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Green Cash Flow Offer

Q: How does the $100 upgrade credit work?

A: For every new TAT-5000 thermometer purchased, Exergen will credit the hospital $100 each for every hospital grade ear or electronic thermometer taken out of service and sent to Exergen.

Q: Can I purchase through a distributor and still qualify for the $100 upgrade credit?

A: **Yes.** If the TAT-5000's are purchased through an authorized Exergen distributor, proof of purchase needs to be sent to Exergen to qualify for the $100 upgrade credit (or direct payment) to the hospital.

Q: What thermometers will be accepted for the $100 trade in credit?

A: Any hospital grade ear or oral/rectal electronic thermometer that is in currently in use at the hospital.

Q: What does a 1 year payback mean?

A: Since ear and electronic thermometers have operating costs of $300 or more per year per thermometer, and a TAT-5000 with the $100 upgrade credit will cost much less than $300 to purchase, payback on the Exergen purchase will be well under 1 year.

Q: What does the 100% reduction in waste mean?

A: Studies show that each staffed bed produces more than 30 pounds of waste per day. Included in that total are thermometer probe covers, broken probes/cables, and discarded thermometers.

Exergen requires zero disposables. If the TAT-5000's are returned for replacements, the returned units are recycled into refurbished units. The refurbished units are also covered by the Lifetime Warranty. The hospital has zero costs and zero waste after purchasing the Exergen TAT-5000.

Q: What does 100% reduction in operating costs mean?

A: Ear and electronic thermometers have annual operating costs to use, including probe covers necessary for each use, probe replacements from breakage, repair charges from limited warranties, user abuse, and significant biomed costs for in house service. This can run about $300 per year or more per thermometer in use.

Exergen TAT-5000 thermometers have zero operating costs. Disposables are optional and can be reused on the same patient. Under the Lifetime Warranty, Exergen will repair or replace at no charge.

Q: How often are the optional disposable probe caps used?

A: On average, the optional disposable covers are used on about 5% of temperatures taken. This is a negligible cost and waste compared to ear and electronic thermometers.

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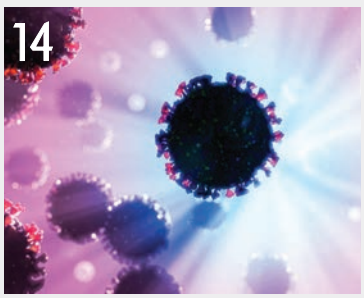

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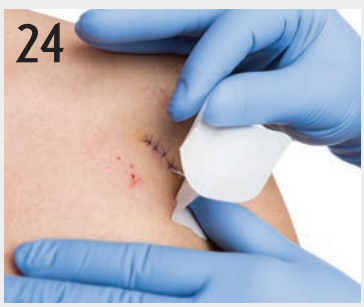

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Delta dawn

Back in the late 1960s and mid-1980s, Delta Air Lines Inc. advertised its services using a familiar jingle that went something like this:

"Delta is ready when you aaarrreee ... Delta is ready to flyyy ..."

Today, the COVID-19 Delta variant is ready when you are (especially if you're not protecting yourself) and by what we've seen in the viral surge numbers, it's also ready to fly.

The real question is whether healthcare organizations are ready for Delta. If they've learned anything from the bobbing, ducking, pivoting and weaving during the last 18 to 19 months of dealing with COVID-19's demands on clinical service and the supply chain, it may be safe to say they are – or at least they should be.

Some still contend that more needs to be done to shore up the supply chain as less product has been making it to shore. They further argue the federal and/or state government should step in and take charge, if not take control.

Give the federal government credit for recognizing the value in private sector supply chain operations when roughly a quarter-century ago they switched out their depot system that served them well for decades in favor of the just-in-time (JIT) distribution system used by healthcare organizations for decades. Never mind that JIT has come under fire for all of the demand spikes and supply shortages during the pandemic.

Many private sector experts agree that within their realm a newly modified JIT model will be needed post-pandemic.

The real serious issue with this is that the federal government wants to develop this new solution seemingly without consulting with or involving the very experts working diligently within the system they want to adopt.

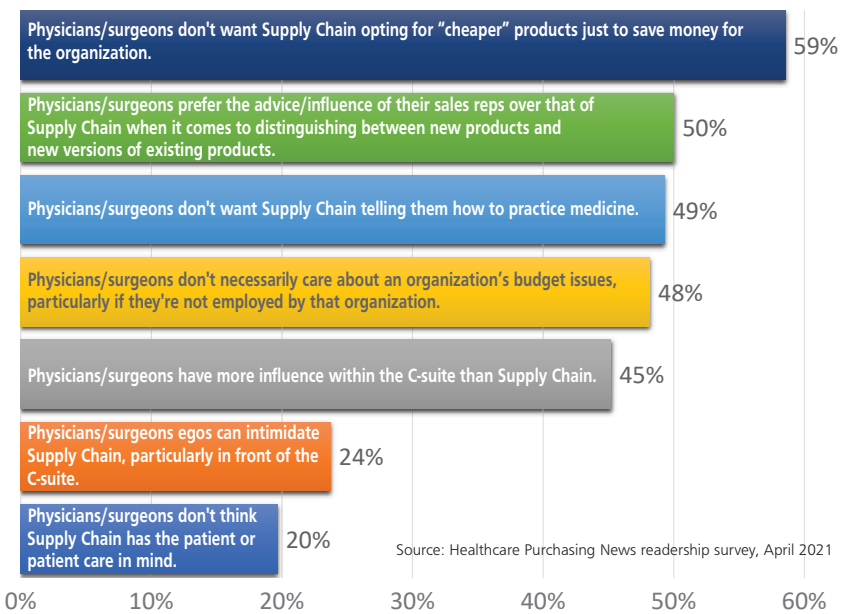
Imagine a medical supply czar, for example, making ill-informed, unrealistic edicts and fiats without meeting with a hospital supply chain leader, distributor executive or manufacturer executive for context. That would be like the U.S. Food and Drug Administration administrator trying to launch an Uncle Sam-branded ice cream chain without at least chatting with Ben & Jerry or Warren Buffett whose Berkshire Hathaway company owns Dairy Queen.

The answer is both simple and obvious: The feds – and state armchair supply chain experts – should recruit the professionals to direct, if not lead and manufacture, any "national" supply chain improvements. Bureaucrats and politicians should consult with the experts in lieu of holding public hearings for ersatz dramatic effect. Lives depend on it. Livelihoods, too.

Bottom line: We don't want this Delta dawn to prematurely take anyone to the mansion in the sky.

DATA BANK

What are some of the challenges that Supply Chain has in working with physicians/surgeons?



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FAST STATS

With hard-won gains of the last three months at risk, the ACT-Accelerator has mounted a US$ 7.7 billion appeal, the Rapid ACT-Accelerator Delta Response (RADAR), is needed to fund COVID-19 initiatives:

US$2.4 BILLION

Is the investment needed to scale up testing to put all low- and lower-middle-income countries on track towards a ten-fold increase in COVID-19 testing and ensure all countries get up to satisfactory testing levels.

US$ 1 BILLION

Is needed to maintain R&D efforts to stay ahead of the virus by enabling further market shaping and manufacturing, technical assistance and demand generation to ensure that tests, treatments and vaccines remain effective against the Delta variant and other emerging variants, and that they are accessible and affordable where they are needed.

US$ 1.2 BILLION

Will help rapidly address acute oxygen needs to treat the seriously ill and control the exponential death surges caused by the Delta variant.

US$ 1.4 BILLION

Needed to help countries identify and address key bottlenecks for the effective deployment and use of all COVID-19 tools.

US$ 1.7 BILLION

Will protect 2 million frontline healthcare workers with enough basic PPE to keep them safe while they care for the sick, prevent the collapse of health systems where the health workforce is already understaffed and overstretched, and prevent further spread of COVID-19.

Source: The ACT-Accelerator Q2 2021 Update Report from WHO Internation, which provides an overview of the progress made in bringing life-saving COVID-19 tools to countries around the world, and highlights the efforts made to ensure health systems are able to receive and fully optimize the use of COVID-19 countermeasures, It shows how investments made to the ACT-Accelerator have driven results and impact in the fight against COVID-19. https://www.who.int/news/item/16-08-2021-act-accelerator-launches-urgent-appeal-to-stem-surge-of-dangerous-variants-and-save-lives-everywhere

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NEWSWIRE

Bellwether announces 2021 Hall of Fame for Healthcare Supply Chain Leadership

Bellwether League Foundation's Hall of Fame for Healthcare Supply Chain Leadership elected 9 professionals, hailed as innovators, leaders,trailblazers and visionaries for their industry contributions and performance, as honorees of the Bellwether Class of 2021. They join 120 earlier honorees inducted since inception.

Bellwether League Foundation's Board of Directors selected the following professionals for the 14th Bellwether Class: John M. Burks, Jacob J. Groenewold, Thomas P. Harvieux, Michael C. Kaufmann, Ben W. Latimer, Gary H. Rakes, Barbara Strain, F. DeWight Titus III and Mark A. Van Sumeren.

Bellwether Class of 2021 honorees will be inducted at the 14th Annual Bellwether League Foundation Induction & Recognition Event, scheduled for Monday, October 4.

Bellwether League Foundation's Board and Advisory Council selected these professionals for their achievements and contributions in the delivery of quality care through efficient nd innovative supply chain operations. They represent creative thinkers who take the initiative, expand the boundaries of what's possible, and perform in a way that improves and promotes the profession of supply chain management among hospitals, group purchasing organizations (GPOs), manufacturers and distributors, consulting firms, educational institutions and media properties.

Bellwether Class of 2021

John M. Burks (1954-2017) may have been known as a conceptualizing marketer, specializing in developing complex selling messages and building name brand recognition for healthcare organizations, but he also served as an instrumental evangelist for electronic commerce adoption and implementation, extolling its inherent value. Further, Burks advocated for the creation and use of e-commerce standards as a founding board member of the Coalition for Healthcare eStandards (CHeS). He played leading roles in launching the successful e-commerce program of one of the nation's largest group purchasing organizations as well as that GPO's private-label purchasing program.

Jacob J. Groenewold was integral in expanding traditional healthcare materials management operations to such non-traditional areas as capital equipment and laboratory as far back as the 1980s. He co-developed one of the first hospital-based supply chain consulting and outsourcing services in the nation as well as one of the earliest hospital-based consolidated service centers that later was acquired by a leading distributor. Groenewold has hired, developed, trained, mentored and supervised hundreds of healthcare supply chain consultants, professionals and leaders for several decades and created one of the first GPO supply chain benchmarking programs in the industry.

Thomas P. Harvieux epitomizes the progressive strategic and tactical supply chain leader who builds or reconstructs operations holistically from the ground up, something he has accomplished at a hospital within one award-winning health system and then at two prominent multistate integrated delivery networks (IDNs). At all three organizations, Harvieux initiated and led the centralization of supply chain services and effective linkages with clinical information systems.

Michael C. Kaufmann has served in a variety of leadership positions across operations, sales and finance, in both the pharmaceutical and medical/surgical product divisions, during his three-decade career-to-date at Cardinal Health, but he is most known for redirecting and reenergizing how the company handles product sourcing and distribution. Kaufmann embraces a "transformational" philosophy in that he anticipates signs of change, not only structuring new ways of doing business, but also having spearheaded numerous diversity and inclusion initiatives for more than a decade. Historically, Kaufmann has been a staunch advocate for emergency preparedness and crisis response, even before the COVID-19 pandemic, and promotes the value of supply chain performance excellence.

Ben W. Latimer represents one of the group purchasing pioneers reshaping GPO operations during the Silver and Modern Ages of healthcare supply chain history. An industrial engineer by pedigree and training, Latimer brought management engineering principles and techniques to supply chain processes and clinical practices for nursing. Latimer founded SunHealth as a management engineering consulting and outsourcing company in 1969 that blossomed into one of the leading regional shared services organizations. Due in part to that success, the shared services organization became one of the heritage GPOs to form the Premier Inc. by the close of the millennium. .

Gary H. Rakes, CFAAMA, CMRP, CSCS, spent the first two decades of his healthcare supply chain career leading operations at a variety of military healthcare facilities in the U.S. and Europe for the Navy and Army, including the USNS Comfort Hospital Ship. After retiring

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from active service as a Navy Medical Service Corps Officer, Rakes translated his broad and essential military logistics skills to a variety of private-sector hospitals and healthcare organizations during the next 20 years, improving operations, redesigning workflows and reducing supply expenses.

Barbara Strain, CVAHP, has become synonymous with the concept of healthcare value analysis, but from the very beginning she has emphasized and orchestrated something much deeper and grander: Supply chain collaborating and communicating hand-in-hand with clinical operations to reinforce physician, surgeon, nursing and laboratory practices with financial and operational improvements. Her clinical, financial and operational focus and influence, by and large, makes her the grande dame of value management, a comprehensive business and clinical concept she created decades ago and whose principles and practices she applied to and honed at her own healthcare organization before sharing with other facilities as a seasoned consultant, and member of *Healthcare Purchasing News* Editorial Advisory Board.

F. DeWight Titus III grew and transformed his grandfather's and father's community retail pharmacy into multiple locations that eventually expanded into a national and then multinational distribution company. Early on, Titus recognized the value of what his family's business offered the community, starting as a teenaged clerk where he enjoyed interacting with patients, a philosophy he instilled within those supporting the pharmaceutical and medical/surgical product distribution company that bore his name until its acquisition by McKesson in the late 1990s.

Mark A. Van Sumeren may be most renowned during the last two years for his data-rich, innovative and inventive "COVID-19 Report." That daily newsletter reaches a host of influential healthcare clinical, financial and operational leaders who rely on its accuracy and integrity to foster essential business decision-making. But his illustrious and long-standing career in healthcare distribution consulting and strategic planning propels Van Sumeren to the top of the list of mostsought-after strategic minds. To date he has helped guide a variety of award-winning provider and supplier organizations.

FDA participates in 'collaborative communities' to address medical device challenges

The U.S. Food and Drug Administration (FDA) announced participation in several new collaborative communities aimed at addressing challenges in patient healthcare. Collaborative communities are a continuing forum where private and public sector representatives of the community work together on medical device challenges to achieve common objectives and outcomes.

The FDA currently participates in 12 collaborative communities, which are established, managed and controlled by external stakeholders. Collectively these communities are charting paths to accelerate and address regulatory science and other knowledge gaps to aid in medical device review and oversight.

The most recent collaborations focus on topics such as: medical device development and product quality; understanding of valvular heart disease; innovations in digital pathology; reducing rates of intended self-injury and suicidal acts by people with diabetes; and strategies to increase the awareness, understanding and participation of racial and ethnic minorities in the medical technology industry.

The FDA participates in these collaborative communities:

- Collaborative Community on Ophthalmic Imaging
- National Evaluation System for health Technology Coordinating Center (NESTcc) Collaborative Community
- Standardizing Laboratory Practices in Pharmacogenomics Initiative (STRIPE) Collaborative Community
- International Liquid Biopsy Standardization Alliance (ILSA)
- Xavier Artificial Intelligence (AI) World Consortium
- Case for Quality Collaborative Community
- Heart Valve Collaboratory (HVC)
- Wound Care Collaborative Community
- Pathology Innovation Collaborative Community (PICC)
- REducing SuiCide Rates Amongst IndividUals with DiabEtes (RESCUE) Collaborative Community
- MedTech Color Collaborative Community on Diversity and Inclusion in Medical Device Product Development and Clinical Research (MedTech Color Collaborative Community)
- Digital Health Measurement Collaborative Community (DATAcc)

Collaborative communities are convened by interested stakeholders and may exist indefinitely, produce deliverables as needed and tackle challenges with broad impacts.

Model aims to predict and manage potential supply shortages linked to disasters

Expression Networks, a provider of technology solutions to the Department of Defense and Global Healthcare Exchange (GHX), announced that they are collaborating to develop a unique prototype that will help predict supply constraints and disease hotspots throughout the United States.

