changes that can make the environment safer, more secure, and better apt to handle a patient or multiple patients with increased efficiency,” said Dupont. “For example, we were in the process of building a new hospital tower, including an emergency department. In light of our previous experience receiving suspected Ebola patients a decision was made to revise the original plans to include a decontamination room equipped with a shower connected to an isolation room so that patients who may be potentially contaminated can be safely escorted into the facility with the least amount of exposure to others. The area also allows staff members to have a place to comfortably put on their personal protective equipment and when finished safely change out of contaminated gear.”

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CS CONNECTION

Decontam is in the details

Creating clarity, cohesion & consistency in the SPD

by Kara Nadeau

If it isn’t clean it isn’t sterile. Luckily, there are a number of effective guidelines, practices and products available to support successful decontamination. New guidance documents are also on the horizon that will impact decontamination processes in central sterile/sterile processing (CS/SPD) departments. Experts weigh in on what to expect. We’ll also take a look at some of the products and solutions CS/SPD staff can use when decontaminating a variety of surgical devices.

New guidance documents

During the International Association of Healthcare Central Service Materiel Management (IAHCSMM) 2017 Annual Conference & Expo, May 7-10, 2017, in Nashville, attendees learned about two new documents that have the potential to change their decontamination practices:

• The new AAMI ST90: Processing of health care products Quality management systems for processing in health care facilities
• Updates to ANSI/AAMI ST79 Comprehensive guide to steam sterilization and sterility assurance in health care facilities

Richard Schule

“AAMI ST90 is a different twist on processing devices, in the sense that this document helps to establish a blueprint or framework for establishing quality management systems for CS/SPD professionals assisting the coordination of all the silos of communication currently taking place,” said Schule. “I like to refer to AAMI ST90 as the connectivity that will bring together all of the ingredients that go into device processing as we need a more holistic approach to the functional definition of quality.”

According to Schule, AAMI ST90 identifies with several normative references, one of them being ANSI/AAMI/ISO 13485 Medical devices – Quality management systems – Requirements for regulatory purposes and the working group’s vision was to design a CS/SPD equivalent to the medical device manufacturing industry, which specifies requirements for a quality management system. He explains how the new AAMI ST90 presents the opportunity for CS/SPD to reevaluate and define the department’s scope of work, reexamine processes, define terms and definitions and “dial further into the principles of quality management.”

“Additionally, the new AAMI ST90 covers management responsibilities, resource management, and measurement, analysis and improvement. In most cases, CS/SPD around the country are probably achieving 65 to 75 percent of what will be required,” said Schule. “Documentation requirements will be a little more detailed than in the past, and there will be a greater commitment to training, education and competency, as well as process verification. We are excited for the opportunities this document will afford those responsible for device processing in their health care facilities.”

Though the draft is not finalized, the healthcare industry could see a summer 2017 update to ANSI/AAMI ST79. Schule notes the document has grown to include a few more definitions, an update to environmental requirements including instrument air, as well as ergonomic specifications and support of resources necessary to perform various processes. Verification of processes has also been enhanced to provide better guidance. Product realization to include product labeling and traceability will be further defined.

“Overall, a lot of hard work by Working Group 40 and the guidance of the document co-chairs, Ramona Connor and Cynthia Spyr, went into this enhanced document and every device processing department should have a copy on its reference shelf to support their department’s standard of work, work instructions and policies and procedures as well as a comprehensive education, training and competency program,” said Schule.

Solutions for decontamination

When speaking with CS/SPD professionals, a common complaint is that they don’t
Solutions to reduce HAIs

TEEZyme™ Enzymatic Sponges
TEEZyme super absorbent sponges are designed to hold enzymatic detergent in, so that the detergent is guaranteed to disperse over the probe surface and is distributed more evenly. This provides longer contact time with biofilm and contaminants allowing the detergent to break them down.

- TEEZyme enzymatic sponges aid in the solubilization of polysaccharides and removal of biofilm allowing for high-level disinfectants to kill microbes
- TEEZyme enzymatic sponges have a proprietary blend of enzymes designed to break down all bio burden — blood, carbohydrates, protein, polysaccharides, fats, oils, uric acid and other nitrogenous compounds
- TEEZyme enzymatic sponges are lint-free, latex-free and dust-free

QwikDry™ TEE Probe Drying Cloths
QwikDry TEE probe drying cloths have been developed to give healthcare professionals the added confidence of properly dried ultrasound TEE probes prior to re-use or storage. The super absorbent pad effectively removes moisture from TEE ultrasound probes without damaging the probe or sticking to the ultrasound probe during the drying process.

- Lint-free, single-use
- Non-abrasive surface for easy glide on TEE probe
- Individually packaged, irradiated cloth
- Engineered textile with internal highly absorbent membrane

T-Porter™ Transportation System
T-Porter TEE Ultrasound Probe Transportation and Procedure Case is designed to effectively and securely move high-level disinfected TEE ultrasound probes to the procedure area and then return the biologically soiled TEE ultrasound probe for reprocessing. T-Porter features a variety of molded compartments to accommodate the TEE ultrasound probe, bite block(s), a PullUp™ Bio-Barrier Sleeve and a TEEZyme enzymatic sponge.

- Constructed of polycarbonate for excellent visibility and strength
- Individual compartments for electrical connector, cables and insertion tube
- Individual compartment for transportation of pre- and post-care items
- Designed to transport all major TEE probe brands
have the products and equipment they need to comply with industry standards. In this section, we cover some common challenges in decontamination, and the products that help overcome these issues.

Problems with pre-cleaning
“One challenge that CS/SPD staffs often face in order to achieve the successful decontamination of surgical instruments is the ability to receive instruments from the operating room (OR) in a timely manner,” said Todd Campbell, President of TBJ. “If surgical instrumentation is not received from the OR in an efficient manner after completion of a surgical procedure, then blood, body fluids and tissue will dry on the instruments making the technician’s job of manually pre-cleaning instruments much more difficult and time consuming. Ideally, instruments should be rinsed under water immediately after surgery. If this isn’t possible, a moist towel should be used to cover the instruments to help prevent blood and other material from drying on the instruments before they reach the CS/SPD for processing to promote more efficient pre-cleaning by the CS/SPD staff.”

TBJ’s new Hydro-Force rinse system greatly assists technicians in the pre-cleaning and initial removal of gross debris of material from instruments after surgery. The Hydro-Force rinse system option enables technicians to place grossly soiled trays of instruments in the company’s pre-cleaning sinks and let the sink do the work for them. Water is automatically recirculated in the sink basin to create a gentle turbulence and remove gross soil and debris for a pre-programmed amount of time at the push of a button.

Disassembly details
“If it isn’t clean it isn’t sterile” — the mantra of every sterile processing technician,” said Lindsay Brown, CRCST, CFER, CCSVP, Clinical Education Manager, Key Surgical. “There are many products on the market that set SPD techs up for success during the cleaning of instrumentation, both manual and mechanical. Cleaning brushes will always be an important tool to help remove bioburden from the inside and outside of surgical instrumentation but it doesn’t stop there!

“One of the common challenges faced today is long hours in front of the manual cleaning sink on the decontamination side inhaling odors such as blood on instruments, Subtilisin enzymes and cleaning solution fragrances designed to mask smells,” said Alison Shredes, Product Manager, Belimed. “Some staff members are sensitive to the mixture of odors and cleaning solutions causing headaches and respiratory issues; whereas exposure to Subtilisin enzymes, in general, can cause skin irritations and watering eyes.”

“The key to resolving the issue is to remove the irritants or better yet, not introduce them in the first place,” added John Nies, Product Manager, Belimed. “While you can’t remove bloody instruments from the process, looking for and using multi-enzyme cleaning solutions that are fragrance and Subtilisin free yet still effective at breaking down proteins would help eliminate some of the sources of irritation.”

Belimed now offers a full line of Subtilisin and fragrance free detergents that will clear the air in the CS/SPD creating a better work environment for the staff. Belimed Protect is a proprietary triple enzyme (protease, lipase, amylase) formulation that has the cleaning power to remove blood from instruments and targets the fat, proteins and starch present in biosolids, found on surgical instruments.

Belimed Protect family line

Instrument complexity
“Instrument complexity and having the correct tools to clean those instruments are some of the biggest challenges I see the SPD staff has to overcome to effectively prepare instrumentation for sterilization,” said Aaron Lieberman, Marketing Manager, Summit Medical. Summit Medical recently launched its InstruSafe Care + Maintenance product line. All of the company’s instrument cleaning products are gentle, yet effective, accommodating even the most unique and delicate tools. Summit Medical’s General Purpose Brushes can be used on a variety of instruments. According to Lieberman, these brushes are strong enough to remove anything the OR throws at them, yet delicate enough to leave equipment unharmed.

Visual inspection
“One of the biggest challenges CS/SPD staff face when it comes to successful decontamination is visual inspection of the inside of instruments that can be potentially soiled,” said Matthew Smith, Marketing Manager for Healthmark Industries. “There is virtually no way to determine if they are properly cleaned without specialized instruments. Healthmark recently introduced the FIS-003 Flexible Inspection Scope to its Prosys Optical Inspection line of products. The FIS-003 features a longer 110cm flexible shaft with graduation marks. Like other flexible inspection scopes, it also includes a distal tip composed of a light source and camera lens at the end of the flexible shaft. Designed for instruments 2.4mm in diameter or larger, inspection is easier on the interior of instruments with small diameters, including many flexible GI endoscopes. The camera and light are powered by the USB connection on a PC.

