$7.00

September 2020 • Vol. 44 No. 9

HEALTHCARE PURCHASING NEWS®

CLINICAL INTELLIGENCE FOR SUPPLY CHAIN LEADERSHIP

www.hpnonline.com

Sponsored Content

Reasons Why You Should Standardize with Exergen TA Thermometers

Exergen TAT-5000S Connected Models are now Available on Leading Vital Signs Monitors for EHR Data Integration

Philips SureSigns VS4

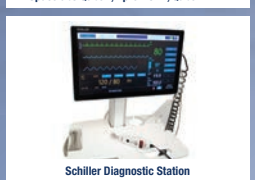
GE Healthcare VC150, V100, Corometrics

Mindray Accutor 7 Vital Signs Monitor

ZOE 740Select

Spacelabs Qube®, Xprezzon®, Qube® Mini

Nihon Kohden SVM-7200



Schiller Diagnostic Station

Capsule SmartLinx Vitals Plus

Exergen's Value Proposition:

- **Improve Patient Outcomes -** More than **80** peer-reviewed published studies supporting accuracy from preemies to geriatrics in all areas of care.
- **Improve Patient Safety -** No probe covers that can break, as often occurs with oral thermometers.
- **Increase Efficiencies -** Non-invasive temperature collection can be utilized on virtually any patient situation; therefore, **one thermometer can be used throughout the facility**.
- **Attractive Payback -** Elimination of probe covers and repair costs, and easily affordable acquisition costs results in **less than one year payback** for standardizing with the Exergen TA thermometers.
- **Lifetime Warranty -** Unmatched in the market.

Contact HPN:

email: hpn-subscriptions@endeavorb2b.com /phone: 941-927-9345 / fax: 941-927-9588

EXERGEN

TemporalScanner™

For more information:
please call 617-923-9900 x6234,
email: medical@exergen.com,
or visit: www.exergen.com

Renewing the Oldest Vital Sign

Temporal Artery Thermometer validated by more than 80 peer-reviewed published clinical studies

By Francesco Pompei, Ph.D.

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

Today's patient expectations

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

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

Back to the future

As inventor of much of the ear thermometer technology in use, Exergen was asked by physicians to reconsider non-invasive thermometry, since ear thermometers were not an acceptable solution to the patients' requirement for non-invasiveness and the clinicians' requirement for accuracy. Within this context we re-examined the medical science of fever assessment, going back not 50 years, but 5000 years, to the hand on the forehead. Although never precise enough for clinical accuracy, laying a hand on the forehead provided useful fever indications under certain conditions, and was safe, gentle and a reassuring caress for the patient. Preserving these desirable attributes while making the measurement robust and reliably accurate for clinical use for all ages was the challenge. Our mathematical models indicated we needed to find an easily accessible external skin surface with high and consistent perfusion. We found this property at the superficial temporal artery, where it traverses the forehead. A measurement modality was developed based on scanning the temperature of the skin over the temporal artery, and with proprietary algorithms we could then accurately compute the internal core temperature, for all ages, under essentially all clinical conditions, as validated by more than 80 published clinical studies. In the past ten years Temporal Artery Thermometry has become widely accepted and is responsible for about 2 billion temperatures per year by medical professionals in the US, a very good start in reducing the number of probe insertions into body cavities and improving the clinical experience for both patients and clinicians. Nearly ten million consumers have home versions for their personal use.

Future with zero cost and zero waste

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

Dr. Francesco Pompei is founder and CEO of Exergen Corporation, and holds nearly 100 patents in non-invasive thermometry for medical and industrial applications. Earning BS and MS degrees from MIT, and SM and PhD degrees from Harvard, Pompei also served as Research Scholar in the Department of Physics at Harvard in cancer research for 15 years.

Exergen Corporation
400 Pleasant Street
Watertown, MA 02472

For more information, please call 617-923-9900 x6234,
email: medical@exergen.com, or visit: www.exergen.com

Access clinical studies: www.exergen.com/s

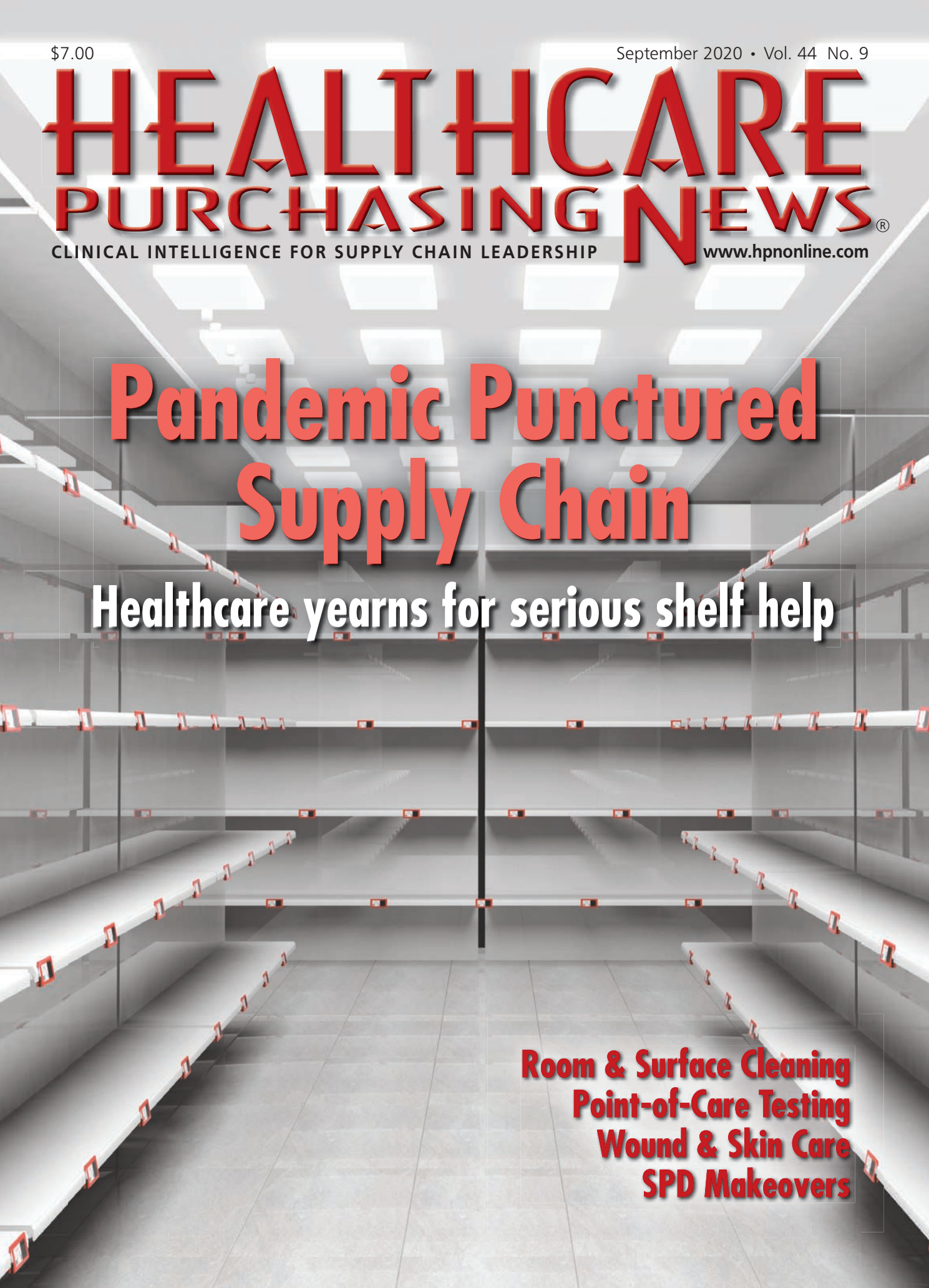
$7.00

September 2020 • Vol. 44 No. 9

HEALTHCARE PURCHASING NEWS®

CLINICAL INTELLIGENCE FOR SUPPLY CHAIN LEADERSHIP

www.hpnonline.com



Pandemic Punctured Supply Chain

Healthcare yearns for serious shelf help

Room & Surface Cleaning
Point-of-Care Testing
Wound & Skin Care
SPD Makeovers

RUHOF

NOW MORE THAN EVER...

Choose the Most Effective Cleaning Solutions

In these uncertain times we extend our appreciation for healthcare workers doing the critical work of cleaning surgical instruments and endoscopes to prevent HAIs and promote patient and staff safety in their respective facilities. Now more than ever it is necessary to use efficacious cleaning chemistries and scope reprocessing products like the many solutions offered by Ruhof.

Visit us online or contact us for details.

1-800-537-8463
WWW.RUHOF.COM

CLEANING VERIFICATION

PRE-CLEANERS

SURFACE DISINFECTANTS

DETERGENT DELIVERY

CLEANING CHEMISTRIES

SCOPE REPROCESSING

AD-59 060520

Visit www.ksrleads.com/?009hp-010

IN THIS ISSUE...

September 2020 • Volume 44, No. 9

HEALTHCARE PURCHASING NEWS

Photo credit: viperagp | stock.adobe.com

Photo credit: kamonrat | stock.adobe.com

Photo credit: Thunderstock | stock.adobe.com

Photo credit: Kat Velex | LeeSar

Photo credit: jarun011 | stock.adobe.com

SPECIAL FOCUS

OPERATING ROOM

INFECTION PREVENTION

CS CONNECTION

PRODUCTS & SERVICES

EXPERT EXCLUSIVES

800,000 life-saving CABGs
40 years of collaborative innovation
1 shared goal: advancing patient care

Getinge, at the heart of the CABG patient

For more than 40 years we have shared your goal of advancing coronary artery bypass graft (CABG) surgery, the standard of care for revascularization of patients with coronary artery disease[1]. The CABG patient of today presents new challenges and has specific resource requirements, from pre-operative stabilization to intra-operative treatment and post-operative recovery. **Explore how we can help you provide the best care for today's CABG patient.**

1. European Heart Journal, Volume 34, Issue 37, 1 October 2013, Pages 2862–2872, https://academic.oup.com/eurheartj/article/34/37/2862/503604.

Explore by scanning the QR code or visit **getinge.com/cabg**

GETINGE

SKU'd

Digital divide, virtual vexation

Imagine if we all hopped aboard our exchange cart time machine and traveled back to those analog days of summer before the World Wide Web was opened to the public.

In fact, let's mosey back several decades earlier to before the Internet or even the ARPANET was accessible to collegiate/university and military installations. Say we distract fellow innovators like J.C.R. Licklider, Vint Cerf, Leonard Kleinrock, Lawrence Roberts and the rest of the "online posse" in the 1960s with parties, rock-n-roll and stock car races so that by the year 2020 we likely still enjoy "free" analog TV and radio, print catalogs and media, and our wireless "smart" phones are the size of Shaquille O'Neal's size 22 Reebok Shaq Attaq high-top basketball sneakers.

Apple remains a fruit because we love "Big Blue" IBM, Radio Shack and Texas Instruments; Amazon remains a mail-order book warehouse looking to expand and compete with the Big Box stores; Google would be a not-so-clever college project misspelling the enormous number concept (that's "googol" for those not in the engineering, mathematics, scientific or "Jeopardy!" communities) and no one likely would give much credence to such cinematic delights as "TRON" in 1982 or "WarGames" in 1983!

Fast forward to 2020 … Viral Wars: The Pandemic Strikes Back. We can't order and shop, educate and entertain ourselves online because we're all achingly analog!

Sure, we'd still have "delivery" by telephone. Work-from-home? Only if we're trade laborers, farmers or artisans.