The U.S. Army Medical Research and Development Command (USAMRDC) has awarded Expression Networks a phase 2 award in support of the Medical Technology Enterprise Consortium's (MTEC) National Emergency Telecritical Care Network (NETCCN) Project. NETCCN is focused on supporting the extension of high-quality, remote intensive care to traditional and non-traditional and temporary healthcare facilities that lack adequate critical care expertise and resources necessary to combat future crises.

Leveraging GHX's extensive pool of existing supply chain data and analytics in combination with other data sources and reporting capabilities, Expression Networks will build a predictive analytics engine that could help the Federal government gain earlier visibility into supply shortages and make more data-driven decisions during national health emergencies such as COVID-19.

The predictive analytics prototype, called the supply constraint predictor, is intended to help the government better identify where and when surges are happening with near real-time visibility and inform decisions such as how and where to deploy the Strategic National Stockpile (SNS) repository. The funding stems from a contract sponsored by the HHS and was awarded through MTEC.

"COVID-19 Compensation Lottery Prize" scam

The World Health Organization (WHO) has been made aware of correspondences being circulated by scammers (acting under the name of Capital Finance, Inc. London), falsely notifying recipients of such correspondences that they have been selected as a beneficiary/winner of a US $1 million lottery compensation prize payment for losses and damages suffered as a result of the COVID-19 pandemic.

These fraudulent correspondences falsely allege that the so-called "COVID-19 Lottery Compensation Prize" is brought to you by WHO, in association with the International Monetary Fund and Bill & Melinda Gates Foundation.

These scammers falsely state that they have been appointed by WHO to process payment. In addition, these scams seek to obtain personal details and, in some cases, money from the recipients of such fraudulent correspondences. HPN

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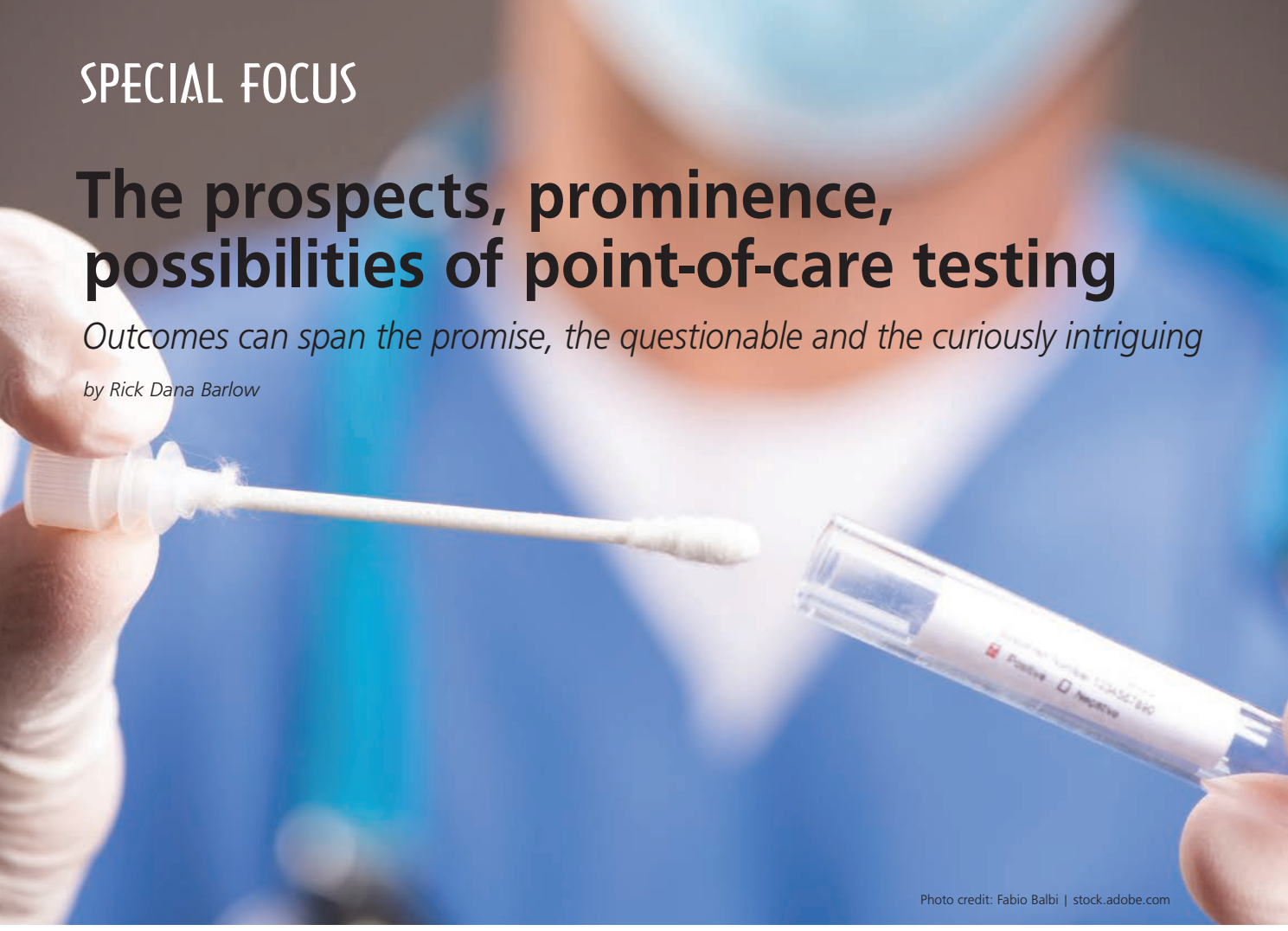
The prospects, prominence, possibilities of point-of-care testing

Outcomes can span the promise, the questionable and the curiously intriguing

by Rick Dana Barlow



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One thing clinicians and patients alike consistently have demanded or sought during the COVID-19 pandemic – access to testing for the virus, along with convenience and speed of obtaining the results.

Unfortunately, the desire for convenience and speed sometimes can affect the accuracy, integrity and security of results. While the healthcare industry may be closer to seeing the emergence of "tricorder" technology used in the cinematic "Star Trek" franchise than ever before, it also recognizes that such science fiction technology is not ready for prime-time or even real-time applications … yet.

Still, the desire for convenience and speed motivates the research and development for such advancements as technological development pushes boundaries about which healthcare administrators and clinicians – as well as patients – only can dream of and conceive right now. Although today we reside in the "right now," appreciative of the capabilities and contributions that current point-of-care testing products provide caregivers and patients alike look forward to what's in store, but with caveats and within reason.

The promise

From measuring a variety of vital signs as well as COVID-19 and influenza among others, point-of-care testing (POCT) provides a wealth of key benefits for clinicians and patients.

Dennis Begos

Dennis Begos, M.D., Medical Director, Medical and Scientific Affairs, Nova Biomedical, points to what he calls the obvious – speed of results.

"With near real-time results, clinical and in the case of COVID testing, social and political decision-making, can also be expedited," he told *Healthcare Purchasing News*.

Begos refers to blood glucose testing as an example of why speed matters. "Many critically ill patients are on tight glucose control parameters in the ICU," he indicated. "Insulin drips are common, and blood glucose can change rapidly under these conditions. Sending blood to the central laboratory can often take over an hour to be resulted, causing delay in treatment and potential patient harm. In addition, the treatment is based on what the patient's glucose was an hour ago, which may have rapidly changed in the ensuing hour. Lastly, a nurse caring for a patient sends down the specimen but by the time it comes back he or she will likely be doing something else and thus further delays ensue."

POCT glucose testing capabilities, however, alleviate much of this.

"With POCT glucose testing, results are known within seconds, and the appropriate clinical management can happen immediately," Begos noted. "In addition to glucose, we can now measure ionized magnesium (iMg), ionized calcium (iCa), hemoglobin and hematocrit, lactate and many other parameters that have similar time-sensitive clinical implications."

POCT also provides consistency of results as another advantage, according to Begos.

"Many tests sent to the central laboratory will change over time, such as lactate and glucose," he said. "This leads to an inherent bias, especially when trending results, as is often done for both of those analytes. If one specimen sat for 45 minutes, and another was run immediately, or if one was on ice and one wasn't, the preanalytical factors can be significant.

Whereas with POCT the test is generally run immediately and preanalytical differences between tests are minimized."

Begos emphasizes that while speed may be one important advantage, it's "always secondary" to an accurate result.

"Fortunately, most POCT devices are now as accurate as the central laboratory analyzers, and the results can be trusted and acted upon," he added. "In fact, in one recent study, a handheld POCT device was more accurate than a hospital central laboratory in eGFR testing."

Jon Gingrich, CEO, Echosens, concentrates on the nuances of patient centricity and active participation in their healthcare processes as important differentiators.

Jon Gingrich

"POCT tools can enhance the patient experience and outcomes through patient-centric care and help providers achieve the Triple Aim [of] convenient, affordable and accessible care," Gingrich noted. "FibroScan, for example, is a liver stiffness assessment tool that can also measure how much fat is stored within the liver, at the point of care, that provides rapid results for timely, earlier interventions that help keep patients on track with lifestyle changes. These useful tests allow more clinicians to access the technology and treat more patients typically earlier in the management pathway, which reduces total overall healthcare costs."

Recognizing that patient experience and satisfaction can affect reimbursement, Gingrich emphasizes clear fiscal benefits.

"POCT tools can also help health systems and hospitals positively impact STAR ratings and give them a stronger competitive position," he said. "In general, POCT is about better serving the patients, advancing care compliance and expanding provider capabilities around disease management and chronic care management."

Dena Marrinucci, Ph.D., Co-Founder and Chief Operating Officer, Truvian, POCT benefits center on three primary attributes: Accuracy, convenience and affordability.

Dena Marrinucci

"The COVID-19 pandemic placed a bright spotlight on challenges that have existed for many years in diagnostics, exposing the need for accurate and rapid testing that is accessible and affordable to all," she said. "The new generation of point-of-care testing delivers on three key dimensions: accuracy, convenience and affordability."

Marrinucci remains solidly behind accuracy, convenience and affordability as effective justifications for POCT.

"Accuracy is a non-negotiable as quality cannot be compromised for any reason," she insisted. "POCT that demonstrates comparable sensitivity and specificity levels with centralized lab machines will ensure consumers can focus on the treatment plan recommended by providers, instead of worrying about whether or not their results were reliable.

"Convenience provides benefits for consumers and providers alike," Marrinucci continued. "Rapid sample-to-results empowers consumers to get answers to their health questions before they leave the clinic or doctor's office. For providers, the streamlined workflows and ease of use afforded by POCT expands the ability to meet consumers where they are in the context of their lives, fulfilling the promise of decentralized testing.

"Affordability is top-of-mind for healthcare consumers as deductibles and out-of-pocket expenses steadily increase year after year," she observed. "POCT plays an important role in increasing access to essential healthcare services, reducing the financial burden that can often deter patients from getting the care they need."

The questionable

As with any device or technology, the benefits also may be balanced with limitations or works in progress that POCT experts readily acknowledge as part of development and progress.

Nova Biomedical's Begos asserts that "accuracy is paramount – it trumps speed and convenience," but some issues can complicate matters, particularly within glucose testing.

"Many POCT glucose monitoring devices have interferences from exogenous substances (i.e., medications) or endogenous factors (i.e., anemia, acidosis), that make them error-prone in critically ill patients," Begos said. "Not every device suffers from these limitations, and there is one POCT blood glucose monitoring system that has been approved by the FDA and Health Canada for use in critically ill patients."

Echosens' Gingrich cautions about the economics of POCT in context of laboratory capabilities and advises clinicians and administrators to take a holistic approach based on facility needs.

"Providers should understand the importance of acquiring expensive testing and diagnostic capabilities before investing," he said. "For instance, assessment and analysis of test findings may require additional expertise — adding to the cost. With this in mind, understanding how the particular POCT will fit into the patient pathway, what information the POCT can and cannot deliver and what decisions the healthcare provider can and cannot effectively make will optimize its benefit.

"Other considerations include knowing up front if the technology is portable and how much space it requires, as well as who will be qualified to operate the equipment and interpret results," Gingrich continued. "FibroScan is designed to be performed by a medical assistant in the physician's office for the physician to interpret within minutes. Also, it's covered by Medicare, Medicaid and most insurance plans, which is important to patients."

Focus on the patient profile, according to Gingrich.

"Purchasing decision makers should also consider the overall cost of patient care, which may be lower when POCT is employed because it allows patients to be treated or processed more quickly through the healthcare system, as well as more efficiently rule-out those patients who do not need more expensive and advanced testing," he said. "This is a significant benefit to POCTs. Other limitations may include appropriate documentation, which could be challenging due to testing and personnel location, administrative oversight of personnel and storage of records. Also, some POCT equipment may not be interfaceable or may require storage."

Truvian's Marrinucci remains sacrosanct: "It's important to evaluate options comprehensively for the intended use case, as some POCT devices may be less accurate, specific and/or sensitive than the testing performed in a clinical laboratory setting," she urged.

The curiously intriguing

Aside from the benefits and limitations of POCT, all three POCT experts marvel at the ongoing developments and prospective capabilities that POCT promises to offer in the future.

Begos homes in on outside the hospital setting.

"One of the areas where POCT will be paradigm-changing is outside of the hospital," he predicted. "POCT creatinine and eGFR is already being used in remote areas and in low- and middle-income countries where access to health care is limited. In these environments, acute kidney injury (AKI) and chronic

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kidney disease (CKD) often go undiagnosed, or at best are delayed, and with no access to dialysis, are often death sentences. Screening programs using POCT are being implemented and some preliminary results have shown favorable outcomes.

Begos also taps into remote care, which has been driven in part by the pandemic, as well as military applications.

"Another area outside the hospital where POCT can impact patient care is by testing patients where it is more convenient for them, thereby increasing compliance," he noted. "There are programs starting up in pharmacies, for example, where kidney function can be tested and dose adjustments of medications can be made on the spot. Also, compliance with diabetic treatment can be addressed by measuring HbA1c and on-the-spot counseling can be given which may improve patient compliance with caregiver counseling.

"Prehospital testing of lactate in trauma or potentially septic patients can allow for faster care and transport to an appropriate facility," Begos continued. "For example, a patient with suspected sepsis and an elevated lactate may be better served at a tertiary care facility, which may be further away but initial transport to this facility may save a secondary transfer, which are never good for the patient. Along similar lines, POCT by the military can significantly aid in decision-making for soldiers injured on the battlefield, in terms of triage, transport and use of blood products in the field."

Gingrich finds that POCT capability expansion not only will be a boon for clinicians and patients but also will become attractive to payers.

"A key trend in the adoption of POCT is being driven by specific disease management demands in various healthcare settings," he indicated. "FibroScan has been adopted at a rapid pace by providers due to the growing liver disease and obesity epidemic in the United States and around the world.

"While frontline care professionals welcome the convenience of POCT tools and having rapid test results, payers still hesitate unless you can demonstrate both need and cost efficiency," he continued. "Echosens, makers of FibroScan, recognized this early-on and worked diligently over the past decade to establish extensive coverage for our technology. Beyond this, POCT shows promise in the areas of microbiology, epidemic outbreaks, endocrine testing to guide surgical therapy, sepsis markers, stroke markers and DNA testing."

Marrinucci expresses excitement about Truvian developing a fully automated blood testing system. "By integrating three crucial testing modalities – chemistry, immunoassay and hematology – in a single device, we can deliver comprehensive health panel results in one run," she said. "In removing the barrier of sending out common blood tests and taking the guesswork out of diagnosis, we are setting the new standard for routine blood testing." HPN

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Healthcare facilities mount deadly offense against dangerous microbes

There should be no room, no vacancies for any infections

by Rick Dana Barlow

Photo credit: Darryl | stock.adobe.com

When it comes to the COVID-19 pandemic that refuses to ebb, the general populace may be all too eager to switch off the red-alert button with hopes of returning to "normal." But no matter how dangerous or irritating the pandemic-that-simply-won't-go-away is and all of the heightened and onerous protective measures issued by clinical and governmental authorities, second-guessing or underestimating actual progress can be dangerous. Presumptuous at best.