Cleaning efficacy
“The continued discovery of outbreaks associated with improperly cleaned medical instruments highlights the importance of regularly testing mechanical cleaning units,” said Greg Sautter, Product Sales Manager, Serim Research Corporation. The PINNACLE Automated Enzymatic Cleaning Monitor (AEC) from Serim Re-
search tests the cleaning efficacy in both washer-disinfectors and ultrasonic cleaners. This test monitors all aspects of the cleaning process including: enzymatic detergent concentration and activity, wash cycle time, wash cycle temperature and mechanical action of the unit.

Effective drying
“The introduction of potentially harmful contaminants after an ultrasound probe has been properly high-level disinfected is a reality in today’s healthcare environment,” said Mark Leath, President, CS Medical. “A properly dried TEE ultrasound probe, prior to storage, is critical in minimizing the possibility of water-borne bacteria contamination during storage. A wet probe, stored in a plastic sheath or hung freely for drying, can allow airborne contaminants to foster growth of spores and bacteria. Some of the current methods employed for drying after high-level disinfection include: reusable sponge, paper towel, cotton cloth and surgical gauze. These solutions, though effective in the drying of a TEE probe, could introduce outside contaminates. The sponge, if reused, could foster spore and bacteria growth, while the towel, cloth and gauze could contain outside contaminates introduced during the manufacturing or handling process prior to being used.”

CS Medical’s QwikDry removes the current issues associated with other drying methods employed in today’s healthcare facilities. QwikDry is an individually packaged, irradiated cloth with a super absorbent matrix and ultra-smooth texture surface that effectively removes moisture and slides freely over the TEE ultrasound probe shaft. Each cloth is designed for single-use, thus removing the potential for cross-contamination and potential microbiological growth. QwikDry ultrasound probe drying cloths are the next solution for healthcare professionals that are tasked with minimizing healthcare associated infections.

Workflow efficiency
“Today’s more sophisticated medical devices are provided with varying instructions for use (IFU) listing detailed directions on how to process with specific times and temperatures,” said Jason Simon, Product Manager, Infection Prevention, Skytron. “There are many healthcare facilities that continue to use outdated equipment that is not equipped to meet these challenges or worse, no automated disinfection equipment at all.

“Skytron Sterling P1500 washer-disinfector streamlines and automates the decontamination process — bringing unsurpassed efficiency and flexibility to the sterile processing department. The Sterling P1500 allows for 40 fully customized cycles, each with 10 available wash phases.”

Has your facility been cited for improperly handling soiled instruments?

- Walking non-containerized instruments to the soiled utility room.
- Transporting clean instruments in a red container.
- Transporting instruments in bowls/trays without lids or covered with a towel.
- Using trays without a biohazard label.

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SELF-STUDY SERIES

Microbiology essentials for the SPD

by Sandra Beauclair

Biology is the study of processes that occur in living things such as plants and organisms. It also includes the study of microorganisms, which are living, typically single-celled organisms visible only with a microscope. Microorganisms surround us and live inside us. They are in our soil, water, air, sediments, plants and animals. In fact, as Neil deGrasse Tyson, an American astrophysicist, science communicator and director of the Hayden Planetarium at the Rose Center for Earth and Space says, within one linear centimeter of the human lower colon live and work more bacteria (about 100 billion) than all humans who have ever been born. Yet many people continue to assert that it is we who are in charge of the world! Although we generally live in peace with the “friendly” microorganisms within us, not all microorganisms are friends to humans. Many are the source of human diseases that can lead to death. As healthcare professionals, it is not our responsibility to be microbiologists, but we should have sufficient knowledge about disease-causing organisms to determine what we can do in our daily practices to prevent harm to our patients.

Microbiology discoveries
One of the best ways to understand where we are today is to briefly retrace the history and origins of microbiology as a science.

1. Antonie van Leeuwenhoek (1632 – 1723): Considered “the father of microbiology,” van Leeuwenhoek was a Dutch businessman and scientist. He developed the first microscope, through which he observed single-celled organisms that he called “animalcules” (now known as microorganisms).

2. Edward Jenner (1749 – 1823): In 1796 Jenner, an English country doctor, investigated why milkmaids never caught smallpox, but because of their close contact with cows they did contract cowpox. Jenner supposed that cowpox produced an immunity to smallpox in these women.

3. Ignaz Semmelweiss (1818 – 1865): In 1850, this Hungarian obstetrician made the connection that puerperal fever was being transferred by medical students and junior physicians, who were delivering babies immediately after performing autopsies, without washing their hands. He ordered them to do so and the mortality rate dropped significantly. The “morbid poison” that Semmelweiss believed was being transferred is now known as Group A hemolytic streptococcus.

4. Louis Pasteur (1822 – 1895): In 1859, this French chemist and microbiologist developed the process of pasteurization after he discovered that microbes soured alcohol. By heating beverages and allowing them to cool he observed that the microbes were killed. He also contributed to the creation of the anthrax and rabies vaccinations through his work in germ theory.

5. Robert Heinrich Hermann Koch (1843 – 1910): A German physician and one of the founders of bacteriology, Koch was best known for receiving the Nobel Prize in 1876 for his discovery of the tubercle bacillus Mycobacterium tuberculosis, which causes tuberculosis.

6. Hans Christian Gram (1853 – 1938): A Danish physician, he studied pharmacology and bacteriology but is famous for his 1884 development of bacterial staining. Based on different cell wall constituents, bacteria, when stained, can be identified as either Gram-positive or Gram-negative.

7. Dimitri Ivanovsky (1864 – 1920): In 1892, this Russian scientist discovered viruses when he was looking for the cause of tobacco mosaic disease. He believed the disease was not caused by a bacterial agent but possibly by a toxin or other life form undetectable by the naked eye.

8. Martinus Beijerinck (1851-1931): This Dutch microbiologist and botanist discovered viruses in 1899, and discerned that viruses reproduce and are different from other microbes.

9. Walter Reed (1851 – 1902): Reed, a U.S. Army pathologist and bacteriologist, proved in 1900 that yellow fever is transmitted from the bite of a mosquito.

How we relate to microbes

The interaction between microorganisms and humans can be described as a love-hate relationship. We love them when they’re beneficial to us, and hate them when they cause us harm (pathogenic). Resident microbes are those that live with us daily. For the most part, we get along because they aid with food digestion and protect us from diseases. They are normally found in the human digestive tract. All bacteria can exist in an actively growing or “vegetative” state, but certain special groups of bacteria are “spore-formers” (able to form a protective shell that’s very resistant to environmental stress). When environmental conditions for reproduction are present, bacterial spores become vegetative cells. Some examples of pathogenic bacteria are:

- *Mycobacterium tuberculosis* (Tuberculosis)
- *Staphylococcus aureus* (Impetigo)
- *Bordetella pertussis* (Whooping Cough)
- *Salmonella enteritis* (Food Poisoning)

Viruses, on the other hand, do not have a cellular structure. Some viruses have a lipid envelope, and this envelope makes them harder to kill. They contain either DNA or RNA, but not both. Instead of replicating themselves, they use the host cell to reproduce. Some, like Herpes simplex virus and Varicella zoster, may remain dormant (inactive) within the host cell. When they are environmentally stimulated, they reactivate and take over the host cell’s DNA or RNA by copying or reprogramming it. In the reproduction process the host cell may be killed. Viruses range in size from two (2) to 300 micrometers and can only be seen under an electron microscope. Viral infections can occur not only in humans but in plants and bacteria as well. They are common in humans, and in some situations, can be life-threatening. Some examples of pathogenic viruses are:

- Influenza (flu). The individual’s immune system works to eliminate the viral infection. (Swine flu, an H1N1 type, mutated from a combination of animal and human strains. In 2009, it was the cause of a pandemic that led to 16,000 deaths worldwide.)
- Rhinovirus (common cold)
- Hepatitis B (liver disease). A vaccine is available to immunize this virus.
- Human Immunodeficiency Virus (HIV)-can lead to Acquired Immune Deficiency Syndrome (AIDS)

Fungi (yeasts and molds) are saprophytic (obtain nutrients from dead organic matter) in nature. They are parasites (an organism that is living in, on or with another organism), which are either single (yeasts) or multi-cellular (mold) in structure. They contain DNA, are self-replicating and range in size from two (2) micrometers to one (1) millimeter. Some can be seen without the aid of a microscope. Some examples of pathogenic fungi are:

- *Candida albicans* (Thrush): this occurs in the mouth and gastrointestinal tract. Unless the person is immunocompromised, it is easily treated with medication.
- *Trichophyton mentagrophytes* (Athletes Foot): causes scaling, itching, and flaking. Over-the-counter antifungal treatments are available, and good hygiene practices can help prevent it from occurring.
- *Aspergillus fumigatus* (Lung Disease): Found in nature, this fungus aids in the decay of organic matter. Most people breathe in several of these spores daily. Individuals who are not immunocompromised are able to eliminate the spores from their body with no problem. However, weakened patients who contract Aspergillosis may cough up blood and suffer kidney and liver failure.