What a relief in reality that we – clad in face masks, brandishing bottles of hand sanitizer and rare collector's item disinfectant wipe containers – can function at work and at play within the confines of the interwebs.

As the pandemic tightens its grip around the equatorial neck of the world with both microbial claws, and the global population whipsaws between not enough sensationalized COVID-19 coverage and too much doomsday COVID-19 exposure, we're constrained by quarantines and travel restrictions.

Curiously, many in healthcare question the decision of all the educational conferences and trade shows migrating to virtual events instead of remaining "live."

Earlier this summer *Healthcare Purchasing News* included several virtual conference and trade show questions in its annual readership survey just to gauge what people were thinking and why.

More than 56 percent of respondents said they didn't plan to participate in any virtual event. We provided 10 reasons from which to choose and allowed them to write in their own 11th option.

- 53.59 percent: Inability to feel and touch product samples on display
- 44.73 percent: Proximity to on-the-job demands, urgent business may take precedence more frequently than physical attendance away from work.
- 34.60 percent: Don't feel commitment, urgency to visit trade show virtually as I would a live event in a different location.
- 29.96 percent: Inability to socialize with many colleagues and friends; meeting new ones.
- 29.11 percent: Lack of one-on-one access to available speakers and thought leaders.
- 28.69 percent: Connecting with company representatives digitally/virtually too impersonal versus face-to-face.
- 22.36 percent: Prefer to travel somewhere to get away from colleagues, work, sample new cuisine, new locations.
- 16.03 percent: Problems with internet reliability (e.g., bandwidth, connectivity, speed, etc.).
- 15.19 percent: Distractions from family needs if engaging/viewing from home office.
- 10.97 percent: No (freebie) swag to collect.
- 6.75 percent: Other, which tended to be variations on the above.

Some felt they would have to take an "educational" day or vacation day to attend a digital/virtual event. A newly freed live event schedule can become quickly filled with something else. There's always something else to fill the void. These days, much of one's availability hinges on pandemic-related events and patient load.

But the rallying cry of the year emerged from a pro in Texas: "Too busy to watch at work. Too tired to watch at home." Anthem of the age, for sure.

EDITORIAL

Publisher/Executive Editor *Kristine Russell*
krussell@hpnonline.com
Senior Editor *Rick Dana Barlow*
rickdanabarlow@hpnonline.com
Managing Editor *Ebony Smith*
esmith@hpnonline.com
(941) 259-0839
Contributing Editors *Kara Nadeau*
knadeau@hpnonline.com
Susan Cantrell
susan_cantrell@bellsouth.net

ADVERTISING SALES

East Coast *Blake and Michelle Holton*
(407) 971-6286
Midwest *Randy Knotts*
(312) 933-4700
West Coast *Blake and Michelle Holton*
(407) 971-6286

ADVERTISING & ART PRODUCTION

Ad Contracts Manager *Tiffany Coffman*
(941) 259-0842
Graphic Design *Tracy Arendt*
List Rentals *Laura Moulton (941) 259-0859*

SUBSCRIPTION RATES

Annual Subcriptions (prepaid only) **Discounts:**
U.S.: $120.00 **Canada/Mexico:** $155.00 2 yrs: 10%
Foreign A/O: $221.00 **Digital Subscription**: $60.00 3 yrs: 15%
Current Issue
U.S.: $15.00 **Canada/Mexico/Foreign A/O:** $20.00
Back Issue
U.S.: $17.60 **Canada/Mexico/Foreign A/O:** $22.00

CHANGE OF ADDRESS

Subscribers: For change of address, send your old and new addresses to *Healthcare Purchasing News*, 2477 Stickney Point Road, Suite 315B, Sarasota, FL 34231. Fax: (941) 927-9588, Email: *hpn-subscriptions@endeavorb2b.com*. Allow 4 to 6 weeks for correction. All other inquiries, call Tiffany Coffman at (941) 259-0842.

CORPORATE TEAM

Healthcare Purchasing News (ISSN: 1098-3716) is published monthly

ENDEAVOR BUSINESS MEDIA

CEO Chris Ferrell
CRO/CMO June Griffin | **CFO** William Nurthen
COO Patrick Rains | **Chief Administrative and Legal Officer** Tracy Kane
EVP Special Projects Kristine Russell
EVP Key Accounts Scott Bieda

by Endeavor Business Media, 2477 Stickney Point Road, Suite 315B, Sarasota, FL 34231, Phone: (941) 927-9345, Fax: (941) 927-9588, *www.hpnonline.com*, Business hours: 8:00 a.m.-5:00 p.m. EST.

Office of publication: Periodicals Postage Paid at Nashville, TN 37209 and at additional mailing offices.

Postmaster: Send address changes to: *Omeda (Healthcare Purchasing News)*, PO Box 3257, Northbrook, IL 60065-3257.

VERIFIED AUDIT CIRCULATION

Printed in USA
Paper manufactured in USA
Soy ink made in USA

Sterile. Ready when you are.

Ambu® aScope™ 4 Broncho

Now featuring a new full-HD monitor.

Your hassle-free bronchoscopy solution
An integrated, ready-to-go single-use solution with Ambu® BronchoSampler™ and Ambu® aView™ 2 Advance

The smarter solution for enhanced patient safety
Sterile and always available - improves safety, workflow and productivity

Spend time on your patients rather than your equipment
You always have a single-use bronchoscope available when you need it

Learn more at ambuUSA.com/aview-2-advance

Ambu
Ideas that work for life

Photo credit: Gargonia | stock.adobe.com

380,174

total child COVID-19 cases were reported by 49 states

501

cases per 100,000 was the overall rate of children in the population

179,990

new child cases were reported from July 9 to August 6 (200,184 to 380,174), a 90% increase in child cases over four weeks

3 TO 12

percent of total state tests were done for children, and 3.7 to 18.6 percent of children tested were positive

0.5 TO 5.3

percent of total reported hospitalizations were children, and 0.3 to 9 percent of all child COVID-19 cases resulted in hospitalizations

0 TO 0.4

percent of all COVID-19 deaths were children, and 19 states reported 0 child deaths

15,000+

cumulative child cases were reported in 7 states

5,000+

child cases were reported in half of the states

Reference: Children and COVID-19: State Data Report: A joint report from the American Academy of Pediatrics and the Children's Hospital Association Summary of publicly reported data from 49 states, NYC, DC, PR, and GU Version: 8/6/20: https://downloads.aap.org/AAP/PDF/AAP%20and%20CHA%20-%20Children%20and%20COVID-19%20State%20Data%20Report%208.6.20%20FINAL.pdf

NEWSWIRE

Premier, Inc. restructures eliminating dual-class structure to simplify ownership

Premier, Inc. announced that it has completed a corporate restructuring to eliminate its dual-class ownership structure, through an exchange under which Premier's member-owners converted their Class B units in Premier Healthcare Alliance, LP and corresponding Class B shares of Premier into shares of Premier Class A common stock, on a one-for-one basis, thus simplifying its financial reporting. The company also terminated its Tax Receivable Agreement (TRA) with its member-owners by accelerating those payment obligations at a discounted value as provided in the TRA. The company noted that members representing more than 99 percent of its member-owner gross administrative fees agreed to the corporate restructuring and termination of TRAs.

The company also announced that, separately, it has entered into amended Group Purchasing Organization (GPO) agreements with the vast majority of its member-owners. The amended GPO agreements are expected to support sustainable, long-term growth of net administrative fees revenue and enhance the company's flexibility to invest in strategic initiatives to deliver additional value for members and stockholders.

Federal initiative to transform rural healthcare announced

The Community Health Access and Rural Transformation (CHART) Model has been announced as part of the Improving Rural Health and Telehealth Access and Centers for Medicare and Medicaid Services' (CMS') Rethinking Rural Health initiative. Collectively, the administration aims to ensure individuals in rural America have access to high-quality, affordable healthcare.

The CHART Model also ties payment to value, increases choice and lowers costs for patients. CHART will empower rural communities to develop a system of care to deliver high-quality care to their patients by providing support through new seed funding and payment structures, operational and regulatory flexibilities and technical and learning support.

Americans living in rural areas have worse health outcomes and higher rates of preventable diseases than the over 57 million Americans living in urban areas. Impediments, such as transportation challenges, disproportionately impact rural Americans and their access to care. Rural providers also experience challenges. For example, many rural healthcare facilities experience healthcare workforce shortages, and operate on thin margins, and more than 126 rural hospitals have closed since 2010. Many rural hospitals also have difficulty recruiting and retaining medical professionals to rural areas. Meanwhile, value-based payment models have accelerated nationally, though rural healthcare providers have been slow to adopt these models.

Providers interested in the CHART Model have two options for participation.

1. *Community Transformation Track:* An investment of up to $75 million in seed money to allow up to 15 rural communities to participate in the Community Transformation Track. The upfront investment empowers communities to implement care delivery reform, provide predictable capitated payments, and offer operational and regulatory flexibilities to build a sustainable system of care. Through these flexibilities, healthcare providers across the community will be able to pursue care transformation, such as expanding telehealth to allow the beneficiary's place of residence to be an originating site and waiving certain Medicare hospital conditions of participation to allow a rural outpatient department and emergency room to be paid as if they were classified as a hospital. The model also allows participant hospitals to waive cost-sharing for certain Part B services and provide transportation support and gift cards for chronic disease management.

In September, CMS will select up to 15 rural communities to participate in this track, with the winners being announced in early 2021 and the model starting in summer 2021.

2. *Accountable Care Organization (ACO) Transformation Track:* This track offers upfront investment to assist rural healthcare providers in improving outcomes and quality for rural beneficiaries. This track builds on the success of the ACO Investment Model (AIM), which has saved $382 million over three years. Providers participating in the ACO Transformation Track will enter into two-sided risk arrangements as part of the Medicare Shared Savings Program (MSSP) and may use all waivers available in the MSSP program. CMS anticipates releasing a Request for Applications in spring 2021 and selecting up to 20 rural ACOs to participate in this track starting in January 2022.

CMS also has:

- Taken steps in the CY 2021 Physician Fee Schedule Proposed Rule published on August 4, 2020 to extend the avail-

Page 8

CleanSpace®

RESPIRATORS

EVERY ANGEL DESERVES A HALO

PROTECTING HEALTHCARE WORKERS FROM AIRBORNE CONTAMINANTS

- No belts and hoses usually associated with Powered Air Purifying Respirators (PAPRs)
- High protection against biohazards (APF 50 & 1000)
- Reusable and cost-effective
- Comfortable to wear for extended periods – Only 400g/0.9lb
- Simple and fast to don
- NIOSH approved

Available in half face and full face masks.
sales@cleanspacetechnology.com

WWW.CLEANSPACETECHNOLOGY.COM

NIOSH APPROVED ✓ CE IP66

ability of certain telemedicine services after the COVID-19 public health emergency ends, giving Medicare beneficiaries more convenient ways to access healthcare, particularly in rural areas.

- Increased the wage index for low-wage index hospitals, including many rural hospitals. The wage index is an adjustment to Medicare payments for local labor costs. This should support low-wage index hospitals' efforts to improve quality, attract more talent, and improve patient access.
- Reduced the minimum required level of supervision for hospital outpatient therapeutic services furnished by all Critical Access Hospitals (CAHs) from direct supervision to general supervision. General supervision means that the procedure is furnished under the physician's overall direction and control, but the physician's presence is not required during the performance of the procedure. This provides more flexibility to rural hospitals, particularly CAHs, in providing care for their patients.