Some may be willing to compromise, relax and lower the red-alert shields to orange or even yellow as hospitalization, infection and vaccination numbers fluctuate, but not at the expense of effective room decontamination. After all, bacterial and viral microbes don't follow human desire, expectations or scheduling. If they're not eradicated through effective cleaning, decontamination, disinfection and/or sterilization they just wait around to infect humans.

People may succumb to "pandemic fatigue" or embrace "mask rebellion" because they just want to get back to their lives as they knew them in 2019. Who doesn't? But in healthcare, there's no such thing as "infection prevention fatigue" as the fight remains continuous – not just continual – to the point that healthcare professionals must never let down their guard.

The new baseline

If anything, the COVID-19 pandemic increased the development, emphasis and scrutiny of room decontamination through more stringent infection prevention measures and protocols.

Unfortunately, as COVID-19 infection and hospitalization statistics began to decrease, states and organizations seemed more motivated to open and relax precautionary rules before the emergence and resurgence of the Delta variant back in July.

Still, many infection prevention experts acknowledge that the increased precautions for COVID-19 not only were educational and necessary but also must remain – at least those that do not require further efficacy research once temporary emergency use authorizations expire.

Karen Hoffman

Karen Hoffman, R.N., CIC, FSHEA, FAPIC, Epidemiologist and Infection Prevention Consultant for NUVO Surgical and Vidashield, shares how infection prevention has changed since the pandemic debuted in the U.S.

"Environmental measures instituted at the beginning of the pandemic have evolved as we learned more about the importance of aerosols being the primary means of transmission of COVID-19," she said. "For example, in rooms where patients have had procedures that generate aerosols (e.g., intubation, bronchoscopy), or when caring for patients with suspected or known COVID-19 the Centers for Disease Control and Prevention (CDC) recommends increasing ventilation. However, healthcare facilities have ventilation systems with limits on number of air exchanges and filtration capabilities that generally cannot meet CDC ventilation recommendations. One technology that CDC recommends facilities consider using as an adjunct if a facility cannot meet the increased ventilation standards is upper room ultraviolet germicidal irradiation (UVGI). The Vidashield UV24 system is an upper room UVGI that has demonstrated statistically significant reductions in air and surface contamination from fallout of not just aerosolized viruses but also all forms of bacteria and fungi."

Hoffman serves as a clinical instructor in the Division of Infectious Diseases at the University of North Carolina's School of Medicine in Chapel Hill and is the immediate past president of the Association for Professionals in Infection Control and Epidemiology (APIC).

One specific technology that has emerged more as a necessity than a novelty is "no-touch" ultraviolet radiation for air and surface decontamination.

"Prior to the pandemic, many hospitals were using automated disinfection technologies as part of their infection

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prevention strategy," observed Mark Stibich, Ph.D., FIDSA,Co-Founder & Chief Scientific Officer, Xenex Healthcare Services. "There was certainly a surge in adoption as the world grappled with stopping the spread of coronavirus. Using no-touch disinfection technologies should continue to be a priority and a critical part of a hospital's decontamination strategy because there are many dangerous pathogens in the hospital environment that pose a risk to patients and healthcare workers, especially MDROs like *C. diff*, VRE and *C. auris*."


Mark Stibich

Stibich encourages healthcare facilities to evaluate carefully the various disinfection options, recommending that they ask manufacturers to provide peer-reviewed and published studies validating the efficacy of a specific device or system. "If the technology hasn't been proven effective in multiple peer-reviewed studies, then it hasn't met the bar of an evidence-based solution," he added.


Ernest Cunningham

Whatever the bacterial or viral threat, healthcare organizations must think and act holistically when it comes to decontamination, according to Ernest Cunningham, President, Nevoa Inc., which makes the Nimbus disinfecting robot equipped with the Microburst Hypochlorous acid atomizer.

"Whole room disinfection after every patient discharge, or transfer, from a room should be required as standard operating protocols," Cunningham insisted. "Too often, terminal disinfection of a room is only done when the patient is known to have a transmittable virus or germ. Regardless, if a patient had MRSA, VRE or COVID-19, every single room should be fully disinfected every time before a new patient is admitted because we know pathogen transfer from room to room is a constant battle and cause of new infections. You must lower the entire bioburden of the hospital to have a meaningful impact on hospital acquired infection rates."

Community, improved practices

Stibich also lauds the camaraderie and ingenuity among providers in crisis mode.

"We saw incredible collaboration and innovation from our hospital customers during the pandemic," he indicated. "We were proud to be able to act as a resource for our customers." He recalls sharing solutions created by New York facilities during the early surge of the pandemic to help prepare hospitals in other parts of the U.S. and the world, particularly in Italy when they faced a surge. Some shared best practices and strategies for patient care and for maximizing utilization of their LightStrike disinfection robots.

"For example, several of our customers moved a robot from their OR to the Emergency Department (ED) so they could disinfect rooms and areas where COVID-19 patients were seen and treated," Stibich said. "Keeping a robot in the ED is a trend that has continued, especially as the number of COVID cases in the U.S. is now on the rise. With highly virulent variants emerging, it's important to remain vigilant and maintain the enhanced disinfection protocols."

David St. Clair, Executive Chairman, Halosil International Inc., points out that

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healthcare organizations, by and large, improved their decontamination once the pandemic hit.

"[Before] the pandemic, healthcare facilities primarily utilized acute room decontamination in rooms where a highly contagious infection (e.g., *C. diff*) had been identified or in high-traffic and high-risk environments (e.g., operating rooms)," he observed. "Since COVID-19, healthcare facilities have elevated their standards for disinfection by utilizing whole room disinfection systems to kill pathogens in a greater number of areas across facilities. For instance, the Halo Disinfection System, which combines the H2O2-based HaloMist (EPA Reg. No. 84526-6) disinfectant with the HaloFogger dry fogger, was trusted by hospitals worldwide for its flexibility and efficacy in eliminating SARS-CoV-2 pathogens, the virus that causes COVID-19.

David St. Clair

"As healthcare facilities look to the future, they should ensure the disinfection products they utilize are registered by the EPA and approved to use against some of the most challenging pathogens to kill," St. Clair continued. "EPA List K, products with sporicidal kill claims against *C. difficile*, and EPA List N, products that meet criteria for use against SARS-CoV-2, are two EPA resources to consider when looking for an approved solution."

Richard Hayes

Richard Hayes, President, UVDI, highlights progressive development in UV-C use.

"During the pandemic, more hospitals deployed UV-C room disinfection more broadly than previously," he noted, "not just for outbreaks or terminal disinfection of isolation rooms, but for everyday use in and beyond critical areas. Proven UV-C devices with independently verified pathogen inactivation claims via third-party laboratory testing and peer-reviewed published studies, enhance environmental hygiene as a complement to manual cleaners and disinfectants. Additionally, the broader focus on the entire environmental – both surface and air protection – has led to widespread implementation of proven UV-C air disinfection technologies to help prevent airborne pathogen transmission."

These efforts shouldn't come as a surprise, according to Halden Shane, DPM, Chairman & CEO, TOMI Environmental Solutions Inc.

"The pandemic showcased how pathogens can easily spread and take hold, highlighting the need for an increased level of disinfection and decontamination to maintain a healthy environment and reduce cross contamination," Shane noted. "Adding an advanced disinfection to your current facility cleaning protocols is paramount to ensure pathogens no longer exist in any area and provide a peace of mind to patients, staff and visitors."

Healthcare workers learned fairly quickly during the pandemic that they needed to escalate their cleaning and disinfection practices, according to Deva Rea, R.N., CIC, Clinical Science Liaison, PDI.

"This involved increasing usage of traditional chemical disinfectants such as bleach, quaternary ammonium, quaternary ammonium/alcohols, hydrogen peroxide, etc.," she noted. "But it became quite clear early on that traditional cleaning and disinfection may not be enough. Therefore, many facilities opted to adopt improved disinfection strategies that involved 'no touch' technologies.

Deva Rea

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"Technologies such as ultraviolet germicidal irradiation, electrostatic sprayers or foggers with hydrogen peroxide or other germicides, and continuous active disinfectants (CAD) act as adjuvants to current cleaning and disinfection practices," Rea continued. "No-touch technologies fill the void that often occurs with manual cleaning and disinfection, but they do not replace the need for manual cleaning and disinfection. Evidence shows that manual cleaning and disinfection is a deficiency throughout healthcare, which can lead to transmission of pathogens to others."[1, 2]

Remain vigilant

Rea advises healthcare organizations to continually evaluate their current environmental cleaning and disinfection practices.

"Some facilities may have adopted some of these new cleaning and disinfection strategies during the initial chaos of the pandemic that may now not be appropriate for use," she said. "The Environmental Protection Agency (EPA) granted some technologies temporary emergency use authorizations, and these allowances may no longer be valid due to inability to prove efficacy or other factors." [3]

But she compliments healthcare organizations for adopting favorable infection prevention habits during the pandemic.

"They became accustomed to performing more frequent hand hygiene, which is instrumental in decreasing transmission of potential pathogens," Rea said. "Healthcare staff also became more proactive in wearing appropriate personal protective equipment (PPE). An emphasis on proper PPE use based on the potential exposure risk is an important aspect of infection prevention, which is also known as standard precautions. Now we will likely see more staff routinely wearing masks and eye protection whenever they have a patient with respiratory symptoms."

Deborah Chung

While healthcare providers largely followed hygiene protocols recommended by the CDC that specified the frequency of use of cleaning supplies and PPE, they also followed public sentiment, according to Deborah Chung, North America Marketing Manager – Healthcare, Essity Professional Hygiene, which manufactures Tork-branded products.

"The pandemic put a spotlight on effective hygiene practices for the general public – and even more so for those in healthcare – with hand hygiene and surface cleaning at the forefront because we know clean hands and surfaces can help prevent infection spread and save lives," Chung noted.

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First person perspective: Decontamination, hygiene challenges we face may be of our own making

by Brian Donahue

Have you ever sat in a medical waiting room (e.g., urgent care, lab, pediatrician, ER, etc.)? The person to the left of you may have worn the same mask for two weeks, proven by the stains and fraying of fabric. The person to your right is coughing and rubbing their eyes.

The staff call you up to fill out forms (which really should be done electronically in the 21st century), directing you to use a pen from the "clean cup" and then depositing into the "dirty cup." Then they hand you a clipboard with some papers that was sitting on the desk or counter, having been handled by literally every single person with the insurance card.

Then you sit in a dirty chair, with dirty armrests, watching TV or Netflix on your own smart phone (clean by your standards). You place the clipboard back on the same countertop. After being called back, you pass several clinicians and corridors whose walls, floors and air may rarely be cleaned – if ever, while being led to a patient room with furniture that also may rarely be cleaned – if ever.

This makes me doubt the protocols by which I am forced to abide. Don't get me wrong, I abide, but without a voice.

By the way, my dentist has me in my car, calls me up, no touch entry, no forms to fill out. How can a dentist be that efficient? An approach with total staff buy-in with a different set of care incentives and less complex shuffling of paper?

Masks are gross and ineffective. They are only meant to be worn for a few minutes, not hours. But without a better solution I suppose we need to continue with them, same goes for better hand sanitizer. We need better solutions that don't burn or smell or are sticky or wear off in 30 seconds.

We need HEPA and UVC air cleaners – not just misters, humidifiers and sprayers. We need UVC surface cleaners to assist with the "z-wiping" done often with a dirty rag. We need UVC cabinets to clean keyboards, clipboards, tablets, phones, glasses, cups, lanyards and small medical equipment like cuffs and stethoscopes.

We need more studies on the electrostatic, ionization, dry hydrogen peroxide and ozonating devices that have taken over people's imaginations. Good, fast and cheap: You can't have all three. If it were that easy to kill bugs, where were these novel solutions 10 years ago?

EIR 1000 and Zeus Smart UV-C cabinet (inset) from Finsen Technologies

The pathogens are not going away, and we need better innovations and overlapping cleaning strategies to safeguard spaces, people and everywhere in between. Vaccines help and should continue, but the tools to control air, surfaces and objects are within reach and must expand in their application and acceptance. The trade-off of having these items regulated loosely by the EPA rather than the more stringent FDA results in poor efficacy (and therefore disbelief) and outrageous costs (and unaffordability).Opportunism is rampant in the space – especially the UVC space – and ethical companies can do little but sit and watch prospective customers make poor decisions based on acquisition cost. There is a disconnect between clinical efficacy and financial affordability – we see it in how RFPs are issued, especially in the government space (e.g., schools, etc.). The buyer doesn't have time or isn't interested to learn or be shown massively differentiated technology. Rules are followed and money is wasted. "These are the specs, and the lowest bidder wins." But if the specs are unproven claims with glaring inadequacies, and the buyer is inaccessible due to COVID work restrictions and email quarantines, then how does one communicate truth about options?

Brian Donahue serves as Director, Sales & Corporate Accounts, Finsen Technologies Ltd.

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"Hand hygiene and surface cleaning are intricately linked due to the number of surfaces people touch within healthcare facilities.

"Research shows the general public wants more emphasis on cleanliness," she continued, citing several projects conducted by Essity. "A recent survey from Essity found 7 out of 10 people say they will have higher expectations on the hygiene standards of healthcare facilities after COVID-19.[4] Similarly, 90 percent of respondents in a second Essity survey said increased sanitizing and cleaning in these spaces is important."[5]

Chung targets access to products as a fundamental determiner – and deterrent.

"In healthcare facilities these actions can be optimized by making sure appropriate products and educational materials are within reach for users," she said. "It's imperative that handwashing stations are fully stocked with soap, paper towels and sanitizers. The placement of dispensers is equally important. Studies show that optimizing dispenser placement can increase usage by more than 50% and has a greater impact on usage than increasing the number of available dispensers.[6] To make this tangible for healthcare facilities, Tork offers free, evidence-based online guides to inform optimal dispenser placement.

Chung also expects surface cleaning standards by environmental serves professionals likely to remain higher as a result of the pandemic.

"To optimize cleaning efforts, environmental services professionals should use products that are designed to prevent germ spread, such as Tork Microfiber Cleaning Cloths," she advised. "The cloths' tiny, snare-like fibers can wipe away 99.9% of pathogens, including *C. diff*, helping prevent the spread of healthcare-associated infections. The cloths are also reusable for up to 300 washes and come in a variety of colors. Assigning colors to certain teams is a great way to avoid cross-contamination in a healthcare setting."

Chung recommends healthcare organizations reach out to Essity for a variety of Tork-branded interactive training guides and tools.

Stepping up

J. Hudson Garrett Jr., Ph.D., President & CEO, Community Health Associates LLC, which serves as a consultant to Clorox Healthcare, salutes healthcare organizations for stepping up their game.

J. Hudson Garrett Jr.

"Many healthcare facilities increased the detail of daily and terminal cleaning as a result of the ongoing COVID-19 pandemic," Garrett indicated. "These efforts decreased the risk for cross contamination and subsequent transmission of infection between inanimate environmental surfaces and healthcare providers and patients. In addition to total room decontamination, an increased frequency of daily disinfection practices with ready-to-use wipes and sprays has also been observed across many healthcare settings. This enhanced focus will minimize bioburden, increase the effectiveness of cleaning and disinfecting, and reduce the overall risk of healthcare-associated infections (HAIs)."

Garrett, MSN, MPH, MBA, FNP-BC, IP-BC, PLNC, CFER, AS-BC, VA-BC, BC-MSLcert, NREMT, MSL-BC, DICO-C, TR-C, CPPS, CPHQ, FACDONA, FAAPM, FNAP, also serves as Adjunct Assistant Professor of Medicine, Faculty, Center for Education and Training in Infection Prevention (CETIP), Division

of Infectious Diseases, Department of Medicine, University of Louisville School of Medicine.

Newer processes and technologies offer promise as well, according to Garrett.