Protozoa are single-celled organisms that have DNA and are self-replicating. Some are capable of animal-like movements. They range in size from 1.5 to 80 micrometers. Some protozoa cause parasitic infections in humans or animals. Examples of pathogenic protozoa are:

- *Entamoeba histolytica* (Amoebic Dysentery), which takes hold in the large intestine and causes diarrhea and colitis. Dysentery is treatable with proper oral medication.
- *Giardia lamblia* (Gastroenteritis) affects the large intestine and causes diarrhea.
- *Cryptosporidium Sp.* (Diarrhea) also affects the large intestine and causes diarrhea.
Microbes on the move

Microorganisms need a mode of transfer to move from one environment to another. There are four modes of transfer: direct contact, indirect contact, droplet, and airborne. When healthcare workers (HCWs) are providing routine care such as taking vital signs or assisting patients in and out of bed, there is direct contact between the HCW and patient, and pathogenic and/or nonpathogenic microbes are transferred in both directions. Indirect contact happens when a person encounters microbe-contaminated inanimate objects such as call buttons, bed rails and door handles. Common examples of the indirect transfer of pathogenic microorganisms is the transfer of fungi that cause Athlete’s Foot among those who shower barefoot in a community shower; or wrestlers who get ringworm from contact with contaminated wrestling mats. *Clostridium difficile*, a much more serious pathogenic microorganism, is well known to be transferred indirectly from contaminated hospital beds and rails.

Droplet contact is exhaled or emitted by an infected person. The microorganisms remain suspended in the air for only a short time, so the receiving person must be nearby at the time of the infected person’s unprotected cough or sneeze to transfer microbes. Whooping cough and Influenza are transferred by droplet contact.

Airborne contact occurs from the passage of microorganisms in water droplets or dust particles that are small enough to stay suspended for several minutes in the room. Tuberculosis is an airborne pathogen.

HCWs are at risk of contracting or spreading microorganisms from or to patients. They have a direct effect on patient and staff safety and the spread of healthcare-associated infections (HAIs).

**Preventing transmission in your facility**

Each type of infectious entity presents a different challenge to kill or inactivate. The chart below illustrates the range of difficulty, from easier-to-kill viruses and bacteria, to more resistant bacteria and fungi, to the most challenging spores and prions. You don’t have to be a microbial biologist to appreciate that the harder they are to kill or inactivate, the greater the danger they pose to staff and patients. The best practice is to attempt to prevent all types of pathogens from contaminating facility environments, surfaces, equipment, and surgical instruments, to prevent them from infecting patients and staff. (See image below.)

There are a variety of techniques that HCW can use, individually and together, to help prevent the transmission of microorganisms and ensure patient and staff safety.

**Appropriate hand hygiene** (a general term that applies to soap-and-water handwashing, the use of an antiseptic handwash, or rinsing, the use of an antiseptic handrub) removes or kills pathogenic microbes.

Wearing appropriate **personal protective equipment** (aprons, gloves, gowns, face masks, eye protection and shoe covers) interrupts the transmission of infectious agents.

**Hospital policies and procedures** that achieve effective disinfection and sterilization of medical surfaces, equipment and devices should be developed with guidance from professional and regulatory organizations (CDC, Joint Commission, AAMI, AORN, FDA) and in accordance with manufacturers’ instructions for use.

**The more you know, the more you can help** Healthcare professionals with a basic understanding of microbiology, and the roles microbes play in our existence, can understand the dangers these microscopic organisms and proteins pose to staff and patients if they are not adequately controlled. They can apply this knowledge to enhance contamination reduction practices and policies, and can help to reduce the risk of pathogenic infection in their facilities. **HPN**

Sandra Beauclair, BSN, RN, CNOR, is the senior clinical education specialist for STERIS University, and is responsible for overseeing their continuing education program. She completed 17 years of military duty and served as the officer-in-charge of Operating Room, Sterile Processing and Infection Control while deployed in Iraq and Afghanistan. Sandra is a member of the Association of periOperative Registered Nurses (AORN), Society of Gastroenterology Nurses and Associates (SGNA), Association for Professionals in Infection Control and Epidemiology (APIC), International Association of Nurses and Associates (SGNA), Association for Professionals in Infection Control and Epidemiology (APIC), International Association of
CONTINUING EDUCATION TEST • JULY 2017

Microbiology essentials for the SPD

Circle the one correct answer:

1. Microbiology is the study of processes that occur in a living thing such as plants and organisms.
   A. True   B. False

2. Antonie van Leeuwenhoek developed the microscope. He called the single-celled organisms that he viewed through the microscope
   A. Miniature animals
   B. Microorganisms
   C. Animalcules
   D. Tiny creatures

3. Which of the following men ordered his staff to wash their hands between procedures?
   A. Louis Pasteur
   B. Ignaz Semmelweiss
   C. Hans Christian Gram
   D. Robert Heinrich Hermann Koch

4. In 1884, a Danish physician discovered what method that is still used today to differentiate bacteria based on wall constituents
   A. Staining of bacteria
   B. Hang drop
   C. Antibiotic resistance
   D. Metabolism (Aerobic/Anaerobic) needs

5. Martinus Beijerinck discovered viruses when he was looking for the cause of tobacco mosaic disease. He believed the disease was not caused by a bacterial agent but possibly a toxin or other life form undetectable by the naked eye.
   A. True
   B. False

6. Robert Gallo and Luc Montagnier shared credit in the discovery of what virus?
   A. Varicella zoster
   B. Influenza virus
   C. Human papillomavirus (HPV)
   D. Human immunodeficiency virus (HIV/AIDS)

7. Name the microbiologist who conceived the process of low-temperature liquid sterilization.
   A. Walter Gilbert
   B. Walter Reed
   C. Raymond Kralovic
   D. Louis Pasteur

8. The four major classes of microorganisms are
   A. Bacteria, Viruses, Fungi, Protozoa
   B. Bacteria, Viruses, Mushrooms, Protozoa
   C. Bacteria, Viruses, Fungi, Algae
   D. Bacteria, Prions, Fungi, Viruses

9. Which of the four major classes of microorganisms found in the environment are the most abundant and impactful?
   A. Bacteria
   B. Viruses
   C. Fungi
   D. Protozoa

10. Microorganisms require a mode of transfer to move within the environment. The four modes of transfer are; direct and indirect contact, droplet and airborne.
    A. True
    B. False

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The approval number for this lesson is HPN 170609.
Cleaning the SPD; sterilizing bone tissue; retaining count sheets; incomplete IFUs

by Ray Taurasi

Q I work in a small rural hospital and like others we are dealing with tough financial woes. We have cut back on personnel and other expenses. We have now been required to take care of routine housekeeping in our department. Once a week a housekeeping company comes in to do the heavy cleaning of the floors. I am not sure exactly what level and type of disinfectant I should be using to clean the surfaces in the sterile prep area. What would be appropriate?

A The CDC and HICPAC stress that the responsibility for the routine cleaning and disinfection of environmental surfaces should be assigned to appropriately trained personnel. Environmental cleaning procedures need to be monitored to ensure they are consistent and performed correctly. EPA registered disinfectants or combined detergent/disinfectants with label claims for use in healthcare should be selected and utilized as directed. Disinfectant agents should not be used as cleaning agents unless the label indicates the product is suitable for such use. It is imperative that healthcare workers follow the manufacturers IFUs for use in cleaning and disinfection including the precise dilutions, contact times, and disposal.

Cleaning may be all that is needed for environmental surfaces such as walls and floors, which do not normally come in direct contact with patients during the delivery of healthcare. When the need for disinfection may be indicated, a low-level disinfection would be appropriate for such surfaces.

Q I am the OR nurse liaison for clinical support services in a small community hospital. Recently we had an emergency procedure involving a young patient with a severe head injury. I was advised that the surgeon would be removing a wedge of skull tissue that would have to be saved to be implanted back into the patient at a later date. We planned to place the skull tissue in a sterile container and refrigerate it until it was needed. Unfortunately, the patient did not survive surgery. In a later discussion the issue of sterilizing the bone tissue prior to implanting it back into the patient came up. I was not aware if bone tissue could be sterilized. If needed, would it be acceptable to steam sterilize the tissue?

A Generally bone tissue should not be subjected to the steam sterilization process unless there is a specific clinical indication that warrants it should be done. The steam sterilization process could severely damage the bone composition and structure, as it denatures proteins. This would increase the potential of the resorption of the implanted bone. In other words the body’s own cells could eat away and dissolve implanted sterile bone. Rejection may also be heightened as the changed and unfamiliar autologous sterile bone would be now be a foreign body. It should also be noted that subjecting the bone to the steam sterilization process would also be considered a form of manufacturing requiring your facility to register with the FDA as a tissue bank.

Q Do AAMI and AORN require that completed count sheets be kept in the patient’s records? Currently we do not keep copies of completed count sheets. The OR staff places a note in the patient’s record indicating counts were completed and the outcome of counts. The count sheets are returned to sterile processing for quality control monitoring of tray assembly. How long must completed count sheets be retained?