Vizient announces PPE contract for 40 million isolation gowns annually

Vizient, Inc. announced a new agreement with Encompass Group, LLC for its Novaplus Enhanced Supply Program that will increase the supply of personal protective equipment (PPE), enabling access to 40 million AAMI level 3 disposable isolation gowns annually to its member hospitals. The agreement also includes disposable bouffant caps and shoe covers for healthcare workers.

As a result of this agreement, Encompass expects to begin manufacturing in the U.S. in 2021. In the interim, they will continue to utilize manufacturing lines created in Mexico earlier this year in partnership with Vizient.

The Novaplus Enhanced Supply Program is part of Vizient's larger strategy to outmaneuver uncertainty by creating a more resilient supply chain, built on transparency and trust between manufacturers and providers. The strategy includes increased visibility of raw materials and product origin, expanded domestic capacity and additional onshore inventory for member hospitals. Novaplus Enhanced Supply delivers additional inventory of essential products and medications that, if not available, could threaten a hospital's ability to provide immediate and high-quality care.

AMA, Pew research shows barriers to combating antibiotic resistance

As antibiotic resistance poses a growing threat to public health across the globe, new research published from the American Medical Association (AMA) and The Pew Charitable Trusts highlights the need for improved antibiotic stewardship in outpatient settings to combat antibiotic resistance.

The organizations commissioned a joint study of 1,550 primary care physicians in the United States that identified barriers to reducing unnecessary antibiotic prescribing in outpatient settings and emphasized the need for physician and patient education to prevent the acceleration of antibiotic resistant infections.

Published in the journal *Open Forum Infectious Diseases*, the study revealed that while 94 percent of primary care physicians agree antibiotic resistance is a problem in the U.S., 55 percent do not find it to be an area of concern in their own practices, ranking it as less important than other public health issues like obesity, diabetes, opioids, smoking, and vaccine hesitancy. Additionally, 91 percent of respondents indicated they believe stewardship programs are appropriate for office-based practices, but many said patients and families should be the primary focus of stewardship efforts. Approximately half of participants felt that tracking appropriate antibiotic use would be difficult to do in an accurate and fair manner and that antibiotic use reporting would be a significant burden for their practice.

"Antibiotic resistance is an impending public health crisis. We are seeing today, as we respond to the COVID-19 pandemic, what our health system looks like with no or limited treatments available to tackle an outbreak. To stem the rise of antibiotic resistant infections, we must all remain vigilant in combatting the spread of antibiotic resistant bacteria and be prudent when prescribing antibiotics," said AMA President Susan R. Bailey, M.D. "The AMA encourages physicians to prioritize antibiotic stewardship programs in their practices to ensure the appropriate use of antibiotics and improve patient and public health outcomes."

The AMA and Pew also conducted focus groups with primary care physicians in Chicago, Los Angeles, Philadelphia, and Birmingham, Alabama to gauge physician perceptions about antibiotic resistance, outpatient antibiotic stewardship approaches and inappropriate prescribing to better understand the barriers to effective stewardship. A study highlighting the findings from the focus groups was published in the peer-reviewed journal *BMJ Open* in July. While findings suggest support for education-focused stewardship activities, respondents expressed skepticism around the utility of antibiotic use tracking and reporting as a stewardship strategy. The study findings provide important insights on physician perceptions about antibiotic stewardship that should be considered by stakeholders when implementing interventions aimed at improving antibiotic prescribing habits.

The AMA has long supported efforts to prevent the spread of drug-resistant organisms in healthcare facilities and communities. Specifically, the AMA has adopted numerous policies and advocated for legislation over the years supporting efforts to address antibiotic resistance, including reducing barriers to antibiotic development through incentives. Because antibiotics are important in the treatment of human infections, existing AMA policy also calls for continued education on appropriate antibiotic use as well as bringing an end to the practice of using medically important antibiotics for growth promotion in animals.

As part of its efforts to combat the spread of antibiotic resistant infections, the AMA Ed Hub contains a collection of educational resources for physicians focused on antibiotic use, resistance, and stewardship.

Transition to Direct Contracting model for bundled payments urged by APG and Premier

Premier and America's Physician Groups (APG) urged the Centers for Medicare & Medicaid Services (CMS) to ensure accountable care and bundled payment organizations can focus on the transition to value by providing additional opportunities to enter the Direct Contracting model and mitigating the effects of the ongoing COVID-19 public health emergency (PHE) on all payment models.

In a letter to CMS, Premier and APG asked CMS to:

Allow current Medicare Shared Savings Program (MSSP) and Next Generation Accountable Care Organization (NGACO) participants to seamlessly transition to the new Direct Contracting model by offering a start date that would prevent a three-month gap in Medicare APM participation.

Ensure that the policies intended to mitigate the impact of the PHE on Bundled Payments for Care Improvement Advanced (BPCI Advanced) capture clinical episodes that span the PHE and that providers have the data and time they need to make informed decisions on the options for mitigation. HPN

The Right Partner at the Right Time

As we all navigate through a new normal, Subway® makes the safety of our consumers, your staff and visitors, a top priority. We continue to offer a clean and safe environment while delivering the same great-tasting, nutritious menu options we are known for.

For more information on how to become part of the Subway® team, contact us today!

Dominic Contessa, Global Account Manager, New Business
Call 1-800-888-4848 Ext. 1351
email Contessa_D@subway.com
Or visit www.subway.com/nontradpartnerships

SUBWAY®

When hallowed heroes pull from halls of hollowed shelves

Healthcare supply chain yearns for serious shelf help

by Rick Dana Barlow

Amid all the debate and discourse about how exponentially increasing pandemic-motivated product demand siphoned supply chains as healthcare clinicians treated COVID-19 patients, one lingering conceptual question looms large.

If we can't handle this, what happens when something twice as bad erupts on society?

Sobering thought. Take a swig of coffee or tea, knowing that top-flight Supply Chain leaders and professionals neither are panicking nor waving the white flag.

In fact, when it comes to maintaining and buttressing inventory levels, tracking what you store where and when it's used and then predicting what's needed to satisfy demand, award-winning Supply Chain leaders and pros are plowing full speed ahead.

Controlling and reducing costs remains one of the hallmarks of managed care, and Supply Chain's contribution to that strategy, by and large, involves five core elements:

- Manage/oversee consumption/usage patterns of products and services
- Store less in smaller areas (versus storing way more in larger warehouses)
- Have products delivered in lower units of measure more frequently (e.g., just-in-time, stockless, modified stockless distribution)
- Keep online, open-ended communications with suppliers flexible and fluid so that when something happens, Supply Chain can pick up the Batphone and tap into the vast array of emergency stock the suppliers miraculously store in their big warehouses (akin to cost shifting, this is storage shifting)
- Rely on computer software algorithms to predict what happens to demand when a crisis or disaster hits

When a crisis or disaster strikes – like an ongoing pandemic – these five core elements may bend but they're not expected – nor accepted – to break.

As COVID-19 has maintained a fairly tight viral grip on the global community, it also has destabilized and disrupted human health, lifestyle choices and business operations, including the general and specialized supply chains.

In recognition of the pandemic-punctured healthcare supply chain, *Healthcare Purchasing News* reached out to all 17 of those organizations that have earned Supply Chain Department of the Year honors since 2004. After all, who but those on award-winning teams may have some actionable, tangible and useful ideas on how to parry with and outpace the spread of spiking demand for products during the roller-coaster ride of a pandemic?

Comprehensive convergence

Being prepared represents more than just a passing mindset or a panic program button to punch at a moment's notice, setting into motion a series of decisions and events. For Danville, PA-based Geisinger Health, which earned *HPN*'s Supply Chain Department of the Year award in 2008, planning for potential supply disruption and crisis response has been ongoing for years. In fact, it's ingrained in the infrastructure.

"We have had weather-related disruptions that challenged us to be prepared, but certainly not to the extent that COVID-19 presented," said Joe Goyne, Senior Director, Logistics, Supply Chain Services, Geisinger, Wilkes-Barre, PA. "We have been fortunate to have invested in many foundational Supply Chain strategies to prepare us for this challenging situation, such as the establishment of a large central distribution center, an integrated logistics delivery network, an experienced team of Supply Chain experts managing inventories at our hospitals, etc. Providing inventory oversight to our acute care locations is something the Geisinger Supply Chain team has done for decades, and it is a strategy for us to continue to expand this value to the organization in the future."

Joe Goyne

Goyne admits to one exception to their rule: supporting the non-acute clinic network. "We have traditionally serviced these locations directly through a distributor, but have recognized this service model as a potential area for re-assessment," he added.

Because Geisinger's Supply Chain distribution model heavily depends on "allocations," "we recognized early in the crisis response that we needed to use the experience and strength of the centralized Supply Chain team to manage the end-to-end supply chain for everyone," Goyne said. "We worked with our distributor, consolidated all allocations and drove distribution through our centralized logistics and materials (CLAM) self-distribution center. We needed to quickly integrate and optimize the processes taking place within the mini-warehouses that were beginning to

develop throughout our system as each site began planning for potential disruptions."

Geisinger's CLAM distribution center embarked on a demand-and-control mode for product access.

"To increase physical controls to protect critical supplies, new processes were implemented to reduce the risk of product being removed from the hospital inappropriately," Goyne noted. "To aid in limiting the order disruption experienced in response to the allocation process, we transitioned to a very manual, paper-request process for those items experiencing allocation restrictions. It meant a lot of extra work at the distribution center, but the team took on this challenge with a positive attitude and were phenomenal in meeting the new demands. The additional workload was worth the burden as our caregivers had what they needed, when they needed it."

Geisinger also revamped analytics tools, such as standard usage dashboards that the team had developed, according to Goyne. "These were refined to make informed inventory decisions, to be able to home in on who was using what, how fast we were using it, and how long we would survive with what we had," he said. "This data-driven view of consumption allowed us to monitor the effectiveness of protocols and conservation strategies, as well as anticipate future needs to proactively begin to source alternative products in categories that experienced extremely high demand."

With their boots on the ground, Supply Chain kept senior-level executives in the C-suite informed and up-to-date on capabilities.

"The data we had put together, with a lens for data visualization to ease understanding, also helped with our communication channels engaging senior leadership in being fully transparent with supply on hand and demand forecasting," Goyne said. "This transparency through visualization of the data allowed us to effectively communicate how well we were doing day-to-day, and drive action when additional support was needed from those who could help influence the required changes, such as adherence to conservation protocols."

Geisinger also relied on its team of experienced sourcing professionals to vet alternate sourcing channels, exploring both non-traditional suppliers, as well as direct-to-manufacturer opportunities to obtain quality product, according to Goyne. "This sourcing process required significant attention to thorough vetting to mitigate any potential risk to the organization, as the market presented significant threat of fraudulent activity," he said. "Once a potential supplier was vetted for legitimacy, we were able to freely have conversations regarding availability, pricing, terms, turnaround, etc., to help supplement the additional supply demand our system was experiencing."

Pursue innovation

Regardless of crisis or disaster type, focusing on the "5 rights" – right product, right time, right place, right quantity and right price – will continue to be important well into the future, insists LeAnn Born, Vice President, Supply Chain, M Health Fairview, Minneapolis. M Health Fairview earned *HPN*'s Supply Chain Department of the Year award in 2017.

LeAnn Born

"We knew this before the pandemic and we know more about it today," Born declared. "About the product, we need to know what is being used, how it is being used, what the acceptable alternatives are and how we can access those alternative products. Related to right time and place, we need to know when and where the product is available – this can either mean moving it around our own health system or by sharing data and plans with distributors and manufacturers to understand when it will be available on-site. It can even mean partnering with other health systems to borrow or share products."