"Moreover, the use of adjunct technologies such as electrostatic devices paired with EPA-registered disinfectant solutions have tremendous promise in the fight against HAIs and can also improve the overall efficiency of room disinfection in both inpatient and outpatient settings," he noted. "For example, electrostatic devices use proven technology to deliver solutions to the front, back and sides of surfaces, providing comprehensive and uniform surface coverage of even the hardest-to-reach areas. Finally, continued regular automated screening of healthcare personnel and healthcare facility visitors is another prudent approach to mitigating infectious diseases that may be carried in a facility by infected healthcare personnel."

Sam Trapani, CEO, Steriliz LLC, recognizes the positive changes, too, particularly involving his company's no-touch UVC disinfection system.

Sam Trapani

"From our extensive database of hospital and healthcare customers we have seen a marked increase in operating and procedure room disinfection and decontamination using our advanced no-touch UVC disinfection systems compared to pre-COVID usage," Trapani told *HPN*. "Traditional portable UVC systems can take from 20 minutes to several hours to disinfect an OR. That is too much time to have a room out of service. As a result, early this year we launched a new permanently installed 'fixed system,' the RD-Fx, that can eradicate SARS-CoV-2 in about 45 seconds, and *C.diff* in about 2 minutes. This system is well within the allowable room down time limits such that it may be used between each case thereby significantly reducing environmental pathogen load and their resulting transmission." HPN

The story continues online:

"Post COVID-19, do elevated decontamination protocols return to pre-pandemic levels?" online at https://hpnonline.com/21234035.

"Pandemic protocols generated additional, ancillary benefits, concerns" at https://hpnonline.com/21234037.

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6. Assessing the optimal location for alcohol-based hand rub dispensers in a patient room in an intensive care unit Matthijs C Boog4*, Vicki Erasmus4, Jitske M de Graaf4, Elise (A) HE van Beeck4, Marijke Melles5 and Ed F van Beeck4

Minimizing infection by maximizing skin and wound care

by Kara Nadeau

Photo credit: Thunderstock | stock.adobe.com

The COVID-19 pandemic has exacerbated the challenges of skin and wound care as the virus has added a significant new burden to clinical staff members. Guidance from the U.S. Centers for Disease Control and Prevention (CDC)[1], other regulatory bodies and industry associations on the risks of spreading SARS-CoV-2 between people elevated hand hygiene practices as a top priority.

At the same time, clinical teams still struggle with the fight against surgical site infections (SSI) and hospital acquired infections (HAI), some of which have increased during the pandemic.[2] Wound care has also remained a high priority as clinicians care for bedridden "long hauler" COVID-19 patients who run the risk for pressure injuries.

Medical supply, equipment and solution manufacturers have responded with a broad array of products to address the needs of clinicians as they struggle to manage the workload of caring for both individuals with COVID and non-virus patients.

Sustainable sanitizer

The COVID-19 pandemic has made everyone realize the importance of sustaining good hygiene practices, from healthcare providers to consumers. Hand sanitizer sales in the U.S. rose more than 620% in 2020[3], as individuals and organizations strived to stem the spread of SARS-CoV-2 infections. As use of these products skyrockets, the question arises - what impact are they having on users and the environment?

"As the world reopens after the COVID-19 pandemic, it is important that people have access to a hand sanitizer that they can trust to protect them against germs without the use of any toxic chemicals," said Deborah Chung, North America Marketing Manager, Healthcare – Professional Hygiene, Essity. "The Tork Alcohol Gel Hand Sanitizer is an efficient and sustainable solution to promote hand hygiene. It comes in a variety of formats, such as pump bottles and in a dispenser/refill system. These can be mounted on a wall or used with a stand, providing greater access to proper hygiene."

This product is also one of the first two hand sanitizers in the market to receive a Green Seal certification. Green Seal, a nonprofit authority on safer and more sustainable products, tested the product formula for carcinogens, reproductive toxins, skin irritants, phthalates, parabens and contaminants. To receive a Green Seal certification, a product must also meet uncompromising performance standards, use ingredients that do not pollute waterways and use eco-friendly packaging materials.

"This recognition not only proves our ongoing commitment to hygiene but also to more sustainable solutions," Chung added.

Protecting IV catheter sites

The skin acts as a protective barrier against foreign organisms. Therefore, when the skin is bypassed during central venous catheter (CVC) or peripherally inserted central catheter (PICC) insertion into a blood vessel, there is a risk for systemic infection.[5]

"It is clear from the research that it's important to protect the site and preserve the skin," said Melanie Waddell, Vice President Marketing, Entrotech Life Sciences. "Oftentimes, in the past, when it came to antimicrobial site protection, clinicians were challenged to be able to accomplish both goals. The good news is there is emerging technology that now allows clinicians to both protect the site with a strong, effective antimicrobial formulation that's non-irritating to the skin. That is what we offer with our Prevahex^{CHX} Antimicrobial Dressings."

Prevahex^{CHX} is the first and only pure chlorhexidine dressing cleared by the FDA with complete antimicrobial protection throughout the transparent areas of the dressing. Prevahex^{CHX} contains no acids, salts or binders, which allows it to activate on contact with the patient's skin providing site protection on day one through day seven. Prevahex^{CHX} provides rapid efficacy against multi-drug resistant organisms both underneath and several millimeters beyond the perimeter of the window.

Prevahex^{CHX} pure chlorhexidine dressing from Entrotech

Increased demand for wound care

According to the U.S. National Institutes of Health, chronic wounds or wounds that are slow to heal, affect 6.5 million people in the U.S.[6] As Annette Brüls, CEO, Medela, describes, there are many factors that are increasing the demand for wound care – from an aging population with chronic conditions to the COVID-19 pandemic.

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75,000 deaths occur annually in US hospitals due to HAIs

(It's time to take proven infection prevention further)

Figures released from the CDC make stark reading for Infection Preventionists. An estimated 722,000 healthcare-associated infections occur annually, resulting in 75,000 deaths and billions in additional costs.[1] More than half of these occurred outside of the intensive care unit.

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For more information on how daily bathing with Hibiclens can help you in your infection prevention strategy visit www.hibiclens.com.

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Reference: 1. Magill SS, Edwards JR, Bamberg W et al. Multistate Point-of-Prevalence Survey of Health Care-Associated Infections. N Engl J Med 2014; 370: 1198-208.

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"The demand for advanced wound care is anticipated to increase due to the rise in the geriatric population and the incidence of diabetes, obesity and chronic conditions, particularly in disadvantaged populations affected by COVID-19," explained Brüls. "However, many trends that emerged in 2020 offer promise. We expect to see more advancements in digital tools, such as telehealth and educational apps, and increased efforts to ensure coordination of care across settings. Hospital leaders will select industry partners based on their ability not only to assist them in controlling costs, but also to deliver a better patient experience, improved outcomes and greater operational efficiency."

Clinicians face significant challenges in preventing wounds, most notably pressure injuries, when caring for critically ill COVID patients, according to the National Pressure Injury Advisory Panel (NPIAP). In its recent position paper, NPIAP describes how clinicians struggle to adhere with the standard care protocol of turning critically ill patients from side-to-side when the patients are suffering from respiratory distress:

"For the COVID-19 patient with acute respiratory distress syndrome, prone positioning is often used for many hours and/or days and 'turning' is limited to microshifts and changing the position of the head, arms and upper body according to 'swimmer position' protocols. In certain situations, it is not only challenging but sometimes not possible to reach an angle allowing adequate reperfusion of skin and soft tissue while maintaining adequate oxygenation, hemodynamic status and a safe airway for patients."[7]

Advances in Negative Pressure Wound Therapy (NPWT), which uses suction, tubing and wound dressing to remove excess exudate and any infectious material that may be present in the wound, can help heal complex wounds, reduce healing time and improve quality of life for patients.[8]

A peer-reviewed poster published at the Symposium on Advanced Wound Care (SAWC) Fall 2020 demonstrated how the Medela Invia Liberty is innovating the standard of care for NPWT.[8] The device contains a double lumen technology called Intelligent Pressure Control and Dynamic Exudate Removal, which ensures the prescribed pressure is consistently delivered at the wound bed while reacting to fluctuations in fluid volume or viscosity to more efficiently clear fluid and prevent blockages.

Medela Invia Liberty Negative Pressure Wound Therapy (NPWT)

Data-driven cleaning

Environmental services (EVS) professionals play a critical role in reducing infectious disease spread in healthcare facilities. During the pandemic, guidance has been issued to enhance cleaning protocols, while at the same time, protect EVS from contracting the virus.

In June 2021, U.S. Occupational Safety and Health Administration (OSHA) issued its Emergency Temporary Standard for COVID-19, under which healthcare facilities must provide protections to workers. This includes supplying personal protective equipment (PPE), screening everyone who enters the facility for COVID-19 and giving workers time off for vaccination.[9]

In March 2021, The Association for the Health Care Environment (AHE) published its new Health Care Environmental Services competency model, which it describes as the "first interactive competency model tool for health care environmental services professionals, including technicians, supervisors, managers and directors." Competency areas include cleaning and disinfection, linen handling, infection prevention, waste handling, safety, communication, patient focus and customer service, and emergency preparedness and response.[10]

Cleaning and disinfecting healthcare facilities for patient care during a pandemic has been an overwhelming challenge. To help EVS managers efficiently and effectively maintain safe and hygienic environments, Essity now offers a data-driven cleaning approach called Tork EasyCube.

The system uses real-time data, letting EVS managers know when and where to act most urgently. Users can track real-time data on consumption levels of hygiene solutions such as toilet paper, hand towels and skincare. They can also track the number of visitors that have entered a given space to help make sure the proper cleaning effort is executed based on the facility's desired thresholds.

"Seeing where and when a new refill is necessary or when a cleaning round needs to take place helps avoid unnecessary checks," said Chung. "Tork EasyCube leads to 24% fewer cleaning rounds, 20% less cleaning hours, 30% more customer satisfaction and bathrooms being stocked 99% of the time."

"The use of real-time data helps eliminate over (and under) cleaning as it lets you transition from static cleaning rounds to needs-based cleaning. It also helps reporting, analytics and KPI tracking," Chung added.

Tork EasyCube currently offers three different levels of data-driven cleaning: software solution, people counters and connected dispensers. Customers can pick which level best suits their needs based on the size of their facilities, number of sites and complexity of their operations.

Essity Tork Alcohol Gel Hand Sanitizer

Looking ahead

While COVID-19 has topped media headlines for the past 18 months, other significant dangers that have long existed still pose substantial risks to patient care and safety. As the threats from HAIs, SSIs and chronic wounds continue on top of SARS-CoV-2 spread, the burden on clinicians, EVS professionals and other healthcare stakeholders grows.

Fortunately, some of the same processes, practices and interventions that are effective against COVID-19 are also helpful in the fight against nosocomial infections. If the pandemic has taught us anything it is to wash our hands, protect our airways and be vigilant when it comes to initial symptoms and worsening conditions.

Continuing to apply those lessons, even when (or if) COVID ever leaves the scene, will help provide broad protection against illness moving forward. HPN

Visit https://hpnonline.com/21233676 for references.

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EXECUTIVE BRIEF

3M | V.A.C.® Therapy

Two large independent* economic studies demonstrated:

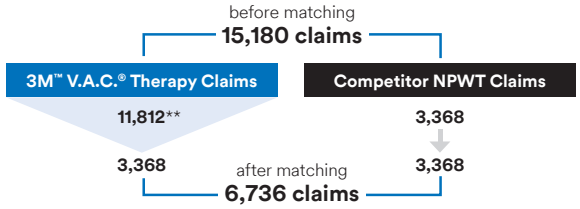
3M™ V.A.C.® Therapy delivers lower total cost to treat[1,2]

*Data owned and analyzed by third party; analysis funded by 3M.

The newest health economic analysis[2] of real-world health insurance claims data provided insights into the cost-effectiveness of negative pressure wound therapy (NPWT). The analysis showed patients who received V.A.C.® Therapy had lower total and wound-related treatment costs than patients who received competitor NPWT in all wound types across all time periods studied.

Methodology[2]

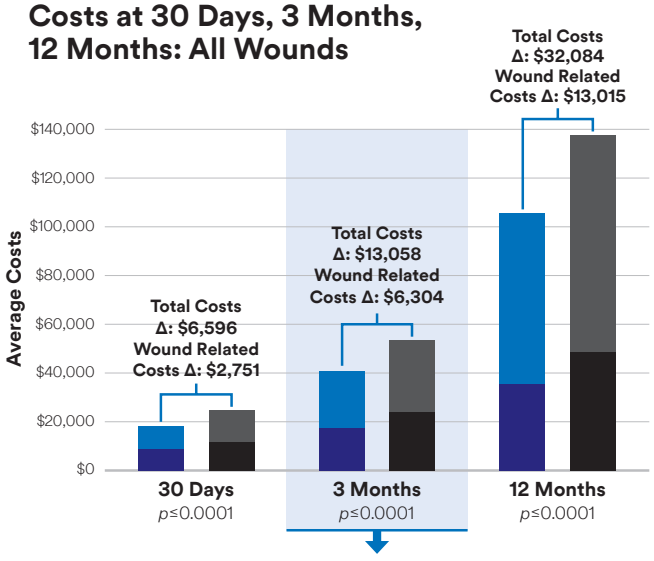
Retrospective analysis of U.S. insurance claims database compared total and wound-related costs for patients who received V.A.C.® Therapy versus competitor NPWT in the outpatient setting between January 2016 and September 2018. Costs were compared across care settings and wound types at 30 days, 3 months, and 12 months after initial claim.



**Case-matched by age, gender, payer, and Charlson Comorbidity Index

3M™ V.A.C.® Therapy patients had lower total and wound related costs across all time periods

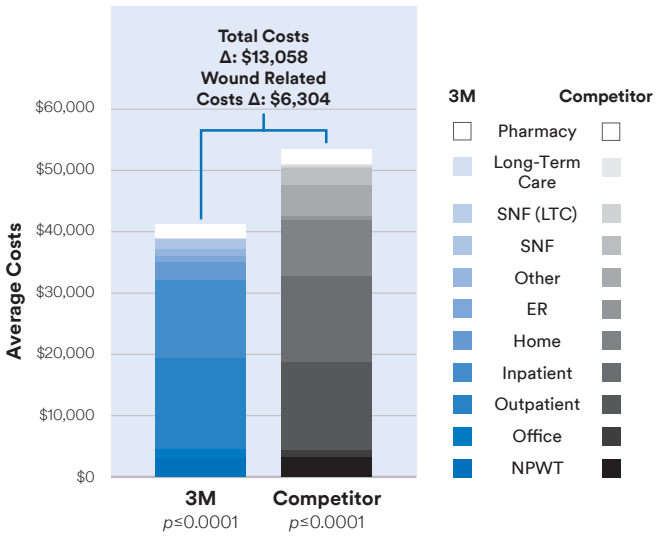
Costs at 30 Days, 3 Months, 12 Months: All Wounds



V.A.C.® Therapy patients had lower treatment costs across most care settings, and lower total out-of-pocket costs.