A According to AAMI ST79 the SPD sterilization process would also be considered a form of manufacturing requiring your facility to register with the FDA as a tissue bank. It should also be noted that subjecting the bone to the steam sterilization process would also be considered a form of manufacturing requiring your facility to register with the FDA as a tissue bank. If needed, would it be acceptable to steam sterilize the tissue?

Q In preparation for accreditation I was reviewing various IFUs and noticed that the IFU for our sterilization containers did not clearly address sterilization processes and relative drying times. The representative told me that their IFUs were in compliance but I still believe they are vague. What is the responsibility of the manufacturer? Shouldn’t the process address drying time?

A Section 10 of AAMI ST79 does address the responsibilities of the manufacturer and the suitability of the container system for specific sterilization cycles.

Q The manufacturer of a rigid sterilization container system should demonstrate by scientific evidence that the system is suitable for the specific sterilization methods and cycles for which it is designed and recommended. The manufacturer should provide the user with complete written IFU and in-service education, as well as documentation of the methodology and results of performance testing of the container system. This documentation should cover the following aspects of performance: sterilization (10.10.2.2), drying (if applicable) (10.10.2.3), and sterility maintenance (10.10.2.4). Is there a reference?

A The reference is AAMI ST79 Nov, ’13 revision.

Ray Taurasi is Principal, Healthcare CS Solutions. His healthcare career spans over three decades as an Administrator, Educator, Technologist and Consultant. He is a member of AORN, AHA, SGNA, AAMI and a past president of IAHCSMM. Taurasi has been a faculty member of numerous colleges teaching in the divisions of business administration and health sciences.
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Conflict in the workplace is an all too common complaint for many professionals, and it can be especially problematic in healthcare where individuals face time and resource pressures to meet patients’ immediate care needs.

Although conflict can be healthy, problems can mount if conflict isn’t managed properly. Teamwork, trust and job satisfaction can erode and, even worse, violence and bullying can erupt. These negative outcomes can have a significant impact on patient care.

Damien Berg, BA, BS, CRCST, Manager of Sterile Processing at St. Anthony Hospital & Ortho Colorado Hospital says communication failure is often at the root of conflict in the Central Service (CS) department. “Negative conflict takes time and energy to resolve, but ignoring it will possibly cause conflict to be accepted as the new norm in the department.”

Conflict, by definition, is simply a difference in viewpoint or opinion, and it isn’t inherently “bad.” In fact, it can lead to better relationships and outcomes if managers and employees are given the right tools to address it in a productive way, reassured Kiran Dintyala, MD, MPH, a Palm Springs, California-based physician who is also a stress management and conflict resolution expert, speaker and author.

Well-managed conflict can also play an important role in an organization’s success, added Rose Seavey, MBA, BS, RN, CNOR, CRCST, CSPDT, President and CEO of Seavey Healthcare Consulting. She believes the most effective team members of different departments are those where employees feel safe enough to disagree, but do so in a way that doesn’t allow the conflict to become a personal attack. “A culture where dissent is allowed, or even encouraged, can spur innovation, diversity of thought and better decision making,” she said.

Training aids understanding
Targeted, formal training is the most effective approach for curbing negative, morale- and efficiency-robbing conflict. A professional code of conduct should be established for all hospital departments and professionals. Ground rules make it easier to discipline, as they take personality out of the equation. A disciplinary structure should be developed so the mechanisms and referral pattern to higher authority are well understood (this can facilitate resolution at a lower level). Everyone must know there are firm limits on inappropriate behavior.

During tense situations, Dr. Dintyala said managers should encourage employees to physically step away from the conflict momentarily to think rationally about how best to manage the situation. “When we feel attacked or especially pressured — even if that is not the intent of the other person — we can let our emotions get in the way. We might lash back out at the person or try to defend our position in a way that puts the other person on the defensive,” he said. “This creates even more conflict and tension. When we take a brief time out, we can often come at the situation with a clearer head.”

Conflict often erupts between employees because of a lack of communication; however, there are other key contributing factors, such as when an employee believes another employee is not pulling their weight, or when unreasonable expectations or questionable rules can also contribute to conflict in the workplace.

To promote a positive, fair working environment, it’s essential that managers lead by example. They should demonstrate effective communication and encourage employees to work through their differences by engaging in honest and fair discussions. Asking questions to help employees gain a better understanding of their colleague’s perspective is another effective approach. Managers can also help their employees understand their emotional triggers and avoid overreacting when conflict arises. Although many experts agree that some conflicts are best resolved between the individuals involved, there are times when resolution won’t likely occur without some mediation from a manager. When conflict arise regarding departmental practices, Seavey recommends that managers steer employees to the standards and guidelines where the answer can be found. She reasoned that “standards help steer a truce and bring everyone toward the common goal of safety and quality.”

Tackling tough customers
Knowing how to manage conflict outside one’s own departmental walls is also critical. It’s not uncommon for CS professionals to face conflict from Operating Room (OR) professionals, for example, which may present itself in the way of urgent (sometimes angry or unforgiving) calls or visits from surgical staff who need an answer or problem solved immediately. Stern exchanges are not pleasant, but when employees and manager have the proper knowledge and communication tools, they can typically resolve those conflicts quickly.

Managing interdisciplinary conflict most effectively takes a facility-wide effort that involves team-based training and cooperation. Policies and procedures pertaining to conflict resolution and effective communication need to be in place and they should be consistent across all departments, reasoned Dr. Dintyala.

When Seavey worked as a CS manager, she would visit the OR with the CS employee to address situations in person. “It seemed to help [my employee] knowing I was there and it served as a valuable lesson for the employee,” she explained. Regardless of which CS professional goes to the OR, it is essential that the urgent situation be dealt with at that time so patient care is not affected.” Saying something like, ‘What do you need right now to take care of the patient? We will deal with the other issues later,” can be beneficial, she said.

Creating a culture of accountability and understanding with both the OR and CS teams helps build interdisciplinary trust and understanding, said Berg, adding that all employees seek understanding when situations or conflict arise. “They want to know what is going to be done to prevent the same issues from [recurring]. Empowering [CS] staff to deal directly with OR issues is important, but it’s also important to close the loop with the CS and OR teams to show that the issues are being addressed.” HPN
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NEW TECHNOLOGY

Machine learning may help in early identification of severe sepsis

A machine-learning algorithm has the capability to identify hospitalized patients at risk for severe sepsis and septic shock using data from electronic health records (EHRs), according to a study presented at the 2017 American Thoracic Society International Conference.

Sepsis is an extreme systemic response to infection, which can be life-threatening in its advanced stages of severe sepsis and septic shock, if left untreated.

“We have developed and validated the first machine-learning algorithm to predict severe sepsis and septic shock in a large academic multi-hospital healthcare system,” said lead author Heather Giannini, MD, of the Hospital of the University of Pennsylvania. “This is a breakthrough in the use of machine-learning technology, and could change the paradigm in early intervention in sepsis.”

Machine learning is a type of artificial intelligence that provides computers with the ability to learn complex patterns in data without being explicitly programmed, unlike simpler rule-based systems. Earlier studies have used electronic health record data to trigger alerts to detect clinical deterioration in general.

The researchers developed a machine-learning algorithm to predict patients most at risk for severe sepsis or septic shock, and to use their electronic health record to alert the care team. To develop the algorithm, they trained a random forest classifier, an approach to classify a wide range of data, to sort through electronic health record data to trigger alerts to detect clinical deterioration in general.

The researchers developed a machine-learning algorithm to predict patients most at risk for severe sepsis or septic shock, and to use their electronic health record to alert the care team. To develop the algorithm, they trained a random forest classifier, an approach to classify a wide range of data, to sort through electronic health record data for 10,448 patients while they were cared for in the study hospitals, using a “silent mode” of electronic health record sampling. Approximately 3 percent of all acute care patients screened as positive, and 10 alerts were sent each day across the three hospitals.

“We were hoping to identify severe sepsis or septic shock when it was early enough to intervene and before any deterioration started,” said senior author Craig Umscheid, MD, of the Hospital of the University of Pennsylvania. “The algorithm was able to do this.”

PRODUCTS & SERVICES

How tight a ship do you run?

Supply Chain pros don’t want to pay the freight for sending and receiving freight

by Rick Dana Barlow

I f space is the final frontier for managing inventory, freight and shipping costs must represent the toll booths along the way.

On the journey of getting something from there to here or vice versa, these tolls can add up — both in frequency and amount.

Over the years, Healthcare Purchasing News has explored the breadth and depth of healthcare providers managing the costs and practices of freight and shipping. Historically, the bulk of HPN’s coverage focused on the tips for and traps of controlling costs and improving how Supply Chain oversees inbound and outbound freight and shipping.

This year remains no exception as healthcare organizations continue to struggle with freight and shipping practices — from making it a budgetary, and therefore a management, priority to relying on outside resources for varying degrees of control. Those outside resources typically include third-party logistics (3PL) companies as well as mainline distributors with 3PL “boutique” operations.

One noteworthy trend emerges: Software. Designed to help Supply Chain departments manage costs by tracking usage and expenses, these applications automate portions of the process, functioning sort of like a “ Freight-Shipline.com,” but without the clever commercials and corny pitchmen.

Regardless of outsourcing all or part of the freight and shipping function to a third party or using a software package internally, Supply Chain executives and professionals continue to wrestle with some of the subtle nuances of freight and shipping contracts and requirements.