Born points to consumption as driving quantity decisions.

"For the right quantity, it has been important to ensure appropriate use and look for ways to conserve," she continued. "There were many moments when price was not even a consideration because there was a real or perceived lack of product available. Yet it was still important to understand price in order to report it as the incremental cost of the pandemic, which has been important to understand for government support and grant purposes. After the initial urgency that created a willingness to pay outrageous prices, came a reality that financial resources were even tighter than they were before the pandemic."

Born challenges her industry colleagues not to lose sight of innovation, but focus on it.

"We have experienced situations when what we knew was right for care before the pandemic was no longer available," she said. "We had to discover, figure out and seek approval for alternative products and alternative ways of using traditional products. We also need to define ways to conserve, even though, according to previous requirements and regulations, [it] was not appropriate.

"Awareness to all of this is supported by talented people using their knowledge of policies and standard procedures supported by reliable technology," she added. "A lot of really well-intended people helped in such a variety of ways that the supply chain lost a lot of its control, effectiveness and efficiency. Finding the right balance of understanding and staying true to standard purchasing rules have been very important."

Embrace suppliers

Sometimes, effective Supply Chain leaders can embrace the good but acknowledge – and even accept – the bad as they play the long game, according to Joe Colonna, Chief Supply Chain and Project Management Officer, Piedmont Health, Atlanta. Piedmont Health earned *HPN*'s Supply Chain Department of the Year award in 2018.

Joe Colonna

"We must understand that we may need to pay more for some items to ensure that there is a stable supply closer to home," Colonna admitted. "Perhaps form co-ops. Several regional health systems invested in local manufacturing for a short run of needed PPE supplies. Purchase time on the line, supply the raw material."

Rather than blame suppliers for any product shortages, providers instead should work with them.

"We need to help these companies be more efficient and help them with demand planning," Colonna insisted. "Perhaps work with manufactures to 'rotate' crops. Many of the same materials are used to make similar items. There may not be enough business/profit for a company to just make gowns, but if enough of us committ to annual bulk buys, the company could do a run of gowns one month, masks the next, shoe covers the next and so on. [Sign] longer-term commitments so companies can drive down their raw material costs with longer-term projections. I could see 10-year, price-controlled contracts with guaranteed supply. Since the surge of patients can come quickly, all of us either need to have extra storage or buy storage capacity from third parties.

Bottom line, the game of give-and-take must be played more effectively to care for patients.

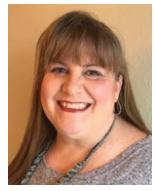
"We need to find out what they need from us in terms of information and partnership," Colonna concluded.

Pivot with data

Kathleen Gathers, Director, Supply Chain, Terrebonne General Medical Center,

Page 12

Houma, LA, recommends understanding your capabilities and being flexible and nimble enough to pivot when necessary.


Kathleen Gathers

Terrebonne General earned *HPN*'s inaugural Supply Chain Department of the Year award in 2004.

"Most [of the five core elements listed are] acceptable strategies to have, and each hospital needs to decide what works best for them based on size and storage space," Gathers said. "Just-in-time and stockless distribution are risky because they [assumes] that the distributor is going to have enough products on hand to supply. Communication between distributor and hospital is vital. Managing the PAR levels to accommodate changing needs is in the responsibility of supply chain, and solely relying on computer algorithms can be dangerous if that's all that's being factored into the equation."

Maintaining balance

Rita White, Vice President, Supply Chain, Tower Health, West Reading, PA, points to the "very delicate balance between ensuring sufficient "safety stock" of critical supplies to be used where and when needed on one hand, and creating stockpiles to cover the "what-if" scenario at the risk of generating waste through unneeded expense and product expiration on the other.


Rita White

"With the COVID-19 pandemic, management of these critical supply inventories has become even more essential, as we've faced unprecedented supply disruptions for commodity supplies like hand sanitizer and cleaning wipes and, of course, personal protective equipment (PPE)," White indicated. "Unlike other disaster-related supply disruptions experienced in the past, health systems have had to compete against national governments, the business community, and personal consumers for these high-demand items."

Tower Health earned *HPN*'s Supply Chain Department of the Year award in 2019.

White acknowledged that throughout the pandemic, manufacturers have modified existing production lines to focus on high-run supplies.

"Though some have adapted more quickly than others, major manufacturers stand to gain by adopting a nimble and agile manufacturing approach, one that responds quickly to extreme demand volatility, such as that experienced during the pandemic," she said. "Additionally, identifying functionally equivalent products has become much more critical to ensuring [the] steady flow of supplies. Manufacturers historically have been somewhat guarded in identifying functionally equivalent products produced by competitors, but greater transparency in the future will help to ensure quick, informed decision making should healthcare continue to be faced with shortages.

"Likewise, the role of category management will play an even greater role in an adaptive healthcare Supply Chain strategy to facilitate easier identification of sourcing opportunities and support inventory management of product alternatives and substitutes," White continued. "Existing vendor relationships may need to adjust, allowing for secondary relationships across a greater number of vendors/manufacturers."

Clear channels

Pittsburgh-based UPMC, which earned *HPN*'s Supply Chain Department of the Year award in 2012, embraces all five of these elements, according to Jim Szilagy, Vice President and Chief Supply Chain Officer, but more is needed.


Jim Szilagy

"We feel keeping an open line of communication with key critical-to-operations suppliers is the most important element in times of product crisis," Szilagy urged. "Creating strategic business relationships with suppliers provides us the ability to align variable operational needs with production capacity. Having multi-sourcing relationships across commodity categories is also an important strategy as it enables the system to move quickly to activate secondary supplier relationships and secure additional critical inventory and capacity."

Teresa Dail, R.N., CMRP, Chief Supply Chain Officer, Vanderbilt University Medical Center, Nashville, TN, agrees that open channels with suppliers, regulatory officials and clinicians are paramount.


Teresa Dail

"Demand transparency from the vendors into the origin of product or raw materials to better understand the risk associated with purchasing as it relates to ability to procure in a situation like COVID 19 where other countries can essentially shut off the supply to the United States, Dail said. "Work with liaisons to the state and federal government to open up the dialogue around how to incent manufacturers to look at production in the U.S. or, at the minimum, the continent. Work with clinical colleagues to establish an alternative, clinically acceptable product pipeline that can be utilized in the event traditional, and recommended, products cannot be procured. For example, if N95s are no longer available, what is the next level of protection that would be utilized?"

Dail also encourages establishing and maintaining an internal emergency stockpile to reduce reliance on state or federal assistance.

"Think broader than a viral pandemic as work is done to shore up the supply chain within the U.S.," she noted. "Meaning, what supplies would be necessary in the event we had another type of catastrophic event that may have a global or continental impact?

Vanderbilt earned HPN's Supply Chain Department of the Year award in 2011.

Anticipate demand

Dartmouth-Hitchcock Health, Lebanon, NH, urges supply chain leaders and professionals to pursue demand-planning capabilities and skills, particularly during the prospect of a crisis or disaster like a pandemic, according to Curtis Lancaster, Vice President, Supply Chain Division, Dartmouth-Hitchcock Health.

After all, that's where they've done and continue to do.

"Enhance Demand Planning so that we incorporate surge planning based on needs driven by emergent events like the pandemic," Lancaster indicated. "We are getting better at this and incorporate recovery – or normal times – emergency planning models."

Lancaster acknowledges that supplier communications and qualifications matter, too.

"Evaluate supplier relationships based on manufacturing locations and even raw material sources," he advised. "This will help us monitor disruptions for global events like the pandemic, but also singular disruptions like work stoppages and political unrest."

Dartmouth-Hitchcock also expanded capacity to receive more bulk deliveries by acquiring additional warehouse space and redesigned its logistics model to incorporate the new space into overall operations, according to Lancaster.

"While managed care drives us to reduce costs it also makes us mindful that being effective saves money, too," he added. "That is, we need to enhance, invest, in our capabilities in order to be more resourceful in the long-term." HPN

Page 14

midmark™

Designing better care.

Midmark® Workstations + Telehealth

Enabling Healthcare from Anywhere

It is predicted that there will be 1 billion telehealth visits in the US in 2020, yet as of January, 76% of healthcare organizations in the US lacked a virtual care program.[1] **We can help.** Midmark Workstations are made to order with customization that can assist with the integration of telehealth and other technology at the point of care, wherever that may be.

Learn more at: midmark.com/careEVERYwhere

Cameras not included.

1 https://go.forrester.com/press-newsroom/us-virtual-care-visits-to-soar-to-more-than-1-billion/

SPECIAL FOCUS

Making do with much ado by award-winning Supply Chain teams

by Rick Dana Barlow

Crises and disasters tend to draw out the best or worst of people as evidenced in their initial reactions and ongoing responses to what happened. A global pandemic that not only infected millions of people, but also proved fatal to hundreds of thousands, drained the supply chain of available stock and cast a pall on its reputation, is no exception.

The COVID-19 coronavirus afflicted all healthcare organizations universally – large and small, urban and rural, decorated and striving for recognition.

As a result, *Healthcare Purchasing News* wanted to share with readers what top-flight, award-winning organizations have been doing and thinking as they navigate through the ongoing crisis. *HPN* reached out to all 17 of the organizations that have earned "Supply Chain Department of the Year" recognition and status since the launch of the award in 2004.

Not surprisingly, many were swamped and engulfed in meeting the daily and accelerated demands and needs of caring for patients. Yet roughly half volunteered some of their busy time to share their insights on the challenge(s) the team faced, the solutions the team designed to achieve the desired outcome(s) and who was instrumental in the process. In random order chronologically, here's what they shared.

Organization: Geisinger Health, Danville, PA

Supply Chain Department of the Year: 2008 (No. 5)

Joe Goyne, Senior Director, Logistics, Supply Chain Services, Geisinger, Wilkes-Barre, PA

Challenge(s) faced: Geisinger transitioned its prime distributorship in late summer 2019. As in any distributor conversion, we proactively planned for this transition to avoid the potential for stockouts or supply disruption by ensuring adequate supply on hand. The timing of this transition ultimately affected our allocation allotments that were set by the manufacturers and distributors who were using utilization reporting from the time period not reflective of true demand.

Solution(s) delivered: Identifying the root cause for variances between allocation availability and forecasted demand allowed the team to identify gaps in product availability and alert our strategic sourcing team as to the need to proactively mitigate the impact caused by the situation. We also leveraged our supplier partners and GPO to identify opportunities to participate in "spot buys" to offset additional demand needs. Also, a "non-traditional" sourcing checklist was developed to engage new partners for sourcing high demand, hard-to-get supplies as the market tightened. We successfully navigated these new markets.

Influential, instrumental leaders: Inventory Control, Distribution Center, Strategic Sourcing, Prime Distributor (Medline) and Group Purchasing Organization (Premier), Legal and Finance.

Organization: M Health Fairview, Minneapolis

Supply Chain Department of the Year: 2017 (No. 14)

LeAnn Born, Vice President, Supply Chain, M Health Fairview, Minneapolis

Challenge(s) faced: Our health system works with two different med/surg distributors because we have not yet integrated that service following the integration of our two legacy health systems. We were able to turn this challenge into an effective way of communicating and solving problems with sourcing through major product disruptions.

Solution(s) delivered: We set up daily huddles where M Health Fairview's distributor representatives from Cardinal and Owens & Minor joined a variety of staff from Supply Chain to review what was needed, what was ordered, in route, available to order, etc. Everyone has been creative together. This resulted in an incredible team that was able to set aside the competition that the two distributors might have known, collaboratively source products from the two distributors, direct from manufacturers and from alternative suppliers. For quite a while, these meetings were daily. We have reduced them now to weekly.