3M Wound Related Costs
3M Non-Wound Related Costs
Competitor Wound Related Costs
Competitor Non-Wound Related Costs

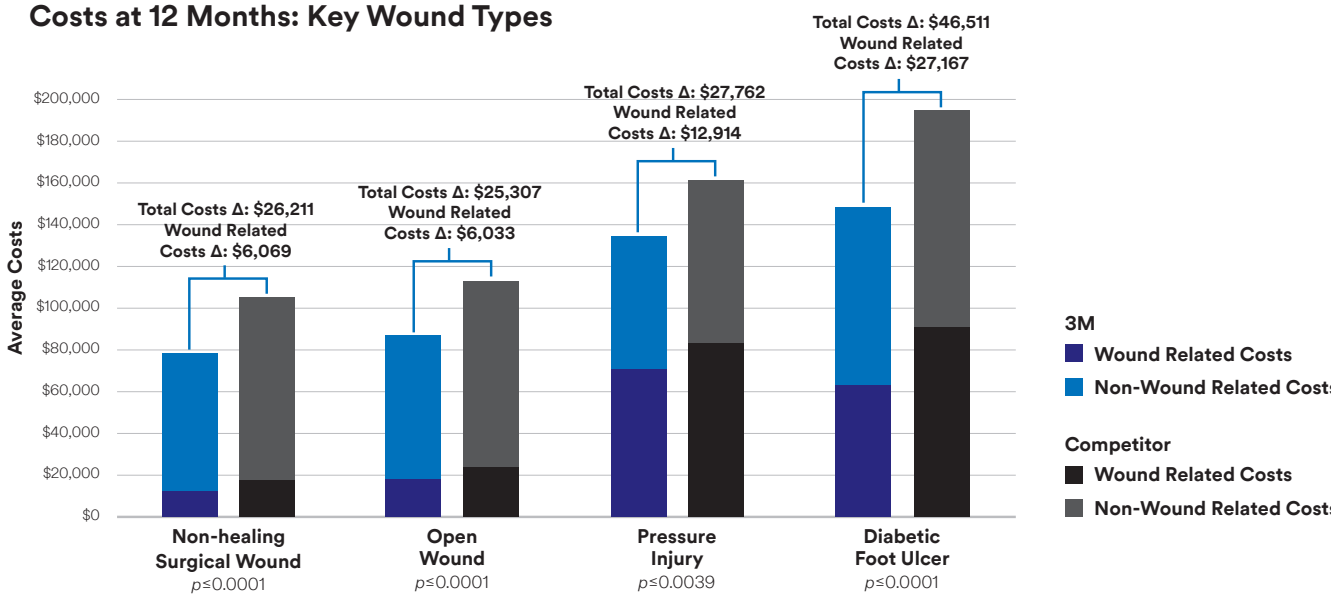
Costs at 3 Months: All Wounds



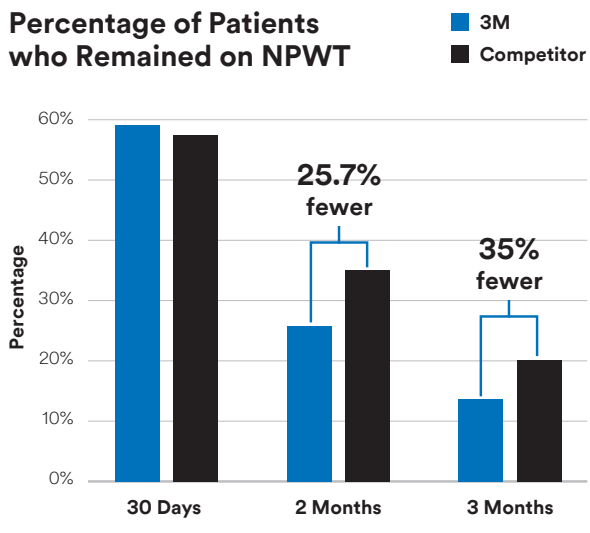
Lower total costs to treat V.A.C.® Therapy patients driven by lower home health agency, skilled nursing facility, NPWT, and other expenses. NPWT charges represented only 3% of the total cost to treat.

3M™ V.A.C.® Therapy patients had lower total and wound related costs across all wound types at 12 months

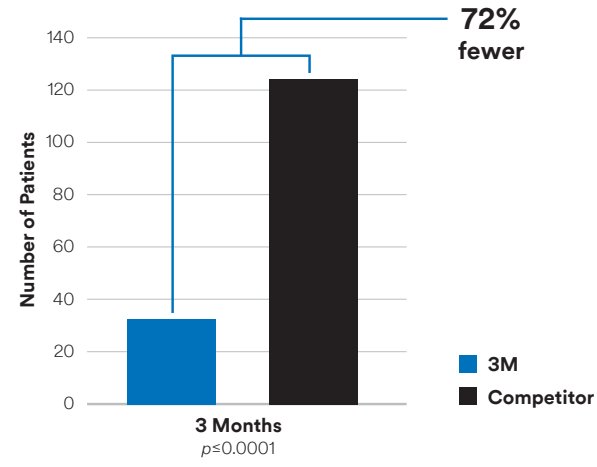
Costs at 12 Months: Key Wound Types



V.A.C.® Therapy patients experienced shorter average length of therapy



V.A.C.® Therapy patients were less likely to be switched to another NPWT supplier



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NOTE: Specific indications, contraindications, warnings, precautions, and safety information exist for these products and therapies. Please consult a clinician and product instructions for use prior to application. Rx only.

Processes and performance should drive SPD improvements

by Kara Nadeau

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Despite the challenges of the COVID-19 pandemic, Central Service/Sterile Processing & Distribution (CS/SPD) department professionals have moved forward with initiatives to improve the effectiveness and quality of their operations.

This includes redesigning/rebuilding existing departments or building completely new spaces to support growing surgical and procedural volumes, and an ever-expanding array of instruments and devices.

At the same time, equipment and supply manufacturers continue to develop and deliver innovations to help improve sterile processing workflows, and the quality and safety of reprocessed items for use in the delivery of patient care.

A service line specific approach

During her career, Courtney Mace Davis, Director, Sterile Processing Department, NorthShore University HealthSystem, Evanston, IL, has seen CS/SPD rebuilds that worked, and those that didn't.

"You can have the best building in the world and I have seen it fail because the processes weren't worked out ahead of time," said Mace Davis. "A successful CS/SPD design strategy requires a holistic approach, including people and processes to sustain it."

In 2019, Skokie Hospital, part of the NorthShore University HealthSystem network, opened as Illinois' only specialty hospital dedicated to orthopaedic and spine care. The seven-year, multimillion dollar renovation and expansion established the Orthopaedic & Spine Institute, which provides advanced care and is designed for both outpatient and inpatient procedures.

Mace Davis was hired to help design a new CS/SPD to support the Institute, both the physical space and the processes. Unlike other healthcare facilities where sterile processing professionals serve as generalists, reprocessing items for a broad range of specialties and procedures, Skokie Hospital established a service line model where the CS/SPD team is solely focused on orthopaedic and spine care instrument reprocessing.

"Everyone at the Institute is an expert in orthopaedic and spine, including sterile processing," said Mace Davis. "The technicians that we hire must be able to work in an environment that is fast-paced and intense. If you expect excellence, then you recruit the best people to be on your team."

When Mace Davis joined Skokie Hospital, the design team had just developed the initial drawings for the new CS/SPD, which required capacity to serve 28 operating rooms (OR). She worked to secure feedback from both frontline staff members and other key stakeholders, including the perioperative team and infection control/prevention.

"Just because we were making the space bigger, doesn't mean we were making it better," said Mace Davis. "There were some design elements and equipment that we needed to address in order for processes to work efficiently and effectively."

One of her initial suggestions was the installation of pass-through sterilizers, Mace Davis showcased how it would help improve quality and reduce errors. Leadership understood the patient care implications of this choice and agreed to fund the purchase of Steris steam and V-Pro sterilizers with a pass-through design.

"The costs associated with safety risks was too great not to do this," said Mace Davis. "If we are going to be a premier orthopaedic and spine institute, the CS/SPD needs the best equipment and tools to support the ORs."

As Mace Davis explains, decontamination is often over-looked when it comes to CS/SPD investments even though it is a critical aspect of instrument reprocessing. As the popular saying goes, "if it's not clean, it's not sterile." Mace Davis and her team did a capacity analysis of the planned decontamination area, including the number of trays that would require soaking and the time required for this step.

Based on the analysis, they equipped the new CS/SPD with six, three-bay sinks, each with an ultrasonic cleaner. The sinks, manufactured by Pure Processing, are height adjustable to support healthy staff member ergonomics. They also feature overhead lights to help technicians see bioburden.

"Decontamination is hard work," said Mace Davis. "We value the safety of our staff members and don't want them bending over sinks or struggling to see what they are cleaning."

While the CS/SPD team members are specialists in orthopaedic and spine reprocessing, the variety of instruments can vary greatly even within this single discipline. Recognizing the challenge technicians face in complying with instructions for use (IFU), Mace Davis and her team also placed computers at each decontamination sink where techs can scan trays and bring up the IFUs from oneSOURCE.

The Skokie Hospital CS/SPD rebuild has phased go-live dates, with the entire project set for completion December 2021.

"It can be difficult to secure resources for CS/SPD improvements because most hospitals want to spend the money on clinical care areas," said Mace Davis. "This work is a testament to the value that Skokie Hospital places on sterile processing. Leadership understands how our work is critical to patient safety."

A cookie cutter approach won't cut it

Robert Wood Johnson University Hospital in New Brunswick, NJ is a Level 1 trauma center with a high volume of surgical cases. With 32 ORs, the instrument tray

volume has steadily increased by at least 10% each year. Anita Cassell, Director of Sterile Processing, engaged upper management and explained how her team could not handle this additional volume in its current space, with its current equipment and how this could begin to cause delays and backlog of work.

Cassell secured approval for the building of a new department that would be over double the size of their current space – 16,000 square feet versus 7,000. Her strategy was to design the new CS/SPD to overcome the team's pain point areas. It is slated to open in January 2022.

"When presented the opportunity for a new department you have to design it for your specific needs and not take a cookie cutter approach" said Cassell. "While every CS/SPD struggles in certain areas, the trouble areas can vary significantly from one department to the next."

One pain point for the department was decontamination, which was often backlogged according to Cassell. She says there was not enough space in the existing department to add more equipment and staff to accommodate increasing tray volume. She describes this "uncomfortable area" where staff members were "extremely busy and locked in by so many case carts that it becomes hard to navigate".

Another pain point was the front of the department and entry way where staff from procedural areas came to pick up trays, vendors arrived to drop loaner trays off and pick up, as well as stock consignment trays.

"In the morning there are people constantly ringing the doorbell," said Cassell. "CS/SPD staff had to stop what they were doing to answer the door or phone. It was a major distraction and disruption to our workflows."

The new CS/SPD has two floors, which presents challenges when designing workflows that work across two levels but will give us the square footage we need. Cassell and her team decided to use the first floor for decontamination, prep/pack and sterilization. The second floor will house case carts and storage, with a clean elevator connecting the two levels.

"The only thing that will happen on the first floor will be production, as the new design gives the ability to eliminate the distractions," said Cassell. "The second floor will now be the location where unit staff will pick up their sterilized trays, vendors will restock loaners in the newly added vendor room and where all items needing processed will be dropped off, signed in and sent to the decontamination area. All phone calls will be filtered by a unit clerk to a leader so they do not disrupt staff who are performing the reprocessing."

To boost efficiency, the new department will feature technology from Steelco that automates steps from decontamination through cleaning and all the way to the assembler. Staff members place decontaminated items on a wash cart and then push onto a conveyor where they will choose appropriate program and all other functions will be completed by the automated system, even the ultrasonic.

The conveyer transports the instruments to the sonic and then to the washer. An automated conveyor will then unload the washers and transport the items to a workstation that is flashing green, the light will then turn yellow for in progress. And then will retrieve the wash cart from workstation once flashing green again.

With the "traffic light" at the top of each workstation, staff are able to focus on productivity versus emptying and loading machines.

"We are designing another SPD for a hospital across the street, but we will not implement this automation there because it has only 9 ORs," said Cassell and we have the opportunity to do it right the first time. "Again, you have to design for your needs and for your "pain point areas". This is where people go wrong. I really believe you have to address your facility's own concerns."

Overcoming storage shortage

At Illinois Masonic Medical Center in Chicago, part of Advocate Aurora Health, instrument and device advancements and growing case volumes were

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Skokie Hospital, Illinois

Before

After

Team

overwhelming the limited space of the CS/SPD department.

A particular problem was the small footprint and low ceilings in the sterile storage area, which limited the number of trays that could be stored, including loaner and consignment trays. Excessive stacking resulted in holes in wrappers, and subsequent reprocessing of instruments.

The decision was made to build a new CS/SPD department that provided the necessary space and equipment for safe and effective reprocessing. This included an improved sterile storage area that "can flexibly meet the future demands of the ever-changing healthcare reality for many years to come," according to Juanita Burrell, AA, BA, CRCST, CER, Manager Sterile Processing.

"Our previous department was very dated, so the hospital decided to build a new SPD from the ground up. Coincidentally, we were able to move in on December 20, 2019, just before COVID," said Burrell. Burrell also stated they evaluated several different vendors for storage shelving, who came in and performed presentations.

One option that Burrell and her team evaluated was rolling shelves, which they decided would not work well based on the new space. The concern was that when staff members moved the shelves to gain access to trays, they would disrupt the work of other technicians in the area who would have to stop what they were doing and move out of the way.

The next option was open, wire shelving, which the team ruled out because of the risk for tears and holes in the tray wrappers, as Burrell explains:

"While the open shelves were the most cost-effective option, the priority wasn't saving money, rather, it was improving quality. If staff members pulled heavy trays off a wire shelf, there would be a significant chance this action would compromise the wrap integrity."

Burrell had seen DSI's instrument storage system at the International Association of Healthcare Central Service Materiel Management (IAHCSMM) annual conference and was impressed by the design. She invited the company to present, and the team agreed that it was the right choice for their new department.

"We compared the open, wire shelving to DSI's shelving, which has solid shelves that can be pulled out to easily remove wrapped trays, within a virtual 3-D application," said Burrell. "That really drove the decision home because we could see there was no risk for holes and tears with DSI's solid shelving."

Burrell and her team used DSI's shelving solution to effectively organize their new sterile storage space. They have designated storage for trays by procedure type (e.g., orthopedics, gynecology), and specific areas for loaner and consignment trays.

Burrell and Illinois Masonic Medical Center's Executive Director of Nursing Karen Kittle, BSN, MBA, NE-BC, have developed a poster presentation on the rebuild, which they have submitted to IAHCSMM for its annual conference. In it, they describe how their "future state vision" for their new department is now a reality with four sterilizers, four instrument washers, two cart washers, eight workstations and "an efficient storage shelving in a state-of-the-art facility that drives efficient workflow processes."

Illinois Masonic Medical Center

Before

After


Team

How do you renovate or rebuild while still reprocessing?

How can a CS/SPD team continue reprocessing instruments when its department is unusable? That is the challenge Gordon Allan, Decontamination Services Manager, Manchester University National Health Service (NHS) Foundation Trust (MFT), Manchester, England, UK, faced while his department is forced to shut down for six months during a renovation.

The CS/SPD based in Manchester Royal Infirmary Hospital, a major trauma center, also reprocesses instruments for four other hospitals: Royal Manchester Children's Hospital, University Dental Hospital of Manchester, Manchester Royal Eye Hospital and St. Mary's Hospital (maternity hospital). The department averages one quarter of a million instruments per month.

When Allan joined the CS/SPD team in 2020, the department was in the process of replacing its five sterilizers, which had become outdated. Taking a phased approach where they replaced one

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sterilizer at a time, the team was able to keep up with its workload during the upgrade.

Things have not been so straightforward this year as Manchester Royal Infirmary Hospital's CS/SPD replaces its washer-disinfectors. The department features an unusual design, with its washer-disinfectors on the bottom floor and the sterilizers on the floor above them. Because of some issues with steam pipework above the washers, the department has been required to shut down for six months while the new washer-disinfectors are installed.

"Because the department would be closed for such a long period of time, we made the decision to refurbish everything," said Allan. "When the remodeling is done, we will have a brand-new department."

But with five hospitals dependent on the CS/SPD for instrument reprocessing, how does the CS/SPD support clinical care when it has no place to do it?

Allan and his team looked at a few options. One was to build a new, smaller department on-site, but that would take too much time and money, and they don't have the space. They also looked at mobile sterile processing units that could be placed on-site. Again, this was too costly, and the mobile units would not fit on the hospital's site, which is located in the middle of the city of Manchester.

The ultimate solution involved a mix of internal and external resources. The NHS has another CS/SPD in North Manchester. The department is much smaller than the one at Manchester Royal Infirmary Hospital and has its own instruments to process. It was determined that while this CS/SPD cannot take on the instrument volume from five additional hospitals, it does have the capacity to process instruments from four of the hospitals. .

As for the instruments from the remaining hospital, St Mary's, Allan and his team turned to Steris, which had a local reprocessing facility in their vicinity. The Steris facility can also accommodate any overflow in instruments that the CS/SPD in North Manchester could not handle.