Red flag rising

To wit, HPN asked a variety of freight/shipping executives to reveal and explain some of the contractual red flags that Supply Chain pros should spot and understand, including such examples as early termination addendums, actual versus billed weight discrepancies and minimum billable weight determinations.

Contractual red flags are difficult to identify because typically they may be
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“One of the most common red flags are stipulations placed on how your organization can obtain free freight,” Davis told HPN. “We see vendors offering free freight only if certain dollar thresholds are reached, only if certain item amounts on specific item lines are reached, and only on specific days — some even have these stipulations combined with one another! Perhaps most troubling, we’ve seen contracts stipulate that punitive fees be charged if many of these same terms aren’t reached.”

Davis indicated that one term gaining in popularity is “flat free freight.”

“A flat charge for shipping, no matter the amount ordered, is only beneficial if it fits your procurement practices,” Davis said. “Spending a flat rate of $35 for a shipment that would normally cost $7 can add up quickly. The good news for supply chain professionals is that with greater visibility, they can impact, avoid and even affect change on many of these stipulations. Finding a partner to help you along the way is paramount to a healthy supply chain for your healthcare organization.”

During the contract negotiation phase with suppliers, Supply Chain pros often forget to delineate and differentiate between product and freight fees, allowing medical product suppliers to count freight fees as a tidy profit center, noted Marc Mullen, Vice President and General Manager, OptiFreight, Cardinal Health.

“These direct shipments, especially overnight deliveries, typically come at a hefty freight expense that’s higher than the market average,” he said.

But Mullen acknowledged that it can be easy for Supply Chain pros to overlook these costs.

“These freight fees may be hidden in the customer invoice due to the practice of combining shipping and handling costs into one line — making it difficult for supply chain professionals to identify true freight spend,” he said. “This is a critical step in negotiations to not only realize true shipping costs, but also to identify potential savings opportunities.”

Jake Crampton, Founder and CEO, MedSpeed LLC, pointed to cost-per-stop or cost-per-mile pricing structure and transactional add-on fees as red flags.

“While unit costs such as these are simple to grasp, they incentivize providers to increase the number of miles driven, stops made and fuel consumed — adding unnecessary costs and time,” he said. “A global approach that puts healthcare organizations and intra-company logistics providers in lock step to create more efficiency and eliminate redundancy is more aligned with the future of healthcare and the need for healthcare organizations to be agile.”

Don Carroll, Vice President, Business Development, Vantage Point Logistics Inc., however, warned about “non-approved handling fees,” advising Supply Chain pros to include a contract clause that prevents the suppliers from assessing them.

“A growing number of suppliers use random non-freight handling fees to make up for shortfalls in other areas,” Carroll cautioned. “VPL has identified over 1,000 unique fees that suppliers are adding to their customer invoices. A competent freight program can identify these fees for their customers, and it makes it that much easier to address them if the contracts state they can’t add them in the first place.”

**Spot the liability liability**

As Supply Chain pros examine freight and shipping agreements, they should play close attention to the contractual language addressing cargo liability and insurance requirements, emphasized James Hancock, Director, Sales, Veritiv Logistics Solutions, a division of Veritiv Operating Co.

“Most agreements have limits for cargo liability that are set around industry standards, Hancock said. “However, be aware that some agreements may try to impose liability for the full amount of the loss as well as consequential damages such as loss of business profits, or liquidated damages for delays. It is important to understand what actual liability you have agreed to take on. Based on the liability language you agree to in a contract, additional product loss insurance may be necessary to cover any gaps in coverage.”

Supply Chain also should review indemnity. “Most agreements will cover in detail when carriers, brokers and shippers can each be held liable for potential incidents. This liability language in a contract is usually in addition to the liability a party already has under the law,” he noted. “Indemnity provisions should be reviewed carefully to ensure that the risk a party is assuming is in line with its risk profile.”

Kevin Clonch, Director of Global Transportation Service Provider Development, Ryder, agreed that Supply Chain pros should watch for indemnification and ultimate liability language, as well as insurance level changes, accessorials, early out clauses for termination of the contract or rates and price change clauses, which typically involve increases.

Maintaining a “solid baseline understanding of an organization’s freight needs, costs and ordering trends” represents the “cornerstone” of freight and shipping agreements, insisted Sophie Rutherford, Vice President, Business Development, Jump Technologies Inc.

“If you’ve not been working with a third party logistics organization, it can be difficult to assemble this data, but it’s essential to any freight agreements you will negotiate,” she said. “First, look at all incoming packages over the last 12- or 24-month period. How did freight arrive? Who ordered it and what were the actual incoming supplies? What vendors and levels of service were used most often? And most importantly, what was the cost associated with your inbound freight? Why was the order shipped in the service that was chosen? In other words, did it really need to be priority overnight?”

Rutherford recognized how hard it can be to obtain data on incoming packages because “most ERP systems do not capture freight cost information.” With this data, however, you then can determine the organization’s current cost per package.

“Take your inbound freight charges for one month and divide it by the number of packages you received that month to get a starting point for cost per package. The lower the number the better, so use this as a benchmark as you build metrics for
improving your freight costs,” she said. Armed with this data you can negotiate for the best rates on most commonly used service levels, either directly with the carriers or with the vendors if you’re not leveraging a 3PL, she added.

“You [then] can work upstream within your organization to identify the people, departments and products driving the highest freight costs — ordering trends,” Rutherford continued. “This can help you flag potential inventory issues inside your organization. Finally, if you’re negotiating an agreement directly with a carrier, ensure you examine the contract carefully for add-on costs, such as fuel surcharges, sorting fees, shipping of materials needing special handling, and put responsibility onto the carrier to deliver goods to you — on-time and undamaged. Add rebates or charges to the contract for lost or misdelivered items to ensure the responsibility resides with the carrier. Watch out for words like ‘unless otherwise noted,’ as they can require you to continually sift through invoices of inbound shipments for exceptions.”

“Imagine if you could hop online or tap a software program that would allow you to name your own price for freight and shipping, so to speak. Or maybe the program could help you track freight and shipping costs and calculate the optimal price you should pay for shipping freight anywhere. Would you be interested in that capability? Would it be a game changer? Several logistics companies already have rolled out software packages available today that maybe don’t reach full-on “Freight-Shipline.com” stardom but come close enough to be relevant, useful and in demand. And another major company is on the verge of adding its stamp to the mix.

“The inbound freight management model has matured to the point where [integrated delivery networks] are now looking for ways to effectively eliminate the need to utilize a third-party freight program,” said Don Carroll, Vice President, Business Development, Vantage Point Logistics Inc. “These IDNs would prefer to transition their freight savings initiatives to an in-house, self-managed model that they have complete control over. The challenge facing these IDNs is acquiring the subject matter expertise required to design, implement, staff and manage such a program.

“Most health systems don’t realize the level of complexity involved until they begin to consider how they will operationalize their own program,” Carroll continued. “The truth is, most systems will put the idea on hold. The few that have moved forward with a self-managed program are using spreadsheets and manpower. To ensure the accuracy of carrier charges and to drive appropriate levels of vendor compliance requires a well-run program to review thousands of unique vendor and carrier records each week. Relying on spreadsheets is labor intensive, prone to error and rarely produces the results initially hoped for.”

To be a true “game changer,” any app or software package needs to deliver considerable functionality, indicated Sophie Rutherford, Vice President, Business Development, Jump Technologies Inc.

“This ‘game-changing’ tool needs to deliver instant access to several key pieces of data: The service level of every inbound shipment, associated shipping costs, who the requisitioner is, what the package contains and then, aggregate this data over time to show trends,” she noted. “What this is giving you is the opportunity to do several things. First, you’ll identify the culprits of habitual overnight/first priority shipments — both individuals and departments, so you can work with them to manage their purchasing patterns. Second, you’ll see what products or supplies come in via an expedited method so you’ll identify whether there are inventory issues happening within your organization and PAR levels that need to be reset.

Managing freight, shipping at your fingertips

Could a Freight-Shipline.com-type be hovering on the horizon?

by Rick Dana Barlow

You should also be able to identify whether supplies coming in overnight actually exist somewhere in your organization, so being able to see all inventory in the hospital through this tool is essential. Finally, if you’re working with a 3PL, this tool should be able to show you retail costs so you can compare retail on inbound shipments to your 3PL’s negotiated rate to ensure you’re getting the savings promised and give you a better negotiating tool for future contracting opportunities.

“Without the data, you have a significant disadvantage: You’re dependent on the vendor – potentially the same vendor that you are negotiating with – to provide you with the data. As is often the case, ‘Data is the DNA’ to this component of supply chain.”

By and large, internally controlled, automated capabilities do have their limitations, according to James Hancock, Director, Sales, Veritiv Logistics Solutions, a division of Veritiv Operating Co.

“For the most part, any type of game-changing app or software program would only work in a commoditized freight situation [as] the cargo is not valuable, there are no special shipping instructions, the shipment is not time-sensitive,” he noted. “The reality is that many items require special service, which creates more of a challenge when managing commoditized freight in this type of marketplace, i.e., extra insurance, specific delivery requirements. Supply Chain professionals should depend on partners who have specialized freight as a core competency, rather than an automated process that isn’t always capable of making specialty qualifications.”