Influential, instrumental leaders: At moments in time, it expanded beyond Supply Chain to include Infection Prevention, Nursing Practice and Education, Quality and Clinical Operations, but the long-standing participants have been local representatives and leaders from Cardinal and Owens & Minor along with Supply Chain staff from our sites, purchasing, value analysis, data and analytics, leadership and more.

Organization: Piedmont Health, Atlanta

Supply Chain Department of the Year: 2018 (No. 15)

Joe Colonna, Chief Supply Chain and Project Management Officer, Piedmont Health, Atlanta

Challenge(s) faced: Determining a new usage rate on PPE products that suddenly became the most important and most-used items. We needed to know our total supply of these items in our distribution center and across all of our 11 facilities. We had to have real-time information to help us determine where we needed to move supplies around the system and a real-time report to show our command center. We were in a similar situation with ventilators and associated supplies. In addition, our suppliers suddenly became hit-or-miss on whether we would see our deliveries.

Solution(s) delivered: We instituted a daily physical count of all supplies and ventilators at the sites and the distribution center. This information was entered into a manual report that went to the command center. By watching what was being used at the sites and in what quantities, we began to estimate our new utilization rates.

This allowed us to better predict where we would need to move vents and how quickly we would use our inventory of PPE. This also allowed us to provide better information to the command center. Working with our clinical leaders, we instituted this process to better manage our inventory and this helped keep product and equipment in the hands of our caregivers. The daily counts also helped us to keep track of product that was being supplied by the state or through donations. This product would not have been reflected in our ERP systems. Using this process, we ran low but we never ran out of needed supplies.

Tip – We never factored in what was "on order" into our estimates. While we were receiving products, there were no guarantees. We managed the inventory we had on hand. Numbers were adjusted as product was received and in real time.

Influential, instrumental leaders: I will simply say that this was indeed a team effort. Everyone stepped up in different ways and many took on non-traditional roles. I think that early on, everyone was surprised at the speed at which things escalated and how fast supplies became hard to find. I was pleased with the transparency of our partners at both Cardinal and Medline. They came through for us in many ways and were honest in telling us bad news. They also helped us in predicting some future shortages that allowed us some time to plan accordingly.

On the other hand, there were some bad actors out there, trying to sell at price-gouging rates, counterfeit product or no product at all. I will say that we may have paid more than we wanted in some cases but we avoided the real scams. There is a special place in hell for the people that tried to profit from this pandemic and an even lower level for those that stole providers' money.

Finally, I will say that I have been in the Healthcare Supply Chain field for 30-plus years now and I could not be more proud of the Supply Chain professionals we have here at Piedmont. They worked very closely with our clinicians and leaders. They had to figure things out on the fly and with information changing, sometimes, hour by hour. They stood up to the challenge and worked long hours and many weekends to make sure our caregivers and patients had what they needed to do their jobs. They continue to stand up to the challenge, as our numbers increase for the second time. I feel the same way about all of the Piedmont Healthcare team members. There is not complaining, there is compassion. Everyone is in this together. The goal is taking care of the patients as safely as possible for the caregivers. I am so very proud to work here.

Organization: Terrebonne General Medical Center, Houma, LA

Supply Chain Department of the Year: 2004 (No. 1)

Kathleen Gathers, Director, Supply Chain, Terrebonne General Medical Center, Houma, LA

Challenge(s) faced: The most challenging issue we faced at TGMC was the feeling of helplessness. There wasn't enough knowledge about coronavirus to know how to treat it at the time. We knew it was respiratory-related so we ramped up ventilators and supplies, and looked at creative ways to intubate using clear shower curtains to prevent the spread of the aerosolization. Hearing from our clinical staff, their recommendations, and then searching for solutions was our role. Another challenging area was the allocation process put into place by the distributors. While understanding the need for it, New Orleans and the surrounding area was a hot spot and the communication to us was that PPE wasn't available because they needed to go to other hospitals that weren't affected by COVID-19 at that particular time.

Solution(s) delivered: When COVID-19 started to make the news in January, we monitored what was happening worldwide. In February, we started to order a heavy supply of masks, gloves and gowns. We began to bulk-purchase other PPE and store in a small conference room, which grew into two conference rooms, and eventually a third floor that wasn't utilized. We had 21 straight days in April where we ordered everything we could get our hands on and then placed orders on Saturday and Sunday thinking vendors were updating their online availability, and we didn't want to wait until Monday morning. Being creative, [we were] thinking outside of the box and buying from vendors who we normally didn't purchase from. For example, our regular disposable stethoscopes were backordered, so we found really inexpensive ones that needed to be put together. It was "all hands on deck," and we have a great team in place who really stepped up to the challenge.

Influential, instrumental leaders: The entire Supply Chain Team at TGMC was fantastic – Darlene Grimes, PSD Manager, Tara, Debbie, Steve, Macy, Calvin, Bill, Vernon, Pat, Xavier, Annette, Vicki and Dominique. We had the support of our Administration Team and provided them with daily updates of inventory on hand for critical items. Everyone pitched in and asked, "How can I help?" and our team provided excellent customer service to our staff. Cardinal and S2S Global were great from a distributor perspective, but I need to mention McKesson Medical. Not our regular acute care supplier, but our rep Johnny Bordes was extremely helpful in pushing orders through.

Looking ahead, we have taken a "count on yourself" type of thinking when it comes to PPE/supplies. Our hospital may have decent supply right now, but not knowing what the future holds, continuing to see shortages, having to rely on product coming from other countries, and [seeing] hospitals all trying to purchase the same supplies, [we know this] is not going to end anytime soon. We must continue to make sound decisions, keep lines of communication open with distributors, but at the same time become accountable and self-sufficient.

Organization: Tower Health, West Reading, PA

Supply Chain Department of the Year: 2019 (No. 16)

Rita White, Vice President, Supply Chain, Tower Health, West Reading, PA

Challenge(s) faced: The COVID-19 pandemic created critical supply shortages that impacted healthcare systems across the globe. As a result, supply chain teams faced such challenges as increased allocations on critical supplies and a lack of reliable ETAs for incoming product. Sourcing paths typically relied on were compromised, resulting in a significant reduction of the availability of critical supplies at the same moment both the demand and the significance of the need peaked. Standard processes were unable to meet the challenge of the extraordinary circumstances, requiring new processes be defined and incorporated virtually overnight. Additionally, standard critical product became increasingly difficult to obtain, requiring new functionally equivalent products be identified, reviewed, and implanted as clinically acceptable substitutes. As these challenges were being addressed, the healthcare supply market was flooded with "false" vendors, who presented offers of supplies at exuberant

Page 16

prices for supplies that frequently arrived damaged or did not arrive at all.

Solution(s) delivered: In the early weeks of the COVID-19 pandemic, Supply Chain's focus was directed toward preparations and coordination with internal stakeholders and partner vendors. We ensured we were ordering to our maximum levels for all supplies under protective allocation, began proactively ordering reserve supplies of anticipated impacted products not already on allocations, and set up an offsite warehouse to store additional inventory.

We also reached out to our department leaders and asked for assistance in identifying additional items that may be needed to support an influx of COVID-19 patients, and asked they identify their critical supply needs and project what their volumes may look like in a "surge" period. Throughout the entire emergency, we have stayed in very close contact with our Supplier partners, primary distributors including Medline and Fisher Scientific, and HealthTrust/Allspire GPO liaisons to stay informed regarding supplies at shortage risk.

As PPE and critical items were placed on allocation, Tower Health Supply Chain continued to forge relationships with new vendors while leveraging current ones to obtain available supplies. New vendors were evaluated and vetted through a series of standardized criteria. As demand forced manufacturers and distributors to place critical items on allocation, clinical and nonclinical teams partnered to identify, review, and obtain substitute items from multiple vendors, thereby expanding the inventory pool. Through these measures, Tower Health was able to maintain a continuous supply flow, even as shortages spread across the country.

Reporting became extremely important to our efforts in monitoring and tracking critical supplies throughout the supply chain. To support our needs, our team partnered with the clinical and IT areas to develop new reporting to track critical metrics around supply stock on hand, expected deliveries, average utilizations and items reaching critical shortage levels. Our inventory teams also implemented daily cycle counting seven days a week to capture timely stock-on-hand counts.

Influential, instrumental leaders: It truly has been an incredible journey with so many individuals exemplifying self-sacrifice and the truest commitment to our mission. No doubt, all those on the front lines, including the Supply Chain Inventory and Distribution staff, are exceptional and inspiring individuals who have risen to the occasion. So many of the Supply Chain team have worked tirelessly all hours of the day since the earliest onset of the crisis. Just as a few examples, I've had team members drop everything to race out to local retailers to hunt down urgently needed supplies, such as plastic shower curtains to be used as protective screens or temporary plastic hooks to hang isolation gowns for reuse. Others have spent countless hours following up on innumerable leads from traditional and nontraditional sources to find any that could result in a shipment of some critical supply. Our Purchasing teams are following up with vendors daily on the chance there will be some supply available to ship, tracking and following up constantly on open orders, sourcing alternate items, researching substitutes, vetting new vendors, and analyzing data to anticipate where supply levels are becoming critically low. It is not an overstatement when I say we have turned over every rock to find needed supplies to ensure colleagues have what they need to safely perform their vital roles.

The Supply Chain team has not gone this road alone. So many within Tower Health – from clinical team members, to support staff, to our incredible Administration – have worked relentlessly to ensure the well-being of our patients and colleagues. We have also had the privilege of working with incredible vendor partners. Medline, in particular, has been a true partner to us in navigating the challenges of this pandemic. Likewise, HealthTrust has demonstrated amazing support, providing additional sourcing opportunities and resources to keep us informed of the quickly evolving situation. We have also been so fortunate to have remarkable community support. So many within our local community, from area businesses to individuals, have come forward to provide assistance in the form of supply donations.

As Supply Chain professionals, we feel an overwhelming responsibility to ensure we are supplying our colleagues with what they need to effectively and safely care for patients. No other time in my career has there been a situation in which carrying out this function has been so challenging. I am honored and humbled to be part of this organization and to lead a team that has come together and stepped up in such a time of crisis.

Organization: UPMC Health, Pittsburgh, PA

Supply Chain Department of the Year: 2012 (No. 9)

Jim Szilagy, Vice President and Chief Supply Chain Officer, UPMC, Pittsburgh

Supply Chain-specific Challenge(s) faced: UPMC Supply Chain was faced with many challenges, such as market availability, border closings, increased pricing, and raw material shortages while meeting unprecedented product demand to ensure the safety of our employees and patients. Sourcing resources were tasked to deliver on their routine day-to-day activities as well meet the challenges posed by the pandemic – such as finding supply alternatives, expediting delayed shipments, managing the ripple effect of product availability, and restrictions and delays at borders that impact distributors and suppliers' ability to meet contractual obligations .

Solution(s) delivered: In response to the inflated demand we designed, developed, and implemented a supply/demand forecasting platform in partnership with clinical and executive leadership. The new forecasting platform provides the following information to help inform operational decision such as employee and patient safety and surgical procedures:

- Quantity on hand (Warehouse)
- Calculated "Peak" Demand
- Days on Hand
- Outage Date
- Forecasted allocations and supplemental order volumes and dates
- Forecasted Supply Health Graphs
- Supply Health Indicators (Red/Yellow/Green) based off determined criteria

Influential, instrumental leaders: Supply Chain Leadership, Supply Chain Sourcing, Supply Chain Demand Planning, Supply Chain Logistics, Supply Chain Data Management & Analytics, Supply Chain Materials Management and Supply Chain PMO Group.