At the North Manchester site, the greatest challenges are transportation and staffing. The Manchester University NHS Foundation Trust had to hire vehicles and agency drivers to transport dirty instruments from Manchester Royal Infirmary, and return clean instruments, a 10-mile trip each way.

"While we are still meeting the 24-hour tray turnaround time target, our hospitals are still adjusting to the fact that they are not getting their instruments back as fast as they did when our centralized department was in operation," explains Allan.

It wasn't until the team began transporting instruments off-site for reprocessing did they realize they had insufficient inventory to accommodate this model. Because turnaround time has increased, they have had to purchase additional instruments to meet the surgical case load.

"In the past we processed instruments so quickly through our centralized site that it masked the lack of equipment available," said Allan. "If we had the time, we would have reviewed our inventory before switching to this off-site model, determined what we needed and acquired the instruments then."

Because the North Manchester CS/SPD didn't have enough staff to accommodate the increased instrument volume, Allan and his team had to arrange for staff members from their hospitals to be sent there. While some technicians have their own vehicles, or can use public transportation, some do not have a means of making the trip. To overcome this challenge, the Manchester University NHS Foundation Trust has hired taxis to drive staff to and from the facility.

"We never had to manage this type of logistics in sterile processing so it has been a learning experience," commented Allan. "Staff members are sometimes late and miss their taxis so it is not so straightforward as it would seem."

The Manchester University NHS Foundation Trust is about three months into the CS/SPD department renovation at this time this article is published. Even with all the challenges, Allan says his team has remained positive and supportive.

"The staff knows this remodel must be done and we have to keep supplying instruments or surgeries can't be performed and babies can't be born," said Allan. "My advice to others in this situation is to identify and develop a robust business continuity plan to keep CS/SPD operations running during the renovation."

New equipment and products innovations for the CS/SPD

Below are some of the latest offerings from suppliers for effective and safe sterile processing that can be implemented during a renovation/rebuild or during business as usual.

Getinge's New Torin Artificial Intelligence

Prediction of surgery times with Getinge's New Torin Artificial Intelligence (AI) feature can improve the accuracy of the OR schedule which in-turn also improves staff and patient satisfaction. The more accurate your OR schedule is, the more stable it will present itself throughout the day and week. A stable OR schedule will also lead to a more precise sterile services department and logistical workflow.

One of the reasons for that stability is that the AI takes more variables into account than just the equation of time. It takes into account the staff required, room restrictions and mobile devices, so people can focus more on the tasks at hand and less on the accurateness of the surgery schedule of the day. By combining the AI power of Torin with the planning capabilities of Getinge's T-DOC sterile supply management solution the staff will be presented with proper priority guidance in the CSSD to enhance the performance of the OR even more.

Healthmark Industries Light Cord Adapters

Designed to connect light cords to a light source for inspection, the Light Cord Adapters assist healthcare workers with testing the integrity of light cords for intensity of light and fiber optic damage. Simply, choose the appropriate light cord adapter, attach to the light cord and secure together. Then, attach a light source to the light cord adapter and secure together, activate the light source and inspect. If any defects or damage are identified, remove the light cord from service. The Light Cord Adapters are offered for the following makes of light cords: Storz, Stryker, ACMI and Wolf and are available for individual purchase. Available light sources are sold separately.

Key Surgical T-EZ Pro Cleaning Indicator
The T-EZ Pro is designed for daily testing of washer-disinfectors in sterile processing. The primary benefit of this product is the use of a true blood soil sample – providing the best representation of the material that washers must remove from surgical instruments during mechanical cleaning in preparation for sterilization. Additional benefits include two ways to use the test – with or without instruments in a tray as well as the ability to attach the device to the tray if preferred.

The stainless steel indicator is set in a clear plastic process challenge device that can be easily opened after testing, no need to break it. Reading the results couldn't be easier - a completely cleaned strip (no residue or tracings of the blood soil sample) indicates a passed test. Key Surgical has designed a pass/fail chart, that is included in each box of T-EZ Pro, that can be posted and easily referenced with every test.

"As advocates for education in healthcare, compliance to industry guidelines and best practices (and unaccepting of a 'this is how we've always done it' mentality) providing a new cleaning indicator is just one example of our support for the many processes in SP," said Alana Suomela, Director, Corporate Marketing, Key Surgical. "The use of the Key Surgical T-EZ Pro cleaning indicator supports compliance with Association for the Advancement of Medical Instrumentation (AAMI) ST79 standards, dedication to patient safety and overall workflow."

STERIS AMSCO 600
Medium Steam Sterilizer
The sleek design of the AMSCO 600 Medium Steam Sterilizer meets two critical demands – maximum throughput in a minimum footprint. Whether designing a new Sterile Processing Department (SPD), Ambulatory Surgery Center (ASC) or planning for a department renovation, the combination of productivity and space savings makes the AMSCO 600 the obvious choice.

STERIS V-PRO maX 2
Low Temperature Sterilization System
Delivering unparalleled productivity for day-to-day Operating Room (OR) needs, the V-PRO maX 2 Low Temperature Sterilization System is designed for use in terminal sterilization of medical devices. STERIS's V-PRO maX 2 Sterilizer features the new Fast Non Lumen Cycle allowing staff to sterilize devices like cameras, telescopes, batteries and laryngoscope blades in just 16 minutes. HPN

HEALTHCARE PURCHASING NEWS

September 2021

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LEARNING OBJECTIVES

1. *List the types of soils found in endoscope procedures*
2. *Identify the key properties of cleaning chemistries effective against endoscopic soils*
3. *Create a checklist for evaluating endoscopy cleaning chemistries*

SELF-STUDY SERIES

The perfect solution

Understanding, assessing and selecting endoscope cleaning chemistries

by Ann Kneipp and Nancy Kaiser

Endoscope reprocessing is time-consuming and complex, and it involves a two-step process. It begins with thorough cleaning – removing soil from a contaminated reusable device – and is followed by a disinfection or sterilization process. While there are a variety of guidelines and recommendations that address the importance of cleaning, they all say essentially the same thing: if it isn't clean, it cannot be properly disinfected or sterilized.

The right cleaning chemistry is critical for successful endoscope cleaning. However, not all chemistries are equal. Some formulations can leave residual soils, some can damage endoscope component materials, and some require more scrubbing, which can cause scratches and other damage. Soiled and damaged surfaces can harbor microorganisms and promote biofilm, which in turn prevents proper rinsing of the cleaning chemistry and ultimately reduces the effectiveness of disinfection or sterilization processes. With the safety of patients riding on thorough scope cleaning, how do you determine the right cleaning chemistry for your endoscopy practice?

Types of endoscopy soils

To determine the most appropriate cleaning chemistry for endoscope reprocessing, we must understand the procedures being performed and the types of soils that may be present after these procedures. Soils found on endoscopic devices come from a variety of sources.

For many flexible endoscopes, the most common source is the gastrointestinal (GI) tract. For example, patients prepare for endoscopy by taking "flush cocktails" to rid the tract of as much "debris" as possible and allow for clear viewing. These products leave residuals such as propylene glycol and sodium phosphate behind that can deposit on endoscopes. In cases where patient prep was incomplete or prep was not performed at all (as in emergency procedures), the fecal matter in the tract includes numerous types of soil, including bile, bilirubin (broken down red blood cells), mucus, undigested food and large amounts of bacteria. If polyps were removed, whole blood and membrane tissue may also be present.

Substances introduced during the procedure will also deposit on endoscopes and require removal. For example, petroleum jelly is often applied as a lubricant for patient comfort, and contrast dyes are instilled in the GI tract during chromoendoscopy to help identify suspect tissues. The practice of using simethicone (the antifoaming agent found in gas relief products) to reduce the amount and size of mucus bubbles and improve visualization has created a new cleaning challenge. Simethicone is especially hard to remove because it's not soluble in water or alcohol.

To understand how to remove various endoscopic soils, we need to categorize them into two general categories: *organic* and *inorganic*. Organic soils include protein, lipids/fats and carbohydrates.

Proteins are found in every type of tissue and fluid in the human body, so they are present on endoscopes after every type of procedure. Proteins are large, insoluble molecules with extremely complex multi-layered structures. These structures allow the molecules to function and protect them from breaking down, which makes proteins especially hard to remove.

Lipids are fatty, waxy and oily compounds that the body uses to build cell membranes and store energy. By their nature they are insoluble in water. The saturated and unsaturated fats present in the GI tract occur naturally in patients' bodies and are also introduced through their diets. Synthetic lipids (i.e., olestra) used as fat substitutes in "light" foods may also be deposited on endoscopes

during lower GI procedures. Synthetic lipids have a larger molecular structure than natural lipids and are harder to clean.

Carbohydrates are starches and sugars, which are used by the body for energy. They consist of ringed structures in single and multiple groupings. Compared to proteins and lipids, carbohydrates are relatively easy to clean since they are somewhat water soluble.

Inorganic soils related to endoscopy include minerals introduced in saline and other flushing solutions, hard water contaminants such as calcium carbonate that may be in the water used to clean devices and metals like copper and iron (including rust).

Getting it all off

The first general rule for effective soil removal and cleaning is to preclean the devices *quickly* and *promptly*; quickly because soil is easier to remove while it's fresh and before it is allowed to dry on device surfaces, and promptly because processing delays can promote the proliferation of biofilms in moist, soiled channels. Biofilms are complex communities of microorganisms that stick to each other and to surfaces. The biofilm is covered in a slimy extracellular layer (matrix) that acts like glue, making its removal extremely difficult, especially with traditional cleaning chemistries. Biofilms can form very quickly, and once they do, additional cleaning steps with specialized products will be needed to remove them.

For any type of soil, thorough cleaning requires a combination of soil breakdown and physical removal. So how do chemicals accomplish these functions?

Removal

The term "removal" is often defined as mechanical actions (i.e., brushing or wiping) used during cleaning. However, cleaning chemistries also remove soils. They contain ingredients called *surface active agents* (surfactants) that function in several different ways. Surfactants provide wetting, suspending (emulsifying), solubilizing and anti-redeposition functions. They have a special structure with a hydrophilic (water-attracting) portion and a hydrophobic (water-repelling) portion, which allows them to line up at air/water and liquid/solid interfaces to perform their function.

Water does not wet surfaces well because of its surface tension. By lining up at the interface where the water meets the air, a surfactant lowers this surface tension, allowing the water to sheet over surfaces and flow into tight spaces like the narrow channels of endoscopes. Once the cleaning solution effectively wets all surfaces, surfactants then line up at the interface between the soil and the cleaning solution to suspend soils so they can be rinsed away. Some surfactants are also able to pull soils completely into solution. Surfactants that provide effective suspension and solubilization will also prevent soils that have already been removed from redepositing on other endoscope surfaces as the scope is being rinsed.

However, detergents with poorly formulated surfactant systems can compromise cleaning, especially in automated endoscope reprocessors (AERs). For example, a cleaning chemistry that foams too much can cause the recirculating pump to cavitate (create vapor bubbles), which lowers the system pressure and reduces overall cleaning effectiveness. Foam bubbles also introduce air into endoscope channels, which limits the cleaning solution's contact with the channel walls. Excess foaming can also interfere with rinsing and can require more flushing and time to adequately remove all detergent residue.

Breakdown

In addition to removing soils, cleaning chemistries help break soils down. They break large, water insoluble molecules such as proteins and lipids apart into smaller, more water-soluble pieces. Breakdown occurs because of *hydrolysis*, *sequestration/chelation* and *surfactancy*.

Enzymatic cleaners break down tough soils with protease enzymes and the enzymatic hydrolysis process. Protease enzymes only break down proteins. Hydrolysis uses water to break molecules apart into smaller, more soluble pieces. Enzymes speed up the hydrolysis action.

Enzymes are proteins themselves. They function by holding the protein soil and water near each other to make them interact faster and more easily. The protease enzymes are not consumed by the reaction and will continue to work on protein soil as long as it is present on the dirty endoscope. This is especially helpful for the manual endoscope cleaning process because enzymes help remove protein soils in areas of the devices (such as lumens and channels) that are difficult to reach and where mechanical cleaning action is minimal.

The activity and efficacy of all enzymatic products also increases with temperature, but only to a certain point. Temperatures above 60°C (140°F) will start to denature the enzyme and prevent it from working. When enzymes denature, they start to unfold and lose their ability to speed the hydrolysis reaction.

Alkaline hydrolysis

Hydrolysis can also be driven by alkalinity (the capacity of water to resist acidification). The reaction in alkaline hydrolysis is slightly slower, and it is effective against both protein and lipid soils. However, alkaline hydrolysis is more aggressive – it does not discriminate between soils and device surfaces, and this can lead to potential material incompatibility issues and device damage. A controlled amount of alkalinity can help solubilize lipids and remove them.

Chelation

Sequestering/chelating ingredients can be beneficial to the cleaning process. Because of their ability to bind minerals and metals such as calcium, magnesium, iron, copper and zinc, chelants can control the hardness of tap water used for the

Self-Study Test Answers: 1. C, 2. D, 3. D, 4. C, 5. B, 6. A, 7. B, 8. D, 9. B, 10. B

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cleaning solution and thereby help the cleaning chemistry work better. Fats/lipids tend to interact with these hard water elements and become more rigid and harder to clean. Chelants also pull away ions that stabilize protein and lipid structures, allowing those soils to then be broken down and cleaned away more readily.

Sequestrants keep soils suspended in solution and prevent them from redepositing on devices. They also dissolve inorganic soils like patient preparation products and procedural flushing solutions.

It's important to note that while mild sequestrants/chelants (i.e., citric acid) are beneficial to endoscope reprocessing, strong versions of these ingredients are not compatible with enzymes. Including strong chelants like EDTA in a formulation will degrade enzymes and render them ineffective after only a short shelf-life.

Surfactancy is also involved in soil breakdown and soil removal, particularly for fatty and lipid soils. Surfactants can penetrate lipid soils and emulsify or solubilize them, which breaks them down just as well, if not better than other mechanisms, including enzymes.

Checklist for choosing the right formulation

Step One: assemble the team

Endoscopy managers should work with material management, infection prevention and reprocessing professionals at their facility to assess and select the optimal cleaning chemistries for their devices. Each of these experts will have knowledge that contributes to an informed decision.

Step Two: research the IFU

Access all endoscope manufacturers' instructions for use. Device manufacturers typically test a variety of cleaning chemistries to ensure device material compatibility and efficacy with the cleaning procedure they recommend for their device. Endoscope manufacturers most often recommend detergents and/or enzymatic cleaners that have *neutral pH* and are *low-foaming* and *free-rinsing*. These same recommendations are supported by industry standards and guidance.

Cleaning chemistry labeling offers a wealth of information as well. Information about the formulation helps with determining whether a cleaning chemistry will be effective and appropriate. For example, not all detergents contain enzymes, but a properly formulated enzymatic product includes both a detergent and enzyme(s). So, even if soil conditions don't require the enzyme, the formula's detergent will clean effectively. The choice is not detergent *or* enzyme, but a combination of ingredients that will result in optimal cleaning outcomes for all the endoscopes and accessories.

Step Three: list all anticipated procedures

The next step is to identify the types of procedures your endoscopes perform and the soils from those procedures. Remember to also consider the procedures that may be performed in the future as the facility grows and changes. A cleaning chemistry formulated for a wide variety of soils will help accommodate future procedural expansion.

Step Four: investigate your water

Water hardness can impact the effectiveness of a cleaning chemistry. Consider testing facility/department water quality to determine if water treatment is necessary to assure optimal cleaning.