Software product launches

Ryder actually just recently launched Ryder NaviShare, a cloud-based platform that provides real-time shipment visibility, predictive alerts and exception dashboards, according to Kevin Clonch, Director of Global Transportation Service Provider Development. The technology is accessible through a customer-facing website and mobile application that utilizes cellular and GPS technology to link shippers with onboard vehicle technologies. The system provides real-time visibility and event management capabilities to shippers, and delivers information updates and routing instructions to drivers.

“NaviShare provides real-time information regarding load status, tracking status, carriers, shippers, customers, origins, and destinations. If there is a delay in a shipment while in transit, NaviShare alerts the shipper and recipient, and provides the shipper with a list of re-routing options. The software application also has the capability to track shipments at a SKU/part level and to monitor the condition of the load. The NaviShare platform is transportation management system agnostic. The front-end user experience is combined with Ryder’s logistics engineering services on the backend to deliver the most proactive and unique platform in the industry today. In industry focus groups, potential users were particularly drawn to the platform’s ability to integrate data from 3PLs, carriers, brokers, and private fleets into a single real-time visibility and decision tool.”

TRIOSE will be launching its branded Transportation Management Execution (TME) system. The new cloud-based platform will offer hospitals the ability to select multiple modes, multiple carriers, and multiple locations from one-user friendly system, according to Andre T. Davis Sr., MBA-HCM, Marketing Manager.

“The platform is designed to be a game changer for hospitals who previously lacked the ability to compare cost, carrier, and modes of transportation, which could have prevented them from receiving optimal price and delivery quality. Another feature of TRIOSE’s new TME is the tracking options that increase visibility from order to delivery, providing standardized shipment data and automatic updates.”

Software in the cloud

Software [should be] designed to support self-managed freight programs, according to Don Carroll, Vice President, Business Development, Vantage Point Logistics Inc.

“VPL Surpass is a cutting-edge, cloud-based software platform that provides the user with an advanced freight management solution tailored specifically for healthcare providers. Its design and functionality are in direct response to the growing number of health systems seeking an alternative to the full-service programs currently offered by traditional freight management companies. Frustrated by the limitations imposed by the existing programs, more health systems are recognizing the advantages of transitioning to an in-house, self-managed freight program. With no off-the-shelf solutions available, the challenges in obtaining the necessary subject matter expertise and technology to run a program in-house have simply proved too high a barrier for all but a select few. With the introduction of VPL Surpass, a user now has everything required to set up and run a self-managed freight program right out of the box. VPL Surpass removes the uncertainty and risk commonly associated with self-managed programs with years of VPL’s reliable experience built directly into the system. VPL Surpass guides the user through the transition to a self-managed program, automates most core processes and provides guided daily workflows that allow the user to be productive from day one.

“We introduced VPL Surpass to support IDNs that want to move to a self-managed program. It is designed primarily to mitigate the risk and uncertainty that comes with self-management. It automates virtually all key processes required for a successful program and does not require subject matter expertise to use. To further ensure a customer’s success, VPL handles all of the initial vendor and carrier conversion activities to ensure a smooth transition from their current full service program.”

44  July 2017  •  HEALTHCARE PURCHASING NEWS  •  hpnonline.com
Laboratory needs Supply Chain expertise

To the Editor:

As I read the article, “Laboratory: Final frontier for performance improvement?” in the May 2017 edition of Healthcare Purchasing News, I recalled my personal experience as a newly hired Director of Materials Management trying to work with Nursing and the Laboratory in 1972!

My previous job was in purchasing for an aircraft manufacturer. I was hired to lead Materials Management at a 90-year old, 250-bed, religious-owned-and-operated primary care facility that was building a new 250-bed facility nine miles away. It was to be a Gordon Friesen-concept hospital with clinical revenue-generating services performed by the various clinical service personnel. All other services were to be assigned to non-clinical departments.

The Friesen concept of “supply, processing and distribution” in one functional area was designed to generate cost savings and improve management. Adapting Friesen’s concepts on space limitation and changes in overall supply management concepts would be of service to all users in the hospital.

The welcoming reaction I received was mixed. Nursing Management felt I was needed to help relieve shortages that occurred, but only to a degree. The Laboratory felt they did a good job, and that their storeroom offered all they needed.

The Lab Director was a bit defensive because she already maintained a storeroom and a working procedure with purchasing. The Lab Department personnel got a Purchase Order form from purchasing and attached a handwritten list of items on the Purchase Order form to be furnished directly to the hospital by the supplier. This made receiving work difficult and invoice-paying complex.

When I approached the Lab Director she was very adamant that purchasing or storeroom staff could not handle the complex items needed for a complex laboratory. Being a new hire, I told purchasing to continue the procurement method, but to make a file of every PO generated in this manner.

After several months, I analyzed these complex material purchases and discovered that about 95 percent of the buys were storeroom shelf supply items. In some cases we were paying two different prices for the same supplies.

I shared this data with the Lab Director. After much discussion, we reached a consensus: Purchasing personnel would procure supplies from the same suppliers contracts as Lab Personnel formerly used. Frequently ordered shelf items would be stored in the hospital storeroom. Laboratory personnel returned to laboratory clinical work and purchases were made through the Purchasing Department.

Lab’s new partnership with Purchasing was tested when the manufacturer of frequently used analytical equipment could not supply paper rolls for the machine. The Lab Director came to us, and we solved the problem through contract negotiations that generated a cost savings for the Lab and its appreciation for our services.

That’s why I have a difficult time understanding why Lab Directors are so reluctant to use Supply Chain and its experienced personnel and frequently stymie management with their explanations.

Maybe Supply Chain executives have to learn to apply sales and service principles and techniques to their professional relationships with other departments.

In the early 1970s, Materials Management was part of the progressive changes in the hospital environment. But after nearly 50 years, all parties should have figured out by now how to adapt and determine the most cost effective processes for their facilities. That includes making sure all departments perform duties based on their education, experience and training and that those clinical and operational duties align with the goals of the departments and the hospital.

I personally would be embarrassed if I were a senior Supply Chain executive today, and the Laboratory was still using Laboratory personnel to do supply chain tasks.

Norm Krumrey
Retired hospital Supply Chain executive
Bellwether Class of 2014
VENDOR SPOTLIGHTS

VANTAGE POINT LOGISTICS

VPL Surpass is leading-edge technology that makes the complex task of inbound freight management simple. Designed for healthcare systems considering a transition to a self-managed freight program, it eliminates the middleman, and provides you with more control, more savings, and expert support. Powered by Vantage Point Logistics - www.VantagePointLogistics.com.

See Vantage Point Logistics at AHRMM booth #739
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Exergen Corporation has announced the availability of a new professional Temporal Artery Thermometer TAT-5000S models connected to leading vital signs monitors. The new TemporalScanner models are available in six different variations to meet a variety of major vital signs monitor requirements, all supporting the use and advancement of Electronic Medical Records (EMR).

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HEALTHCARE PURCHASING NEWS
See us at AHRMM booth #326 ...

...where the 2017 Supply Chain Department of the Year winner will be presented their award. Check HPN Online’s Daily Update for the specific date and time.
**AAMI ST90 is a different twist on processing devices, in the sense that this document helps to establish a blueprint or framework for establishing quality management systems for CS/SPD professionals assisting the coordination of all the silos of communication currently taking place. I like to refer to AAMI ST90 as the connectivity that will bring together all of the ingredients that go into device processing as we need a more holistic approach to the functional definition of quality.**

Richard W. Schule, MBA, BS, FAST, CST, FCS, CRSTC, CHMMC, CIS, CHL, AGTS, ASQ CQIA, Director Clinical Education, STERIS Corporation

A growing number of suppliers use random non-freight handling fees to make up for shortfalls in other areas, VPL has identified over 1,000 unique fees that suppliers are adding to their customer invoices. A competent freight program can identify these fees for their customers, and it makes it that much easier to address them if the contracts state they can’t add them in the first place.”

Don Carroll, Vice President, Business Development, Vantage Point Logistics Inc.

“In the case of an outbreak it is not business as usual. Under our incident command structure we can speak and act for the system without having to go to 15 different hospital presidents or CMOs to secure approval like you would with everyday business decisions. That allows us to move quickly enough to facilitate the event.”

Debbie Mays, Emergency Preparedness and Safety Director for BJC HealthCare

“A key challenge on the general care floor to nursing in regards to continuous monitoring is the significant impact of alarm communication, particularly as it relates to false alarms, on providing adequate coverage of patients.”

John Zaleski, PhD, CAP, CPHIMS, Chief Analytics Officer, Bernoulli Analytics, Inc.

**PEOPLE & OPINIONS**

**Turning point**

*Now is the time for Supply Chain professionals to expand leadership role*

by Richard A Perrin, CEO/Principal of Active Innovations, LLC

It is time for Supply Chain Professionals to take time to reflect on the activities of the last few months and take advantage of opportunities to expand their leadership roles in their organizations. During the past year there have been several activities that point the way to the future and highlight the expanding role for supply chain professionals. Among all of the activities, there are two that stand out:

- **Unique Device Identification (UDI) of Medical Devices** – The FDA rule covers the adoption of UDI and established a timeline for progress to be accomplished.
- **Population Health –** This is a broad topic that will impact all supply chain professionals in the coming years. Evaluating strategies for these must also consider the changing landscape in Washington, DC with the efforts of the new administration to modify the Affordable Care Act and healthcare reimbursement activities. Each of these key areas are discussed below and provide impetus for supply chain management at this turning point for taking more active roles in leadership moving forward. There are also other issues and developing trends that promise to be disruptive to supply chain management activities as currently practiced and these are discussed briefly later.