Pharmacy-specific Challenge(s) faced: COVID-19 rapidly stressed operational pharmacy and supply chain resources with a need to protect supply from disruptions in the global supply chain while also scaling up operations to meet the potential tsunami of critically ill COVID patients. Very few health systems have access to a full-scale, perpetual inventory system, so these types of supply challenges can be difficult to manage when inventory counts are being manually entered into one-off, excel-based tools that are prone to

Page 18

PREVENTATIVE CARE
FOR THE AIR.

According to the WHO, some medical procedures performed on infectious patients can produce aerosols that are able to stay suspended in the air for longer periods of time. These aerosols can be inhaled by others if appropriate precautions aren't taken by wearing PPE and using isolation measures.

INTRODUCING UV ANGEL AIR™ SERIES: an unobtrusive, automated UV-C air treatment system that has been proven in laboratory testing to be up to 99.99% effective at eliminating harmful viruses, fungi, and bacteria.

EDM FACILITIES
Proudly Veteran Owned

AUTHORIZED DISTRIBUTOR
281-782-3321
EDM-FACILITIES.COM

error and difficult to manipulate for longitudinal trending. We needed to create a more sophisticated supply monitoring tool to capture on-hand inventory quantities from 40-plus hospitals across a multistate integrated delivery and finance network to solve for the critical need to:

1. Monitory daily inventory health of both drugs and PPE
2. Model longitudinal supply trending
3. Respond quickly and accurately to a detailed, NDC-level inventory request from the state of Pennsylvania

Solution(s) delivered: Within two weeks of development time, we designed, developed, and launched a web-based crisis inventory management platform in partnership with software engineers, pharmacists, and project managers. The platform includes the following features:

- Single-sign-on capabilities for enhanced security
- Mobile-enabled user interface for use in hospitals and inventory storage rooms without having to use a computer browser
- Configurable reminder notifications, drug and PPE lists
- Integrated NDCs and drug database information
- Business Insights-powered data modeling, trending, and visualizations
- Exportable data and reporting for sharing with government agencies

This process can now be configured to count and trend any shortage-impacted items, not just for COVID. We also provided the solution to other health systems so that they, too, could leverage the power of the web-based portal with integrated collaboration and reporting tools to monitor COVID-19 critical supply counts.

Influential, instrumental leaders: UPMC's fully owned commercial supply chain data analytics spinoff, Pensiamo Inc.; UPMC's GPO and Wholesale organization, HC Pharmacy; UPMC Supply Chain; and UPMC Hospitals, retail, long-term care, and repackaging pharmacies

Organization: Vanderbilt University Medical Center, Nashville, TN

Supply Chain Department of the Year: 2014 (No. 11)

Teresa Dail, R.N., CMRP, Chief Supply Chain Officer, and President, Vanderbilt Health Purchasing Collaborative LLC, Vanderbilt Health Supply Chain Solutions LLC and Carefluent Connect LLC

Supply Chain-specific Challenge(s) faced: VUMC faced the same challenge as many organizations across our country, and globally, around the acquisition of N95 masks. Early on in the process, the standard vendor we utilize notified us that the primary mask we routinely purchased would not be available for an undetermined, but lengthy, period of time. As we began to look for alternative products, we recognized that we were going to need to begin to conserve our current inventory. As the COVID situation evolved, our anesthesia colleagues sought approval to wear an N95 for all cases requiring intubation with typically two providers per case. In addition, our surgical specialties began to ask our PPE approval committee to consider waivers allowing N95 usage for all providers in the room for very specific case types (trauma, ENT, pulmonary. L&D and others). Because pre-op testing was not even being contemplated at this time due to all elective cases being cancelled, it became evident that we needed to develop a plan, under Emergency Use Authorization, to allow us to maximize the use of the N95s.

Solution(s) delivered: The supply chain at VUMC reached out to colleagues at the University of Nebraska to discuss an initiative they had implemented around the use of UV light to effectively decontaminate, and therefore allow for reuse, of the N95 mask. After reviewing their process and data, this information was presented to our infectious disease experts for their input. Support was gained to implement this process at VUMC. The technology was not new to our EVS team, which utilizes these devices to clean specific clinical areas such as our burn unit. The concept of reprocessing was shared with the chairs of all the departments as well as our incident command and executive leadership. Once approval to proceed was received, we began work with our facilities management and environmental health and safety team to literally build out an unused area within the medical center to ensure a safe environment in which this initiative could be achieved.

A task force was established, including surgeons/anesthesia, infection prevention, sterile processing, perioperative leadership, environmental health and safety, quality and nursing education. [Standard operating procedures] and staff education were developed. A full communication plan for the perioperative team, as well as the organization, was developed and implemented. A plan was also developed to shift the management of the day-to-day issuing of new N95s to the perioperative clinical team. This was done to place ownership on the unit to drive compliance of reprocessing. UV decontamination was implemented initially in surgery in our adult and children's hospital. It was then expanded to other units also utilizing N95s, including the emergency department and clinics. We also implemented and supported this process for one of our community hospitals. Once the FDA approved the use of hydrogen peroxide for decontamination, we shifted to use of our onsite sterilization devices at all sites.

Influential, instrumental leaders: [Including those listed above,] I would like to acknowledge Ten Med, which helped us quickly find and then provided an additional Skytron unit. The representative also worked to ensure proper training of our staff as the unit we purchased was different than the two already owned.

Organization: Dartmouth-Hitchcock Health, Lebanon, NH

Supply Chain Department of the Year: 2020 (No. 17)

Curtis Lancaster, Vice President, Supply Chain Division, Dartmouth-Hitchcock Health

Supply Chain-specific Challenge(s) faced: Understanding in real-time the quantity of PPE we had on hand and on order. Reviewing that data and then predicting which shoe would drop next, i.e., after masks, it's gowns.

Solution(s) delivered: [We] gathered projected utilization from clinical stakeholders and built a supply and demand model that projected need by month. The model could be adjusted by anticipated surge levels as well. The model not only helped us anticipate PPE needs due to COVID, but also the requirements for recovery.

Influential, instrumental leaders: One, involving clinicians early to understand what we were doing and the information we needed form them. Two, our Incident Command Center served as the primary recipient of our model's output; they could act based on our analyses. Three, making sure our Operations Team knew where everything was; we were sourcing and receiving PPE at unprecedented levels and finding places for it was challenging; we also opened a new warehouse dedicated solely to fulfilling the PPE needs of our hospitals. HPN

Visit https://hpnonline.com/21149887 for sidebar: Award-winning Supply Chain team leaders suggest solutions to pandemic-related product shortages.

Wiping out pathogens with multi-area cleaning

by Ebony Smith

Infections and deaths from COVID-19, caused by the virus SARS-CoV-2, continue to soar throughout our communities. Many people stay home, limit contact with others and hope to not get infected. But what if an emergency health situation arises and a hospital visit is needed?

For vulnerable populations, such as senior citizens and individuals with serious, underlying or immune-compromised health conditions, delaying or forgoing emergency care can cause harmful complications, or even deaths. That can be equally dangerous for people who are experiencing heart attacks, strokes or other life-threatening events.

"A recent poll by the American College of Emergency Physicians found that 29 percent of adults have avoided medical care because they are concerned about contracting the virus," shared Tom Mihaljevic, M.D., Cleveland Clinic CEO and President, in his online message to patients. "Hospitals nationwide have seen a 38 percent decline in the number of patients presenting with heart attacks across the United States. This is extremely concerning, especially for patients with heart disease and cancer, who require early screening, constant surveillance and treatment. If you have a medical emergency, do not hesitate to call 911 or go to your nearest emergency department."[1]

Ensuring safe spaces

The guidance is clear, however, from hospitals, healthcare facilities and medical associations, that it is currently safe for patients to go into medical settings for care. These facilities also are restarting elective surgeries and treatment, but with an eye of caution.

The American College of Surgeons (ACS) guidance states, "Although this document, 'Local Resumption of Elective Surgery Guidance,' provides principles to help local facilities safely resume procedures after COVID-19 peaks locally, there is still much work to be done. While COVID-19 cases may have peaked in certain areas, the virus is still circulating and there is much we don't know about the etiology and progression of the disease."[2]

To help keep patients, loved ones and staff safe, Cleveland Clinic and other facilities nationwide are following federal healthcare guidelines and putting protective measures in place.

"Cleveland Clinic has been limiting visitors, delaying some surgeries, providing proper personal protective equipment for caregivers, disinfecting surfaces, practicing physical distancing and screening patients and caregivers for COVID-19 symptoms including taking people's temperatures at building entrances," Dr. Mihaljevic continued in his message. "As we resume clinical services, we will continue to ensure that our patient waiting areas are reconfigured for safety."

Other considerations for visitors to healthcare settings, according to guidance from the Centers for Disease Control and Prevention (CDC), include, "Visitors should only visit the patient they are caring for and should not go to other locations in the facility. Facilities should provide education on appropriate PPE use, hand hygiene, limiting surfaces touched, social distancing, and movement within the facility. Facilities should consider the need to conduct active screening for visitors with potential exposure to SARS-CoV-2 due to a breach in infection prevention and control (IPC) protocol."[3]

Concentrated cleaning and infection prevention

Hospitals and other highly susceptible settings for viral, disease or healthcare-associated infections maintain an increased focus on cleaning, disinfection and infection prevention during COVID-19. This may require adjusting supplies and equipment, conducting training for environmental services (EVS) staff, performing a variety of techniques, conducting frequent routines and covering many areas for adequate decontamination.

"COVID-19 heightened the awareness of the importance of cleaning and disinfection practices in hospitals and healthcare facilities," indicated Doe Kley, BS, RN, CIC, MPH, CIC, T-CHEST, Senior Infection Preventionist, Clorox Healthcare. "The EVS teams that support medical facilities across the country have adapted their practices to help prevent the spread of SARS-CoV-2, especially increased frequency of high-traffic and high-touch equipment and environmental surfaces. And of course, they are ensuring they are using products effective against this virus (e.g., EPA List N). These teams are investing in more disinfection tools that have EPA-approved emerging viral pathogens claims against SARS-CoV-2. Examples include trusted solutions, like bleach, and new technologies, such as electrostatic sprayers."

Doe Kley

Disinfecting spaces

There has been a longtime commitment of cleaning along with a need for additional support to safely disinfect healthcare environments, emphasizes Sarah Simmons, DrPH CIC FAPIC, Senior Director of Science, Xenex Disinfection Services.

"Hospital Infection Preventionists and EVS directors have been pleading for years for resources and new technology to enhance environmental cleanliness and battle deadly pathogens in their facilities," Simmons said. "Nearly 300 people die every day in the U.S. from an infection they contracted during their hospital stay – and that was before COVID-19."

Xenex LightStrike Germ-Zapping Robot

Page 22

Proof. Delivered.

PROOF has never been more critical.

The recent COVID-19 pandemic has heightened the importance of **proven disinfection** in all areas throughout healthcare facilities. Manual cleaning is still subject to human error, so the use of no-touch disinfection technology, such as the RD™ UVC System, has become an essential addition to a bundled process. Now, more than ever, a more focused, better-prepared approach to environmental cleaning and disinfection is imperative in order to protect the patients and frontline workers of tomorrow.
Are you prepared?

Call **855.882.2013** to get the PROOF you demand.

RD UVC
Proof. Delivered.