Step Five: audit each chemistry's test data and value

Evaluate the performance data and overall value of each cleaning chemistry formulation being considered. Evaluation criteria for a cleaning chemistry should include:

- Verification of neutral pH
- Verification that the chemistry is low-foaming and free rinsing
- Proven effective performance against hard-to-clean soils such as lipids and proteins
- Demonstrated compatibility with device materials
- Ability to protect devices from corrosion during reprocessing

Cost is an important component of any product evaluation, but value is the ultimate indicator. Remember that a cheaper cleaning chemistry may not always be the most cost-effective choice in the long run. Be sure to consider:

- The cost of instrument repairs due to poor chemistry performance
- The differences in chemistry dosing volumes (concentrations)
- The cost (in staff time, supplies and postponed procedures) of recleaning because of poorly performing chemistries

Patient safety above all

A facility's choice of endoscope cleaning chemistry has implications beyond the department itself. Thoughtfully selecting a well-formulated, high-quality cleaning chemistry can certainly help improve the effectiveness and efficiency of the endoscope reprocessing function. But it also has the potential to enhance that department's reputation for delivering consistent, reliable cleaning outcomes that support patient safety initiatives. Considering that these complex reusable medical devices pose a serious infection risk if improper cleaning leads to incomplete disinfection or sterilization, the consequences could be dire for patients and the facility both. Keeping an eye on this bigger picture will lead to the optimal cleaning chemistry solution. HPN

Ann Kneipp is a senior scientist II in Research & Development for STERIS Corporation, based in St. Louis, Missouri. She has over 20 years of product formulation experience and holds 13 patents for healthcare consumer goods and instrument cleaning chemistries for surgical and endoscopic devices. Kneipp is a member of the International Association of Healthcare Central Service Materiel Management (IAHCSMM).

Nancy Kaiser is the scientific director for STERIS Corporation in St. Louis, Missouri with extensive expertise in formulation. She has more than 30 years of experience in developing healthcare products and holds more than 20 patents (with additional patents pending) in hard surface cleaners, instrument cleaning chemistries, disinfectants, antimicrobial skin care, and wound management products. She has also written numerous published articles and book chapters on these subjects. Kaiser is a member of the Association for the Advancement of Medical Instrumentation (AAMI) and sits on several AAMI committees. She holds a degree in chemistry from Washington University.

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CONTINUING EDUCATION TEST • SEPTEMBER 2021

The perfect solution

Understanding, assessing and selecting endoscope cleaning chemistries

Circle the one correct answer:

1. **What are endoscopic soils composed of?**
   A. Only organic substances
   B. Only inorganic substances
   C. Both organic and inorganic substances
   D. None of the above
2. **Where do endoscopic soils come from?**
   A. The patient's body
   B. Patient preparation and comfort products
   C. Procedural fluids
   D. All of the above
3. **Which are difficult to clean from endoscopes?**
   A. Proteins
   B. Fats, lipids, and synthetic lipids
   C. Biofilms
   D. All of the above
4. **Which of the following are cleaning chemistry mechanisms?**
   A. Insolubilation and deposition
   B. Scrapping and isolation
   C. Removal and breakdown
   D. Acidification and ionization
5. **How do enzymes aid in the cleaning process?**
   A. Slow soil breakdown
   B. Break down large protein molecules into smaller, more soluble ones
   C. Suspend soils in the solution
   D. Tie up metal ions
6. **Which formulation ingredient helps water to 'wet' surfaces?**
   A. Surfactants
   B. Enzymes
   C. Sequestrants/chelants
   D. Alkalinity
7. **What cleaning chemistry function keeps soil from sticking back onto a device?**
   A. Free-rinsing
   B. Anti-redeposition
   C. Chelation
   D. Emulsification
8. **Why is foam detrimental to the cleaning process?**
   A. It is more difficult to rinse thoroughly
   B. The bubbles can inhibit the cleaning solution from flowing through narrow channels
   C. The bubbles can prevent the cleaning solution from effectively contacting the device surfaces
   D. All of the above
9. **What can happen when soils and moisture remain within endoscope channels?**
   A. Nothing – it rinses out
   B. Biofilm develops
   C. Slippery channels
   D. Pressure differentials
10. **Scope manufacturers often state that endoscope cleaning chemistries should be acidic, low-foaming and free-rinsing.**
    A. True
    B. False

IAHCSMM Instrumental to Patient Care

The approval number for this lesson is **STERIS-HPN 210508**.

CBSPD

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Quality Assurance vs. Quality Improvement; types of scissors

by Stephen Kovach

Q Can you explain the difference between Quality Assurance (QA) and Quality Improvement (QI)?

A Quality Assurance (QA) measures compliance against certain required standards. Quality Improvement (QI), on the other hand, requires and normally focuses on individuals, while QI is a proactive approach to improve processes and systems. Standards and measures developed for QA can inform the QI process. To me, they go hand-in-hand, and you need to be doing both in any medical device reprocessing department.

Here are real-life examples depicting either as QA or QI focus:

- How do we reduce trays errors in our prep and pack/assembly process? This is a QI process.
- A patient had a bad outcome. Is it a nursing, a physician or some other process at fault? This would be a QA process.

My view is an active QI is very helpful in improving how your department works. It helps you understand your department better and finds new ways to do things, provides a great opportunity for every department to improve, and improvement leads to better patient outcomes.

I also believe that implementation of any quality improvement or risk-based program does not always prevent incidents from happening, but they will help you reduce and understand those incidences better if they do occur.

Q I heard the term used "super sharp scissors" recently in a webinar. What type of scissors are these? I do not think we have that kind in my department.

A Here is a direct quote from one of the instrument manufactures. "A unique blade design - combining a razor edge with a scissor edge, these scissors produce a clean, forward cut, eliminating pinching or slipping of tissue." (Scanlon, 2015)[1] Sometimes a Super Cut is also called a Super Sharp.

Now let me expand on that statement.

Scissors come in two designs in my view (i.e., spring loaded and ring hand type). Within these design features, there are distinct identifiers to help the surgeons, OR personnel and the medical device reprocessing professionals to know the type of scissor blade they have and how to use it in their procedure.

You can typically recognize the construction style of scissors based on the following color code:

Color Code	Construction Style of Scissors
Black handle	Super Cut
Gold handle	Tungsten carbide inserts
(1) Gold handle and (1) Black handle	Tungsten carbide inserts and Super Cut
Blue instruments	Titanium (typically)
Stainless steel (traditional)	Stainless-steel finish (only)

As noted by the table and seen in the picture (below), once you know the color coding it is easy to identify the correct type of scissor that can be requested by a surgical team member.

Scissor tips may be straight, curved, angled or bent.

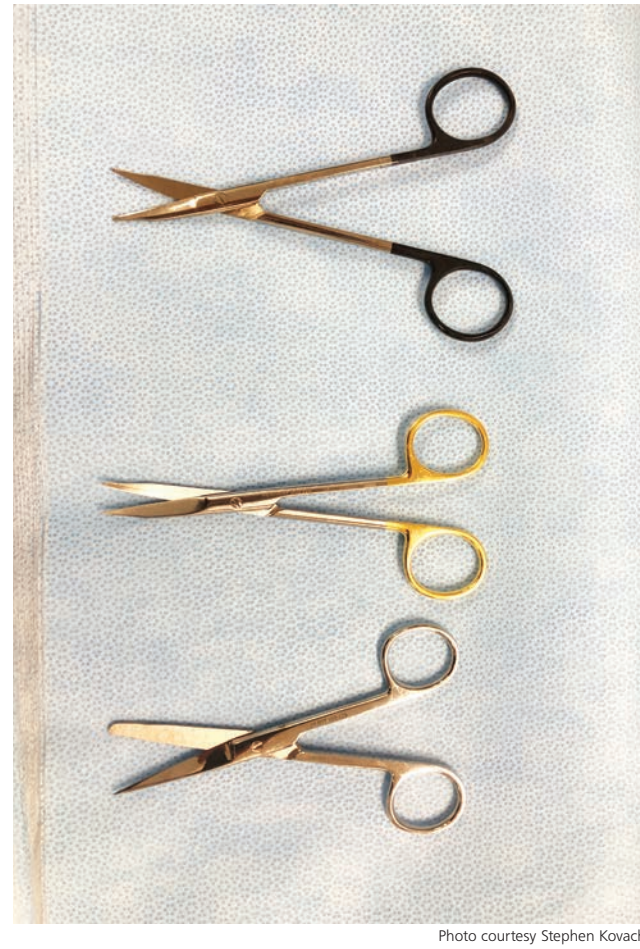

Photo courtesy Stephen Kovach

As you can see by the picture, once you know the color coding it is easy to identify the correct type of scissor sharpness that can be requested by a surgical team member. **HPN**

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Mentorship builds strong leadership skills, confidence & competence

by Julie E. Williamson, IAHCSMM Communications Director/Senior Editor

In virtually every profession, employee mentorship can lead to notable benefits that affect not only the mentee but also their leaders, co-workers and the entire organization. It stands to reason then why mentorship deserves a solid place in the healthcare setting—where patient outcomes and customer service hinge on employees' ability to perform their roles safely, effectively and in strict accordance with standards and guidelines, instructions for use (IFU) and internal policies and procedures.

In its simplest definition, mentorship typically involves taking a less experienced individual under a more experienced person's tutelage and helping them strengthen their knowledge and hands-on skills to become more confident and competent in their roles. When appropriately applied, mentorship can be a vehicle for professional advancement and, perhaps, elevate certain employees to leadership positions.

"Mentors within the Sterile Processing environment are an essential aspect of employee skill development and strengthening, and demonstrating in a positive, influential manner the correct way of doing things," said Natalie Lind, CRCST, CHL, FCS, IAHCSMM's Director of Education. "It's important that departmental leaders are aware of the employees with strong skills and work ethic who would make effective mentors and help their teammates grow and advance."

Mentoring Benefits to the SP Leader	Mentoring Benefits to the Facility
Helps improve communication skills	Helps develop leaders
Teaches how to maintain a professional relationship	Sends a message that the facility develops its leaders
Increases confidence	Fosters employee retention
Increases contacts within the facility	Promotes leadership education
May increase contacts outside of the facility	Reduces training costs
Helps understanding of facility culture	Helps achieve employee development goals
Provides practice accepting feedback	Ensures well-rounded leadership development
Helps see leadership from another perspective	Improves acquisition efforts

Don't get hung up on hierarchy

It's a common assumption that departmental leaders make the best mentors due to their experience. While they are a logical choice when looking to develop future supervisors or managers, many organizations find that skilled, quality- and safety-focused technicians can also become highly effective mentors and informal leaders. These individuals aren't necessarily the employees who have been in the department the longest, either. Instead, it could be any dedicated employee who consistently demonstrates their commitment to the department and doing what's right, even when pressure mounts and challenges arise.

Effective SP leaders spend quality time on the department floor each day—outside their office—so they can witness employees in action. This allows them to gain a clearer picture of the tasks that pose the greatest challenge to technicians (and which may require further training), the employees who routinely give their all and are intently focused on the task at hand and those who are quick to help their teammates whenever needed. Would-be mentors may stand out from the crowd due to their strong attendance and on-time record, their commitment to continuing education and certification, and their specialized knowledge or demonstration of task efficiency. Ideally, they will consistently show integrity and enjoy learning and tackling new challenges, be helpful but not bossy or condescending and serve as the person their co-workers naturally seek for guidance, input or assistance. They may be a lead technician or a Certified Instrument Specialist, or they may even be a relatively new technician who has quickly mastered a certain skill (e.g., wrapping) that can benefit the rest of the team.

Succession planning isn't replacement planning

Some departmental leaders avoid mentoring up-and-coming leaders because they fear sharing their knowledge could lead to their own replacement. In reality, mentorship can play a key role in succession planning, which is an integral part of leadership development and protects the organization if the leader becomes unavailable due to illness, promotion/career advancement or another factor. All SP leaders need a plan that encompasses their duties and identifies how those duties would be shared in the event they are unable to perform them.

Source: IAHCSMM Central Service Leadership Manual, Third Ed., Chapter 6

A newly assigned "official" mentor should be given clear direction from their manager before they assume their more focused mentorship duties. They may require some additional training (this can come from departmental leadership, the SP educator, or even Human Resources if the organization has a formal mentorship program in place). Informal and impromptu mentorship can also be beneficial, however, and should be encouraged by departmental leaders, especially since they cannot always be available when needed across all shifts. If an employee sees a co-worker struggling with a process, skipping a step, or doing anything else that goes against standards, policy, IFU or best practice, they should immediately step in and respectfully explain and/or demonstrate the proper way (and the "why" behind it). If the mentored employee isn't receptive to the advice or continues to engage in unsafe or improper practices, the mentor should privately address the situation with the department's leadership.

"Every employee has the power to make a difference for their colleagues and the customers and patients they serve," noted Lind. "It's important that each employee, regardless of their experience or title, feels they are supported in sharing what they know is right and helping their co-workers when needed. In healthcare, keeping knowledge and information close to the vest is not just unhelpful; it can be downright dangerous and could negatively impact patient and employee safety." HPN`

Value-based procurement: What's in it for provider supply chains?

The answers are CLEAR – no hardball

by Brian Mangan, MSc, FCIPS, and Randy V Bradley, Ph.D., CPHIMS, FHIMSS

Photo credit: bakhtiarzein | stock.adobe.com

Before life with social distancing and face masks, you may remember that health systems were already straining under the weight of increasing demand and the push towards improved patient outcomes and experiences. All of this was set against a backdrop of limited financial and human resources. To date, healthcare procurers globally have responded to these challenges largely by playing "hardball" with suppliers to drive down product prices.

As time in the COVID-19 capsule progresses, healthcare procurers have continued to flex their procurement muscles by leveraging common tools of the trade, such as standardization, aggregation and price-weighted competitive tendering. As a result, procurement professionals are in danger of becoming victims of their own success.

Essentially, once you've won the race to the bottom on price, where do you go next?

Another issue is the limited, if not non-existent, impact of price-based strategies on the numerous emerging supply chain problems highlighted by the COVID-19 pandemic. This healthcare and social crisis has amplified the need for rapid and radical change in the way we deliver healthcare. The key areas in need of special attention include:

- **Pathway and patient flow inefficiency –** As health systems seek to address the backlog of patients and increased cost of care caused by the cancellation of elective procedures;
- **Supply chain fragility** – A lack of product demand transparency, supply visibility and price-down strategies have exposed supply networks that are long, have numerous weak links and have tremendous points of vulnerability due to a lack of supply chain investments and increasing consolidated manufacturing in low-cost countries.
- **Product saturation –** Due to high levels of safety stock accumulated during the crisis, traditional procurement savings workplans will be slowed. Given the stockpiling of products and supplies by provider organizations, there will be fewer opportunities to go to suppliers with a request to reduce product costs across certain categories. This inability to ask for and receive year-over-year product cost reductions will create a gap in hospitals savings plans initially in the post COVID-19 environment.
- **Slow pace of innovation –** Health systems are now reaching out to the market to identify virtual care, virtual triage and remote patient monitoring solutions that can help keep patients out of the hospital, expedite treatment and radically reduce readmission rates. What this creates is a situation where procurers, who are traditionally risk adverse, are expected to change their behaviors and natural instincts and be more agile purchasing agents that take risks when working with suppliers to adopt innovation quickly to address the challenges of COVID-19. Further complicating this unrealistic expectation of procurers (at least in the short term) is that they lack subject matter expertise and fundamental understanding of these types of innovative solutions for which we're asking them to spearhead the negotiation process.
- **Lack of focus on customer service –** We continue to see where patients are no longer willing to make a distinction between industries when considering their experiences. As such patients are holding hospitals to the same or similar standards as they hold their favorite pizza chain or e-tailer. So considering the focus on virtual care to help offset the capacity constraints created by continuing surges in COVID-19 cases, products and services are now being delivered to the home setting or some other setting other than the hospitals. This means that getting the right products, at the right time, and in the right quantity into the "back door of the facility" can no longer be the standard for assessing supply chain efficiency. Hospitals now must reimagine their distribution networks, and this includes how they negotiate and partner with suppliers to assist with the best channels to utilize to ensure the right patient receives the right products, at the right time, and in the right quantity and quality. This could mean negotiating different [Freight On Board] terms for products going direct to patient versus those going direct to the facility. Nevertheless, this challenge is going to require hospitals to take a totally different approach than they're accustomed to as this new environment creates more direct interaction between procurement professionals and patients than the pre-COVID-19 world.