**UDI’s impact on Supply Chain**

The FDA UDI rule is starting to impact a broad range of activities across the healthcare supply chain and will facilitate healthcare provider organizations in achieving improved operational efficiency. Primary impacts will be on accuracy and timeliness by ensuring the right product is delivered on time to the correct location. UDI use will also enhance tracking of transactions for correct quantities used and associated pricing with increased accuracy and visibility in inventory records and purchasing history. Using UDI will reduce and eliminate human intervention in transferring the transactions to inventory and related purchase records.

In many ways, the adoption and use of UDIs is similar to Universal Product Codes (UPCs) but adds much greater detail and will provide extensive benefits to healthcare supply chain participants. The first 10-pack of wriggly Juicy Fruit gum labeled with a bar code was scanned at a grocery store in Troy, OH in 1974. The bar code was developed in conjunction with grocery industry representatives and IBM as a means of capturing and storing retail product sales information. Today, some 40 years later, UPCs and comparable scanning technologies are ubiquitous for tracking retail product sales.

The initial provision for UDI rule development was part of the Food and Drug Administration Amendments Act of 2007 (H.R. 3580). The results of this act required the Secretary of Health and Human Services to develop regulations for medical devices by establishing standards for labeling devices with unique identifiers. Ultimately, it took seven years until publication of the final rule (September 24, 2014), based on the requirements of Public Law 110-85 passed in 2007. Since 2014, the efforts to move forward with the adoption of the labeling of medical devices as a result of the UDI rule have moved forward significantly faster than the UPCs did originally.

Today, there is no doubt that the use of UDIs is becoming pervasive across the healthcare supply chain. In part this is because the intent of the FDA UDI rule is to foster product safety notices and product recalls. This will become even more important in the future as medical devices continue to become more complex and are used more frequently for our aging populations (more on that later).

There is a wealth of information here on the rule; the use of various tools and implementation guidelines available on the FDA UDI Rule is available from the FDA websites at https://www.fda.gov/MedicalDevices/DeviceRegulationandGuidance/UniqueDeviceIdentification/. In addition, the Association for Healthcare Resource and Materials Management (AHRMM) and the FDA UDI personnel have been working together on furthering UDI adoption and use via the AHRMM Learning UDI Community (LUC). Information on the AHRMM LUC is available at http://www.ahrmm.org/resources/learning-udi-community/index.shtml.
Since the AHRMM LUC was created in June last year, over 300 industry leaders from various healthcare supply chain sectors (including manufacturers, distributors, providers, GPOs and professional organizations, etc.) have joined and are now participating in nine workgroups focused on specific issues. Working collaboratively, these groups are evaluating complex issues related to how use of UDIs impact their industry segments and activities. Workgroups include diverse areas for future enhancements using UDIs and range from “Search Criteria for High Risk Implants,” “Device Categorization,” “Catalog Number Fields,” “UDI Benefits to Healthcare Supply Chain Processes”, and best practices for “UDI Capture” and “Unit of Use.” These workgroups are now developing case studies on best practices can serve as tremendous source of information for Supply chain professionals seeking opportunities to make operational improvements for their organizations.

As the LUC’s efforts have evolved, it has become clearer that one of the keys to future success and enabling use of UDIs is dependent on the active leadership by individuals in each of organization whether a manufacturer, distributor or provider. In addition, the need to understand IT system interoperability issues are critical in the provider organizations because of the disparate systems that need to hold and transfer UDI information. AHRMM is most interested in fostering volunteer participation in the LUC work group activities and at the very least all supply chain professionals should be attuned to and regularly review the AHRMM LUC efforts and sign up for the LUC newsletter.

There are other initiatives similar to the AHRMM LUC for UDI adoption. These efforts are closely linked to the initiatives of the LUC reviewing emerging standards of use focused on enhancing clinical effectiveness and accuracy throughout the supply chain.

As an example, the MDEpiNet initiative is a private public partnership with FDA. As part of the activities of this group, their RAPID program is focused on peripheral vascular devices with a GUDID Integration Workgroup. This group - comprised of representatives from the American College of Cardiology, the FDA, Cook, Boston Scientific, etc. - is focused on fostering manufacturers linking UDI data for end-users in the GUDID. This includes DI (data identifiers, e.g., catalog numbers) and PI (product information, e.g., clinically relevant size) in the GUDID.

Another example is the FDA’s National Evaluation System for Health Technology initiative. Last September, the Medical Device Innovation Consortium (MDIC) was awarded $3 million under a contract to establish the “Coordinating Center for the Medical Device National Evaluation System for health Technology (NEST).” As envisioned, MDIC NEST’s efforts will be focused on improving capture of real-world evidence providing quality insights that healthcare providers can use to enhance treatment decisions. These efforts will facilitate safety and foster innovation for future device development.

Last but certainly not least is the recent news from the European Symposium on Regulations of Medical Devices in 2016 the proposed use of UDIs for the European Database of Medical Devices (EUDAMED). The legislation now calls for labeling of medical devices with rules similar to the FDA’s starting by the middle of 2017. While there are some differences in the data architecture for tracking device information (DI) in the EUDAMED system, the results will certainly foster faster adoption of the UDI standards in our growing global economy.

**Population health**

Population health is another area that supply chain management professionals should be knowledgeable about. There are several elements that are occurring in the environment that make this a key area of consideration. Population health as an area of focus was defined in 2003 by David Kendrick and Greg Stodart. In their definition they said the population has a new term had not been precisely defined but was a concept for the future Study of health care requirements and programs. They wrote several articles on population health with one of the earliest providing the preceding definition (“What is population health?” Kindig D, Stoddart G, Am J Public Health. 2003 Mar; 93 (3):380-3).

Population health should consider “the health outcomes of a group of individuals, including the distribution of such odd comes within the group.” Their argument was that population health included health outcomes, patterns of health determinants and approaches and interventions that would link these items. In the article published by them “What is population health?”, they provided a discussion of what public health was and noted how it was different from health promotion and other approaches to our environment. As such population health requires an expansion of the organizations focus beyond individual care to understanding the needs for aggregate management of services for the populations served.

In considering elements that brought supply chain management professionals to this turning point, it is notable that the focus of Accountable Care Organizations (ACOs) is on improving quality of care while improving/reducing costs. Consideration of population health issues should be part of your strategies as an obvious area requiring future attention of supply chain management whether your organization is part of an ACO or not. As such, with regards to population health strategies, the focus of the supply chain management professionals should encompass/incorporate cost and care consideration as part of CQO efforts. Strategies to consider include the need to focus on supporting organization needs in a manner that will link elements of clinical care and supply chain systems to achieve goals of reducing costs and enhance quality of care and outcomes achieved.

An interesting note related to the AHRMM’s CQO program and population health was the recent announcement by Premier to acquire Innovatix, LLC and Esensa Ventures, LLC, both partially owned by Greater New York Hospital Association (GYNHA) Holdings, LLC. Both of these entities provide GPO services and outreach support to a number of long-term care, assisted living and senior care facilities.

Organizations outside the traditional boundaries of acute care supply chain management professionals, along with the physician practices supporting them, represent part of the future direction for population health. Trends in providing support for medical home care, infusion centers, pharmaceutical distribution, nutrition support, etc., all provide a significant opportunity for outreach from the acute care / critical in-patient care base to an expanding domain requiring logistics support for procurement assistance, distribution of supplies and management of costs, recalls, and quality of care.

**Other issues and activities for future consideration**

Of course while the preceding highlights three areas of consideration for supply chain professionals, but there are several other issues and trends that the leadership team needs to have some knowledge of as they plan future strategies. Healthcare and industry trends to be aware of are numerous and briefly include the following:

- Internet accessibility for all areas including linking EHRs, patient portals, kiosks, wearables (fitbits, smart watches, etc.) for patient monitoring, and UDIs via bar codes and RFID tagging with accompanying integration & interoperability.
- Robotics – Use of robots that are now providing enhanced surgical procedure tools, will rapidly expand in the future to facilitate internal tracking, replenishment, distribution, replenishment activities.
- Digital giants impacts – These will have pervasive impacts on customer experience.
The UDI Conference shifts to value

by Karen Conway, Executive Director, Industry Relations and Value, GHX

Just as I was preparing my presentation for last month’s UDI Conference in Baltimore, President Trump announced that the U.S. would withdraw from participation in the Paris Climate Accord. Within days, many American corporations, from Google and Apple to Campbell’s Soup and Pacific Gas and Electric, joined governors, mayors and academic leaders in announcing they would still live up to their commitments to reduce carbon emissions despite the President’s decision. The theme of my presentation was on how both manufacturers and providers can find value in unique device identification (UDI) regulations beyond regulatory compliance.