RDUVC.com

"We've seen a lot of innovation from hospitals and healthcare facilities as a result of COVID-19," she continued. "Hospitals moved LightStrike disinfection robots from their ORs to the Emergency Departments, so they could immediately disinfect rooms and areas where suspect patients were being treated. We were in a Texas hospital recently when they learned someone in their Accounting department tested positive for COVID-19. They immediately sent a LightStrike robot from the ER to Accounting to rapidly disinfect the entire area and conference room. The LightStrike robots have been proven effective against SARS-CoV-2, and our pulsed xenon UV light achieved a 99.99 percent level of disinfection in two minutes."

Patrick J. Piper, President and CEO, Far UV Technologies, Inc., sees hospitals, medical and dental clinics and other healthcare facilities reassessing and improving processes and tools to aid in patient and staff protection.

Krypton Ceiling Light from Far UV Technologies, Inc.

"While previous cleaning and disinfection approaches targeting the containment or reduction of hospital-acquired infections were often considered good enough before the pandemic, the significant safety and financial risks associated with COVID-19 spreading within their facilities has heightened the urgency to come up with more autonomous, continuous solutions and has many providers turning to newer innovative disinfection technologies," Piper explained. "The benefits of Krypton disinfection lighting to safely and effectively eradicate disease causing pathogens in occupied spaces has been known for some time. No one wants to catch this virus. We are a simple, 'set it and forget it,' safe, autonomous and continuous solution, ultimately providing much greater degrees of viral load reduction at lower cost than other approaches."

Widespread cleaning in many areas to decontaminate hard surfaces is an extra focus and an additional layer of protection for facilities, stresses Steven Baiocchi, Chief Operating Officer, Steriliz, LLC.

"Hospitals and healthcare facilities are paying more attention to the important work their cleaning staff performs and have a heightened sense of the importance of disinfecting additional areas throughout their facilities, not just contact precaution rooms," Baiocchi expressed. "Manual cleaning is still subject to human error, so the use of no-touch disinfection technology, such as UVC, has become an essential addition to a bundled process. The RD UVC system kills pathogens with a measured delivered UVC dose that provides comprehensive coverage and proof-of-compliance. Single-stranded RNA viruses, such as SARS-CoV-2, can be inactivated by UVGI exposure, which is also being applied to help kill the COVID-19 virus on surfaces, in the air and in other areas that can act as a vector to transmit the disease."

Steriliz' RD UVC system

Peter Veloz, CEO, UltraViolet Devices, Inc. (UVDI), calls out the benefit of automated disinfecting devices for the safety of healthcare workers and the speed of room turnover.

Page 24

"We've seen a lot of innovation from hospitals and healthcare facilities as a result of COVID-19," she continued. "Hospitals moved LightStrike disinfection robots from their ORs to the Emergency Departments, so they could immediately disinfect rooms and areas where suspect patients were being treated. We were in a Texas hospital recently when they learned someone in their Accounting department tested positive for COVID-19. They immediately sent a LightStrike robot from the ER to Accounting to rapidly disinfect the entire area and conference room. The LightStrike robots have been proven effective against SARS-CoV-2, and our pulsed xenon UV light achieved a 99.99 percent level of disinfection in two minutes."

Patrick J. Piper, President and CEO, Far UV Technologies, Inc., sees hospitals, medical and dental clinics and other healthcare facilities reassessing and improving processes and tools to aid in patient and staff protection.

Krypton Ceiling Light from Far UV Technologies, Inc.

"While previous cleaning and disinfection approaches targeting the containment or reduction of hospital-acquired infections were often considered good enough before the pandemic, the significant safety and financial risks associated with COVID-19 spreading within their facilities has heightened the urgency to come up with more autonomous, continuous solutions and has many providers turning to newer innovative disinfection technologies," Piper explained. "The benefits of Krypton disinfection lighting to safely and effectively eradicate disease causing pathogens in occupied spaces has been known for some time. No one wants to catch this virus. We are a simple, 'set it and forget it,' safe, autonomous and continuous solution, ultimately providing much greater degrees of viral load reduction at lower cost than other approaches."

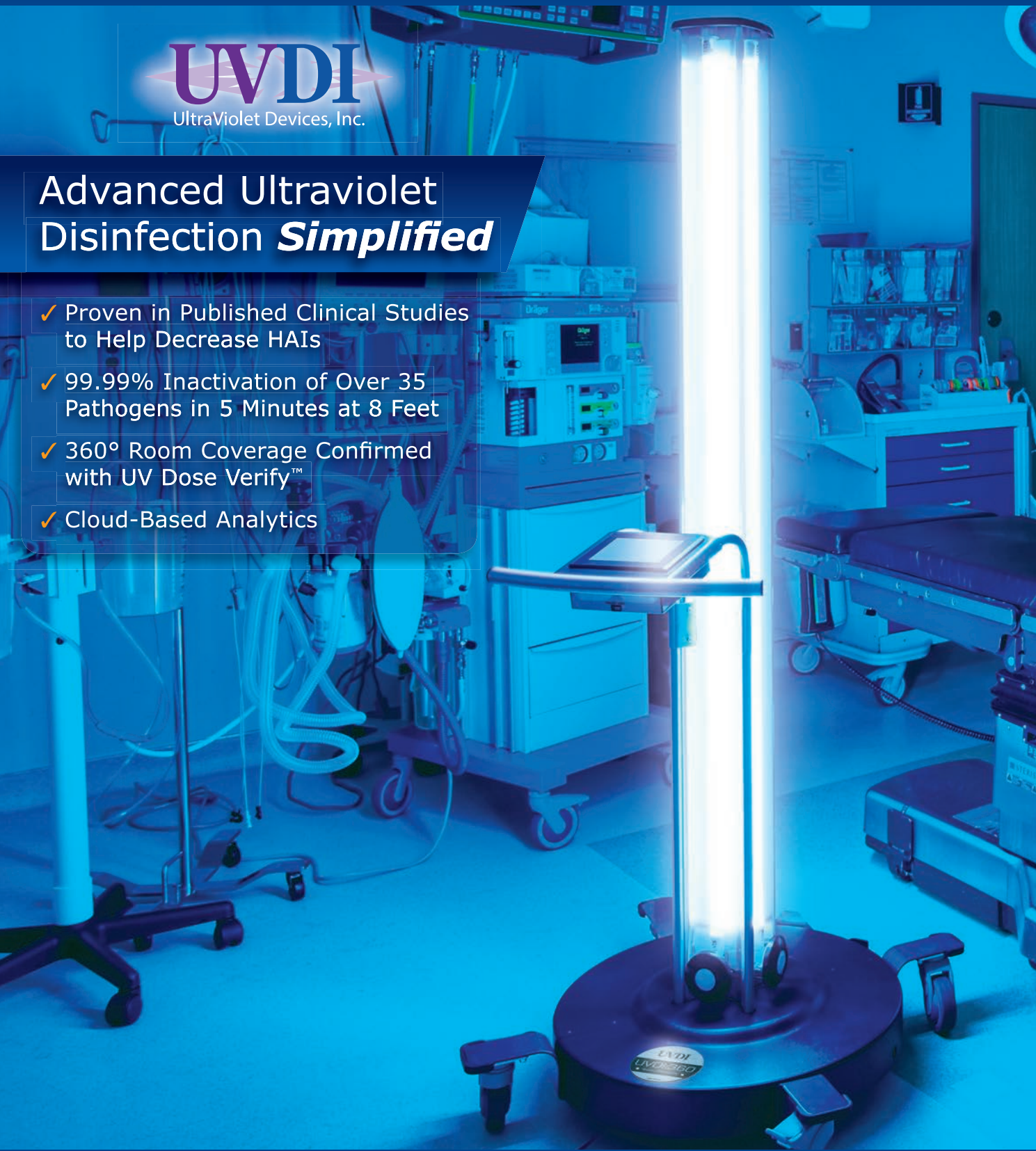
Widespread cleaning in many areas to decontaminate hard surfaces is an extra focus and an additional layer of protection for facilities, stresses Steven Baiocchi, Steriliz, LLC.

"Hospitals and healthcare facilities are paying more attention to the important work their cleaning staff performs and have a heightened sense of the importance of disinfecting additional areas throughout their facilities, not just contact precaution rooms," Baiocchi expressed. "Manual cleaning is still subject to human error, so the use of no-touch disinfection technology, such as UVC, has become an essential addition to a bundled process. The RD UVC system kills pathogens with a measured delivered UVC dose that provides comprehensive coverage and proof-of-compliance. Single-stranded RNA viruses, such as SARS-CoV-2, can be inactivated by UVGI exposure, which is also being applied to help kill the COVID-19 virus on surfaces, in the air and in other areas that can act as a vector to transmit the disease."

Steriliz' RD UVC system

Peter Veloz, CEO, UltraViolet Devices, Inc. (UVDI), calls out the benefit of automated disinfecting devices for the safety of healthcare workers and the speed of room turnover.

Page 24



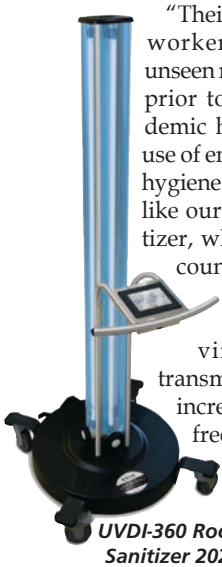
1,500 Devices | Used in Over 650 Hospitals | 25 Countries

The **UVDI-360 Room Sanitizer reduced *C. difficile*** infection (CDI) rates by **25%** and **prevented $134,568–$191,604** annual direct medical costs.

-Hospital of the University of Pennsylvania, *Infection Control and Hospital Epidemiology* 2017

844-777-UVDI | uvdi.com | uv@uvdi.com

(Pegues et. al.,Impact of Ultraviolet Germicidal Irradiation for No-Touch Terminal Room Disinfection on Clostridium difficile Infection Incidence Among Hematology-Oncology Patients. Infect Control Hosp Epidemiol. 2017;38(1):39-44.)



UVDI-360 Room Sanitizer 2020

"Their (healthcare front line workers) understanding of unseen risks in the environment prior to and during the pandemic has driven widespread use of enhanced environmental hygiene protocols and solutions like our UVDI-360 Room Sanitizer, which is now used in 25 countries," Veloz said. "In addition, emerging research about the virus' persistence and transmission on surfaces has increased interest in hands-free disinfecting practices, which can limit person-to-person and person-to-surface exposure. The UVDI-360 Room Sanitizer is proven in independent lab testing to inactivate over 35 pathogens, including coronavirus. UVDI-360 can disinfect a typical patient room in 10 minutes and a bathroom in five minutes, enabling rapid room turnover while not disrupting workflow. It can be easily activated remotely via an app or directly from the device."

Disinfection systems can extend into long-term care settings and emergency vehicles for added protection for residents, staff and first responders, points out David St. Clair, Chairman and CFO, Halosil International.

"As COVID-19 continues to spread, healthcare facilities are reevaluating their strategy for whole room disinfection, particularly in areas that historically were not a primary area of focus," St. Clair explained. "For instance, hospitals are increasingly assessing tactics for disinfecting emergency transport vehicles, which come into contact with a high volume of staff and patients. In long-term care facilities, practices for disinfecting shared spaces, such as dining halls and recreation rooms, and individual spaces, such as residents' rooms, are being examined to ensure the highest efficacy and most uniform disinfectant delivery are achieved. As the first dry-fogging solution approved to kill C. difficile spores, the Halo Disinfection System has a proven track record eliminating challenging pathogen types. Our HaloMist (EPA Reg. No. 84526-6) disinfectant has been added to the EPA's List N."