The adoption of value-based procurement (VBP) is an alternative approach that could significantly aid health systems in addressing these challenges, providing job

enrichment for purchasing professionals. How, might you ask? Much of the work in healthcare procurement is largely tactical, routine, and product based. VBP requires a strategic approach, where procurement professionals must think differently, utilize relationship and change management skills. Additionally, procurers will be better able to contribute to health system's strategic goals (e.g., improved patient outcomes and asset utilization) instead of merely contributing by way of temporal efficiency gains and cost savings. With health systems actively exploring the adoption of VBP in the U.S., Europe and the U.K.,[1] such an approach is worthy of consideration. What follows represents an overview of the challenges and opportunities VBP presents to providers. This article is Part 1 of a series in which we will also discuss the challenges and opportunities VBP presents for suppliers, payers and finally patients.

Navigating the VBP minefield

Value-based procurement is essentially life-cycle costing for healthcare. The focus moves to maximizing efficiency across patient pathways from clinging to price/product. The attraction? From a commercial perspective it's an opportunity to save 10 percent of the cost of a $5,000 procedure rather than 10 percent of a $1,000 product. Operationally, the healthcare facility generates spin off benefits of improved efficiency and throughput by focusing on the patient pathway instead of the product.

So, the question you may be asking is, if this approach is so good and relevant to today's environment why isn't VBP common practice across healthcare? Here are two reasons why VBP hasn't received sufficient traction in provider organizations, although variants of it are successful in other industries.

Take for example, the high-tech and logistics industries. Dell and FedEx agreed to a value-based arrangement in which FedEx Supply Chain would be Dell's service provider. As part of the initial arrangement, Dell wanted FedEx Supply Chain, by way of its operations and investments in innovation, to continually reduce costs in adherence to Dell's "every dollar, every year" mantra. FedEx Supply Chain was rewarded for enhancing its profitability through its services, whereas Dell was rewarded for getting the lowest costs. This arrangement proved problematic as FedEx Supply Chain took much of the risk at a set price with no guarantee of return-on-investment within the three-year contract term, and FedEx Supply Chain grew frustrated with Dell's requests to renegotiate the three-year agreement every six months.

Ultimately, Dell and FedEx Supply Chain entered into a VBP contract that ensured their interests were aligned. The approach added costs to FedEx Supply Chain, but FedEx Supply Chain was amenable to the arrangement because as it helped Dell save money and use fewer parts, FedEx Supply Chain also won. How, exactly, did FedEx Supply Chain win? Dell recognized that its request would be burdensome to FedEx Supply Chain, so Dell agreed to its service provider for investing in innovation and process improvements, as well as offered additional incentives for waste reduction.

Challenge No. 1: Lack of understanding how to sell and buy value

It has been said that "value is in the eye of the beholder." With multiple stakeholders across healthcare and non-healthcare industries, the potential scope for interpretation expands. To address this, the first stage for a VBP project is to set out clearly what value means to your health system. This can be achieved by mapping current processes, highlighting areas of challenge or opportunity, the cost associated with the processes and the step change targets that you need to make a difference. For example, in orthopedic hip replacements, saving 30 minutes of OR time could enable delivery of care to additional patients, thereby generating more revenue. Anything less would be an intangible benefit.

Challenge No. 2: Trust

A lack of transparency exists in terms of what health systems value and what suppliers can do to support realization of the value. Unfortunately, the status quo is incentive misalignment wherein which the procurer is incentivized to get the lowest unit cost while the supplier's representative is incentivized to secure certain volumes and/or at the highest potential price. The result is a "sales pitch" that offers the world at a fraction of the cost (which won't be realized), while the suppliers experience perceived high-profit margins.

Another supplier tactic that inhibits trust in the buyer-supplier relationship is bundling highly discounted extra services that require buying certain higher-cost/premium peripheral products or the inclusion of support services as a kicker if you hit a specified level of spend. Whether perception is reality or not doesn't matter. This approach continues to fan the flames of mistrust in the mind of procurers.

Based on our experiences, value-based proposals from suppliers have been viewed by procurers as a ploy for premium pricing but nestled deep within the fine print of accepting ancillary support products, rather than the delivery of innovation and benefit to the health system. On the other side, value-based requests from procurers have come across as scattered and incomprehensible.

The path forward: A CLEAR frame of reference

However, procurers and suppliers can reconcile these points of contention and ensure mutual value by conditioning each party to collaboratively adhere to "CLEAR" principles.

Concise - Information supplied should be concise and follow the guiding elements outlined below.

Linear - Map out the patient pathway and identify the challenges that need to be addressed by the solution and how all stakeholders benefit when successful.

Evidence - Provide references to "real-world" evidence where the solution has delivered tangible and measurable benefits consistent with the goals of the health system. In cases where the health system is uncertain of what value means, suppliers should use this evidence to help health systems design specific value definitions and metrics.

Avoid - Overstating savings claims/productivity benefits using fractions of time to forecast productivity gains.

Results - State how the improvement in clinical/operational results can be isolated to show a direct correlation to the supplier's solution.

This approach basically boils down to contracting for value. Though relatively foreign in healthcare, contracting for value is more common in other industries.

McDonald's is a well-known global brand, but many may not be aware of its unwavering belief that everyone in the McDonald's "system" (including its suppliers) can and should win. This is at the heart of McDonald's strategy to consistently contract for value (for all parties involved). In line with this strategy, McDonald's refuses to conduct business with strategic suppliers on a transactional relationship – but instead insists suppliers have long-term relationships that drive business value and achieve McDonald's key business outcomes. This continues to result in McDonald's having

set the standards in food quality, safety and assured supply.

For instance, Cargill, one of McDonald's strategic suppliers, states that "the trust and confidence in the future means we shift a majority of our resources to driving innovation, quality, supply chain optimization and investing in future growth initiatives". The approach requires a partnership mentality that espouses a "what's in it for we" mantra, which creates an ideal framework from which to build a value-based procurement program (not just a single contract).

To be successful, health systems, their procurers and suppliers must work collaboratively to CLEARly define the value to be delivered, how improvements (whether direct or indirect) will be attributed to the supplier's solution/intervention and how this will be measured. Further, simplicity over complexity, transparency over opaqueness, strategic over transactional relationships and leadership within and outside the supply chain function are key to developing long-term value-added partnerships. Maintaining the status quo is not an option if we are to deliver sustainable healthcare for the 21st century and beyond. As Charles Darwin suggested more than 150 years ago, "It is not the strongest of the species that survives, nor the most intelligent that survives. It is the one that is the most adaptable to change, that lives within the means available and works cooperatively against common threats." HPN

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Visit https://hpnonline.com/21234509 for references.

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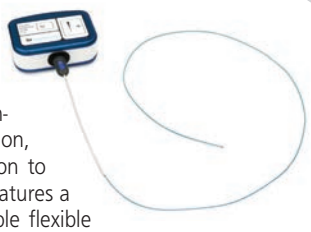

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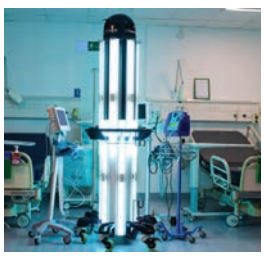

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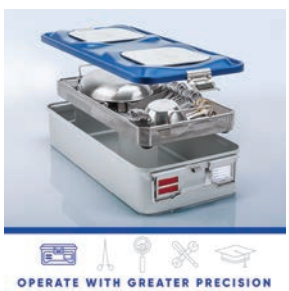

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Top 10 insights, oversights for leadership, succession planning

by Karen Conway

The past 18 months have been challenging for people around the world, but perhaps none more so than healthcare administrators, clinicians, executives, staff members and workers. What impact has the pandemic had on the healthcare supply chain workforce, and in particular, its leaders?

Veteran healthcare supply chain consultant Jamie Kowalski recently completed another survey exploring the state of supply chain leadership and whether the talent and development pipeline of future leaders is adequate. In late July, Kowalski shared results of the survey as part of the 2021 Healthcare Supply Chain Leadership Forum presented by Bellwether League Foundation, which he co-founded 14 years ago and now serves as a member of its board.

While it is impossible to share the survey's full insights in a single column, I highlight below what can be considered among the top 10 findings. These include a view into how the results have changed since the last survey, which was conducted five years ago in 2016, and where things have remained the same despite the pandemic, other significant shifts driven by the move to a value-based healthcare system and finally what's new.

First, a bit about the respondents. The majority hold positions at the Vice President level or higher, with nearly half working at systems with six to 20 hospitals, and another 30 percent at organizations with more than 20 hospitals.

What's changed?

1. **A little less seasoning.** Over the past five years, there has been a notable reduction in the number of seasoned supply chain leaders. The number of respondents in leadership positions five years or less has grown 2.5 fold, while those in leadership roles more than 20 years dropped by more than 46 percent.
2. **Lack of awareness.** Despite a significant percentage of supply chain leaders planning to retire within six years, the percentage of executives aware of those plans dropped significantly. A notable 27 percent of executive level leaders were unaware of their supply chain leaders' plans, compared to just 18 percent five years ago.
3. **Ready, set, no?** Of even greater concern is the fact that almost three times the percentage of supply chain leaders currently compared with 2016 doubt that the person they are mentoring to be their successor will be ready by the time they plan to retire.
4. **Rent a leader.** The past five years has seen a three-fold increase in the number of supply chain respondents who believe that contracting with a third party to fill the leadership role is a viable solution. A majority of those responding said their group purchasing organization (GPO) would be a likely resource to find that contracted leader.

What stayed the same?

5. **A Master's class.** The percentage of supply chain leaders holding a master's level education has remained relatively the same over the past five years. A new question asked this year revealed that more than three-quarters of supply chain leaders believe a master's degree, and in particular, an MBA, is a *requirement* for a supply chain leader.
6. **Retirement planning.** The length of time before today's supply chain leaders plan to retire remained relatively the same, as in 2016, when that percentage was 38%, the survey found.
7. **On the job training.** The time supply chain leaders believe it will take to fully prepare their chosen successor for the job remained relatively the same, with more than two-thirds saying 1-3 years.

What's New

The survey also compared the results of questions answered by both the C-suite executives and their supply chain leaders and found some interesting similarities and differences.

8. **Skills assessment.** While supply chain leaders overwhelming believe leadership and management skills are more important than technical supply chain skills, when asked about specific skills, they still resorted to more supply chain-specific capabilities, e.g., the application of supply chain technology and tools, value analysis and contracting. Executives instead keyed in on visioning, team leading and selling of the supply chain vision and strategy.
9. **Character alignment.** The two types of leaders – executive and supply chain – did align on traits, with both emphasizing the personal character, e.g., ethics, integrity, accountability, along with the ability to see the big picture and drive results.
10. **Write it down.** Perhaps of most concern is that less than half of the respondents have a formal, written supply chain leader succession plan.

The survey goes into further details on how the respondents believe it is best to train and develop future leaders, including how they can leverage both internal and external resources. Given the timing, the survey also goes into detail, including open ended responses, on how the respondents believe they and their supply chain partners performed during the pandemic and specific areas they are prioritizing for improvement. HPN

For more information on the survey, visit Bellwether League Foundation at www.bellwetherleague.org.

Karen Conway works to advance the role of the supply chain as a critical enabler in the pursuit of a value-based healthcare system. As Vice President, Healthcare Value, for Global Healthcare Exchange (GHX), Conway explores how the supply chain and improved data quality and visibility can support understanding of what increases value for patients and to those organizations that develop and deliver healthcare products and services. Conway also serves on the Advisory Council of Bellwether League Foundation. She can be reached at kconway@ghx.com.

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Lingering pandemic tests healthcare's collective resolve

by Janet Pate, JD, MHA, BSN, RN

As we look back at the last 18 months, it is astonishing to see the changes that have occurred in healthcare. Throughout the last few years, we have survived severe epidemics and wondered not if, but when, the next would occur.

Unfortunately, most were not expecting COVID-19, which quickly rose to a pandemic and continues to be a threat all over the world. With the pandemic, shortages have occurred in hospital bed availability, employee resources, equipment, personal protective equipment (PPE), patient care supplies, cleaning supplies and medications. Not only were there medication shortages, but many had to be developed, including the current COVID-19 vaccinations. It would have been near impossible to project the challenges that we have faced in healthcare and society.

The pandemic resulted in the provision of healthcare in ways we could not have imagined. As healthcare providers, the changes that needed to be made often coincide with the processes and culture that everyone was trained to do for so many years. The conservation of PPE, including the reuse of masks, cleaning gloves and many other examples have been staggering, especially to infection preventionists. If asked prior to the pandemic, most infection preventionists likely would have never agreed to the processes that today we perform out of necessity. Although we have seen some improvement in the availability of many supplies, it is still vital that everyone understands that the shortages are not over and with COVID cases increasing again at press time, we could be returning to a similar situation that we experienced during 2020 and early 2021.

Retain the fundamentals

It is vital to continue meeting regulatory standards and guidelines during this crisis and not sacrifice patient care and patient safety. Everyone is learning how to perform tasks in different ways and with various resources. Keeping this in mind, it is important to strive to comply with these standards and make every attempt to get back to the basics of patient care delivery.

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Now, as many facilities are beginning to reopen, they will face challenging times and many issues that need to be overcome. Procedures and elective surgeries will increase. Questions will arise regarding COVID testing of patients prior to procedures and surgeries. Will the facility allow visitors and, if so, with which patients and how many? What will visitation processes be?

Infection prevention practices should always include hand hygiene, appropriate PPE, OSHA standards compliance and adherence to CDC guidelines and regulatory standards. If changes were made related to PPE or other resources, it is important to return to standard compliance as soon as possible. For example, most facilities can obtain PPE more readily than before, so it would be appropriate to cease reusing or disinfecting masks – particularly if mask availability has increased.

Regardless of pandemic protocols, it remains critical to ensure cleaning, disinfection or sterilization of instruments is performed according to guidelines. OSHA standards for the transportation of contaminated instruments should be followed. The organizational policy for the appropriate handling of contaminated instruments should follow the standards and guidelines. If it does not, the policies should be updated, and the employees educated on the changes.

Miles to go

The pandemic is not over yet. Going forward, it is important to evaluate lessons learned and strategically plan how to correct mistakes during this pandemic in preparation for the next surge, pandemic or crisis. There are many opportunities that can be addressed. Corrective action plans should be developed.

Conduct meetings with the front-line employees to learn real-life experiences and what could have been done differently. Organize team meetings and activities in all departments. It may be surprising to learn the struggles the employees have overcome and to listen to their suggestions for long-term solutions. Sometimes the front-line employees are forgotten or overlooked in problem-solving activities when the entire facility is in an emergency state. Often, there are simple solutions to large problems when employee input is solicited.

A high-reliability organization will take a proactive approach to solve the issues that are in their direct control and look for solutions to address the ones that are not. One thing is for sure, when this pandemic is over, another one is on the horizon! HPN

Janet Pate, JD, MHA, BSN, RN, has more than 30 years of experience in healthcare administration in hospital and ambulatory settings. Her hospital roles include Clinical Director and Operations Leader. In the ambulatory clinics of a large university health system, Pate served as the Director of Infection Prevention, Central Sterile, Employee Health and the Environment of Care and Safety for 20 years. She currently remains in the health system as the Director of Environment of Care and Safety. Pate also works as a nurse consultant and educator for The Ruhof Corp. She is a member of the Healthcare Purchasing News' Editorial Advisory Board.

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Saves clinician time

- All-in-one system does not require additional supplies
- Enables quick and easy site assessment

Works the way you want

- Bendable inner core can be shaped to desired position
- Plush material and padding improve patient comfort

Helps you provide care without compromise

- Dale products mean quality performance which ultimately saves time and cost
- Inferior products require more frequent replacement
- Fosters greater patient satisfaction

Always Reach for Something Better
For a free sample of the Dale Bendable ArmBoard, call 800-343-3980. Learn more at **dalemed.com**.

Dale®
Always Better