The response to the Paris agreement decision made me wonder why the broad industry response seemed so unusual. In other words, why is it that businesses, especially those in highly regulated industries like healthcare, rarely go beyond what is required by law? Is it because there are so many regulations that it is hard to do anything more? I suspect that is part of the problem, but I also think it can be attributed to the highly fragmented nature of healthcare organizations; different functions often have very different perspectives and priorities and don’t think about the broader implications of regulations beyond their specific areas. For example, a manufacturer’s regulatory affairs department is understandably focused on what must be done to keep a company in business and able to sell its products. Sales and marketing, on the other hand, thinks about how to sell more of those products, while research and development and clinical trials are thinking about developing and getting approval to sell the next generation product. There is value in the UDI rule to each of these functions, but without a broader understanding of the potential benefits of UDI, companies may approach compliance in a limited manner and miss out on those benefits.

UDI benefits stretch across the board

This year’s UDI conference featured a number of manufacturers talking about how they are seeking to achieve value beyond UDI compliance. Presentations ranged from how UDI can improve supply chain efficiencies internally and with customers, to how healthcare economists and epidemiologists will use data generated by UDI in electronic health records, registries, and claims to improve our understanding of the real world performance of those products.

In many respects, this is the vision of the U.S. Food and Drug Administration’s Center for Devices and Radiological Health (CDRH). In testimony before Congress in 2015, CDRH Director Jeff Shuren stated: “By promoting incorporation of UDIs into electronic health information, a vast quantity of untapped real-world data from clinical experience with devices housed in EHRs and other electronic information sources may become available for use in understanding the benefit-risk profiles of medical devices.”

Johnson & Johnson healthcare economist Myoung Kim and epidemiologist Katherine Etter noted in their presentation how real world evidence provides a far more cost-effective way to continually gather data on product performance compared to clinical trials that are often very small studies conducted at specific sites. As Kim described it, it’s the gift that keeps on giving. But there’s a caveat: that data will only be available if providers put processes and systems in place to capture the data. Here’s where supply chain can play a very important role, not only in helping meet upcoming regulatory requirements to capture and share UDIs for implantable devices in electronic health records, but also to build the business case to generate further value for provider organizations.

Hospital interest on the rise

Attendance by hospitals was the highest ever for the UDI conference, signally growing awareness of UDIs and what it will take to put them to good use. The Association for Healthcare Resource and Materials Management (AHRMM) also led workshops where providers, suppliers, technology companies and other attendees offered their perspectives on questions related to some of the challenges of UDI adoption. Data collected in those workshops will be fed into various workgroups within the AHRMM Learning Community, which is open to anyone interested in advancing UDI.

Many of the benefits for providers are driven by the continued transition to population health and value-based reimbursement. With UDI in EHRs and other electronic databases, clinical researchers can better understand which products work best on which patient populations and if and when a more expensive product delivers a commensurate level of value to those patients. In turn, manufacturers can garner better data to market their products and to help design future products.

Providers can also use the data to understand the relationship between what they pay for products, what they charge for products and how those costs relate to reimbursement for the procedures in which those products are used. Bill Mosser, vice president of supply chain at Franciscan Missionaries of Our Lady Health System, also spoke at the conference and talked about how they use the data to also understand the contribution of supplies to the total cost of care delivery and are able to scan and charge for products appropriately.

If you are interested in learning more about how to get value from your UDI-related initiatives or to learn more about the Learning UDI Community, feel free to contact me at kconway@ghx.com.

References

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and satisfaction as users shift to Amazon, Yahoo, and other Internet providers to have instant access to data and information on service providers and alternative approaches to reducing costs of care with needs for enhanced customer relationship management.

• Electronic Healthcare Records (EHR) systems—as organizations move towards implementation and updates of their EHRs, they need to work with both clinical staff and IT personnel to ensure that the ERM/supply chain management systems provide quality master data management and item master information (including the minimum of 18 key attributes from the Global UDI Database [GUDID] that are the minimum required for the Clinical Care Data Set for patients and transfer between care providers.

• Use of 3C’s for data sharing and interoperability, including Common Standards, Culture (Organization) Change and Business Cases, to support integration and interoperability of logistics, clinical care and financial systems.

To summarize, now is the time for Supply Chain Professionals to move forward with strategies to incorporate UDI and considerations of population health in daily operations. HPN

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What defines Supply Chain leadership?

Skill sets necessary may not be what you think

by Jamie C. Kowalski

Back in January, Healthcare Purchasing News published a summary of a Supply Chain Leadership and Succession survey my firm conducted, along with my observations on the trends that the results represented.

Survey respondents, while recognizing title variation, all represented the top Supply Chain position in their respective organizations. The industry would likely consider all of them to be leaders. Much depends, of course, on how anyone defines the term “leader.”

The survey used the term “leader” repeatedly and pointed to the expected high turnover at the top Supply Chain Management positions in the provider sector of the industry. By recognizing and highlighting this phenomenon, the survey called for the soon-to-be-retired leaders to develop and execute a succession plan and for the industry to develop a pool of qualified candidates to fill these challenging positions.

Pause for a moment and consider just what a leader is. What are the skills sets needed? What are the characteristics that will likely lead to success? What is the best source of “would-be” Supply Chain leader candidates? And, finally, what is the best source that the would-be candidates could pursue that would help them qualify for these positions?

Consider also what a leader does. There are scores of books written about this topic, but the following summation is offered for consideration. Simply, a leader is someone that others willingly follow. Why? Because they are the boss? Not really. How about because of what they do and how they act?

Leaders have a plan that is based on asking questions, learning by observing what is going on and thoughtfully considering how to make or do things better. Leaders commit to the plan without reservation. They follow it with confidence, optimism and energy. Leaders communicate the plan up, down and across the organization. They educate those who need to understand enough about the plan, the reasons, the expected outcomes, and even enough of Supply Chain Management principles and concepts everyone needs to understand in order to do what they need to do for the plan to succeed. Of course, leaders also track — quantitatively and qualitatively — progress and results, to make sure the plan is working. If there are issues, they make adjustments and/or remove the obstacles that those working the plan might encounter. And they take responsibility, by actions, not just words.

What makes a leader?

Survey respondents stated overwhelmingly, that Leader Skills were more important than Supply Chain Technical Skills, 96.6 percent to 3.4 percent! Okay, but is that is what they really meant? So additional questions were asked to make sure the message and meanings were clear.

When asked to rank the top five skills that are most important for a Supply Chain Leader to likely be successful, they responded: Visioning, Strategic Planning, Change Management, Team Leading and Communicating. Note, there are no Supply Chain-related technical skills in the top five. In fact, supply chain technical skills don't show up on the list until No. 7, followed by three more leader skills to round out the top 10. Starting to see the direction this is going?

Next, survey respondents listed their top five characteristics that a Supply Chain Leader requires. They are:

1. Big picture view
2. Results orientation
3. Passion/enthusiasm for what is the best for the Supply Chain and the people working in it, can do — the best possible level of performance
4. Ethics and integrity
5. Personal accountability

The following seems to be the clincher. When asked to list the top 10 supply chain management components that the leader must excel in, they responded as follows:

1. Strategic planning
2. Contracting
3. Value analysis
4. Negotiating
5. Applying technology tools
6. Sourcing
7. Utilization analysis
8. Cost analysis
9. LEAN Six Sigma
10. Productivity analysis

The message is consistent and clear. The top-ranked component of Supply Chain Management is not even a supply chain technical or tactical component. It is a leadership skill set element.

So how do the striving candidates for the top leader positions obtain or enhance their skills and develop the critical leadership characteristics? What sources are out there and what might be considered the best sources?

Survey respondents stated that the sources for developing the Supply Chain Management skills and tools include:

1. Universities with Supply Chain Management programs at the under graduate and graduate level (Note, in previous surveys, the respondent stated that top leader position candidates must have a graduate degree in Management (MBA) or Supply Chain Management)
2. Internal education and training at your place of employment
3. Association of Healthcare Resource and Material Management — AHRMM

The source considered the best is university programs, of which there are many and growing as Supply Chain Management continues to emerge as a critical part of the success of any enterprise — not just a hospital. When considering sources of obtaining or honing Leadership skills, the top source was universities. This seems to be consistent with other survey findings as well as solid advice.

Finally, for those looking for the opportunity to advance to a top position/leader role, go for it! The numbers are critical. Too many of those in the top Supply Chain positions are retiring in a short period of time. Admittedly, most (60 percent-plus) of the retiring veterans have not prepared their organization for their departure with a Succession Plan or a candidate (internal or external) ready to step up and step in. The Supply Chain impact on healthcare provider enterprises is being recognized, and relied on for helping providers achieve and maintain financial sustainability in the era of falling reimbursement. They need talent and those who can deliver results as well as products. They need leaders. HPN

Jamie C. Kowalski has more than 40 years of experience in healthcare supply chain and expense management as a provider and supplier executive, strategic advisor, thought leader, speaker, author, coach/mentor and advocate. Kowalski also served in executive-level positions at Owens & Minor Inc., McKesson Provider Technologies and Aramark, Co-Founder and Founding Chairman of Bellwether League Inc., and earned the 2011 George R. Gossett Leadership Award from AHRMM in 2011. He can be reached at jckcllc@att.net.
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