The HaloFogger and HaloMist from Halosil International

Sanitizing surfaces

Healthcare supply and equipment shortages have plagued hospitals and facilities amidst the pandemic, which has led to greater resourcefulness and flexibility with cleaning and disinfection products and use, explains Ben Oberle, Healthcare & Education Marketing Manager at 3M Commercial Solutions Division.

Mop Lite by 3M Commercial Solutions Division

"They (healthcare facilities) are having to adapt to industry-wide product shortages on the products they've always relied on to get their jobs done well," Oberle stated. There is a heightened focus on ensuring proper usage of products and promoting transparency to patients and staff on cleaning and maintenance practices. Our disinfectant chemicals are being paired with mops and tools to clean and disinfect throughout healthcare facilities."

Marc-Oliver Wright, MT(ASCP), MS, CIC, FAPIC, Professional Disposables International, Inc. (PDI), emphasizes the concentration on disinfecting many area and items, changing cleaning products and providing staff education.

"Under appreciated areas/surfaces, such as waiting areas or personal electronic devices, are all getting a little more scrutiny when it comes to cleaning and disinfection," Wright said. "Supplemental disinfection technologies have really had a moment during COVID-19. Facilities have had to be adaptive to new products during supply chain disruptions. This includes training and educating staff about a new disinfectant product, often on short notice. Having eight PDI Healthcare and Sani Professional disinfectant lines on the EPA's List N meant that the vast majority of our existing customers were already accustomed to using a product deemed to be effective against this virus. Additionally, the newly established partnership between PDI and Tru-D Smart UVC facilitated our ability to serve our customers through the challenges posed by this crisis."

Super Sani-Cloth XL Canister by PDI Healthcare

Leveraging the right roles, products and work routines can help raise the speed and effectiveness of cleaning and disinfection, notes Larinda Becker, Healthcare Marketing, Diversey, Inc.

"There are many considerations to ensure optimization including clearly defined roles and responsibilities, the right tools to do the job to ensure compliance and efficiency, and validation programs to improve processes and focus on ongoing training," Becker indicated. "Diversey's Oxivir disinfectant cleaners are fast and effective against pathogens of concern. In addition, the MoonBeam3 disinfection technology has been implemented across many facilities globally, adding UV-C disinfection for added assurance. MoonBeam3 is highly effective with fast cycle times, streamlining workflows. It is easy to use, offers safety features and is portable and easy to store and transport."

Diversey's Oxivir disinfectant cleaners and Diversey's MoonBeam3 disinfection technology

Katherine Velez, Ph.D., Senior Scientist, Clorox Healthcare, agrees that using the right products in quicker time can enhance cleaning and disinfection of all surfaces across healthcare and other industries.

Katherine Velez

"Electrostatic spraying is a well-established technology with a history of use in other areas, including agriculture, automotive and tanning industries," Dr. Velez stated. It has only recently been applied to surface disinfection. This technology is a new way to apply cleaners, sanitizers and disinfectants to surfaces, in less time than it would take to apply the same products manually. The Clorox Total 360 electrostatic sprayer is designed to apply disinfectants and sanitizers on all sides of hard-to-clean surfaces and equipment, such as portable equipment and wheelchairs. The system uses patented technology to charge the disinfectant solution, which causes disinfectant droplets to

Page 26

Raising the Standard for **Whole Room Disinfection**

Healthcare and community-acquired infections, such as COVID-19, are a universal concern for today's healthcare facilities. While spray-and-wipe and UV-based systems eradicate many pathogens, they miss those lurking in shadowed or hard-to-reach areas. At Halosil, our dry fogging HaloMist™ disinfectant (EPA Reg. No. 84526-6) eliminates pathogens on hard, non-porous surfaces, **achieving the highest standard for efficacy, safety, affordability, and longevity on the market today.**

Halosil™
INTERNATIONAL

It's time to disinfect beyond a shadow of a doubt.

Contact Halosil at halosil.com/shadow to get started.

Tel: +1 302.454.8102 | **Email:** info@halosil.com

stick to surfaces and consistently coat all surfaces for comprehensive coverage."

Implementing an environment-friendly disinfection system has resulted in killing pathogens quickly, preparing rooms faster and enhancing patient and staff safety and satisfaction, shares Liz Shelton, Administrative Director, Hospital Operations, CHRISTUS Trinity Mother Frances Health System.

"We had R-Water's disinfecting system as a pilot initially in 2018, to help speed up the disinfection process for rooms after treating patients for *C. diff*," Shelton said. "We also wanted to decrease our turnaround time in our Operating Rooms. This system helps us achieve our goal to ensure we are keeping our nurses and patients safe while killing all harmful organisms."

R-Water disinfecting system

"We received our second machine in mid- to late-March, when COVID was first impacting Texas," she continued. "These two systems helped us ensure an adequate supply of disinfectant for our ORs, hospital and clinics. Because the system produces disinfectant on-site, we're able to reuse supplies and reduce waste. Plus, because it (R-Water's disinfecting solution) is not toxic, it can be disposed of more easily. We just deployed R-Water in our clinics. The nurses love it and feel safe. We significantly decreased our cleaning times by using R-Water, and that allows us to spend more time treating patients."

Protection of mattresses, where patients spend most of their time, requires a specialized barrier that can help shield patients from infection risk, expresses Bruce Rippe, CEO, Trinity Guardion, LLC.

"Some hospitals are using more rigorous techniques particularly after COVID-19 discharges, such as more frequent cleaning of patient rooms and use of stronger disinfectants during terminal cleaning," Rippe noted. "Stronger disinfectants can damage mattress skins and mattress cores – and damaged mattresses increase the infection risk for patients. That's why ECRI sounded the alarm on mattress contamination, citing it as a top health hazard in 2018 and 2019."

"Trinity's product is designed specifically for the healthcare mattresses of today, which have changed from vinyl (hard / non-porous surface) to polyurethane (soft /porous surface)," he added. "Our launderable bed barriers meet and surpass the required disinfection guidelines. We leverage a high-heat laundry process. As a result, beds and mattresses are cleaner when compared to more traditional disinfection methods – and the risk of cross-contamination is eliminated." HPN

Soteria Bed Barrier from Trinity Guardion

References:

1. As Services Resume, Our Hospitals Remain Safe: A Message from Cleveland Clinic CEO, President Tom Mihaljevic, M.D., https://newsroom.clevelandclinic.org/2020/05/04/as-services-resume-our-hospitals-remain-safe/

2. COVID-19: American College of Surgeons releases new guidance document to help health care facilities best prepare for resuming elective surgery, https://www.facs.org/media/press-releases/2020/resuming-surgery-041720

3. Management of Visitors to Healthcare Facilities in the Context of COVID-19: Non-US Healthcare Settings, https://www.cdc.gov/coronavirus/2019-ncov/hcp/non-us-settings/hcf-visitors.html

Visit https://hpnonline.com/21149616 for the sidebar: Crisis to crystal ball

TERSO
SOLUTIONS, INC.

When times get tough, it's nice to have an inventory management system that isn't.

The time is now.

tersosolutions.com/thetimeisnow

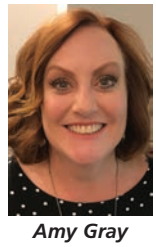
Pandemic elevates concerns for skin, wound care

by Ebony Smith

Caring for patient wounds and skin is critical. Skin and wounds need to be carefully treated as they are prone to irritation, dryness, exposure to potentially deadly microorganisms, as well as the development of possibly fatal pressure, amputation and other injuries. Additionally, COVID-19 poses unique patient health conditions and healthcare worker skin challenges.

Hospital and healthcare teams aim to provide specialized care, attention and products to treat wounds, cleanse skin, aid healing and prevent cross-contamination, infections and injuries. This care can improve patient comfort, saves patient lives and support facility costs.

"Facilities are losing millions of dollars per year due to hospital-acquired pressure injuries. CMS deemed this one of its never events in 2009," stated Amy Gray, RN, BSN, CWS, Wound Care Clinical Leader, National Clinical, Essity HMS North America Inc. "Most acute care facilities have skin integrity committees to ensure that processes are in place and protocols are followed to minimize occurrence."



Amy Gray

Surgical site protection

Surgical incisions and other wounds require adequate barrier to benefit safety and healing, points out Melanie Waddell, Vice President Marketing, entrotech life sciences, inc.

"It's important that any wounds, specifically post-surgical wounds, are protected to help prevent infections from occurring at the site," Waddell emphasized. "Surgical site infections are very costly to hospitals and healthcare facilities and have considerable negative impacts to the patient. In addition, any products used to help protect that site should also support the wound healing process."

Prevahex^{CHX} antimicrobial dressing by entrotech life sciences, inc.

Antimicrobial dressings, like Prevahex^{CHX}, can be applied to help protect the surgical incision site, assist in wound healing and reduce infection risk.

"A vascular surgeon in Ohio has been using Prevahex^{CHX} as a post-operative dressing for vascular patients," she added. "He uses this dressing on his patients because of the Chlorhexidine antimicrobial component of this dressing to decrease the skin flora in the incisional area as the incision is commencing the healing process. In addition, there has not been any report of skin irritation, infection or rejection from any of the patients, and there has been overall acceptance of using this technology from the surgical and nursing staff."

AQUACEL dressings are another type of antimicrobial dressing that helps secure the incision site, support wound healing and kill bacteria, addresses Julia M. Rian, RN, BSN, JD, CWOCN, Associate Director, Clinical Market Development, ConvaTec Inc.

"ConvaTec's AQUACEL dressings with Hydrofiber Technology provide advanced exudate management: they wick and lock

Page 30

Smart Technology. Smart Service.

PURELL SMARTLINK™ Service Alerts is a proactive and preventive maintenance system to monitor your hand hygiene dispenser fleet with data through emails, web-based reports, and a mobile app to increase labor efficiency and productivity.

Reduces Service Trips More Than
85%[1]

Reduces Labor Time More Than
30%[1]

Reduces Refill Waste More Than
10%[1]

Predictive analytics based on dispenser usages ensures product is always available for critical hand hygiene events, while reducing product waste so you can focus on essential cleaning tasks, not dispenser maintenance.

To learn more, visit **GOJO.com/HPN6**

Purell SMARTLINK™

1. Altavita Village, Time and Waste Reduction Study, June – December 2016. Data on file.

exudate within the dressing," Rian shared. "AQUACEL Dressings protect the wound bed, lower the risk of peri-wound maceration, reduce wound pain and dressing change pain, and maintain a moist wound environment conducive to wound healing. The AQUACEL Ag Advantage dressing addresses wound bioburden and infection, killing a broad spectrum of bacteria within the dressing, including antibiotic-resistant microorganisms, and has sustained antimicrobial activity in the dressing for up to seven days, preventing microbial reformation."

Julia Rian

Complicated wounds and care

What kinds of challenges happen with wounds that are ongoing or have trouble healing?

Ralph Lombardo, Senior Vice President of Sales & Marketing, and Director, Clinical Program, Avadim Health, Inc., calls out the complications with chronic and non-healing wounds, antibiotic use and microbial resistance.

"Chronic and non-healing wounds oftentimes are refractory to traditional treatment," Lombardo explained. "These wounds are commonly challenged with biofilm bacterial colonization and have over-expressed inflammation. Eradication of this biofilm and control of this inflammation can be very difficult to achieve without the use of long courses of systemic antibiotics. While topical treatments can be effective, they also can interfere with epithelialization."

"Microbial resistance is an additional challenge leading to fewer options, which jeopardizes clinical outcomes," he added. "Unresolved wounds can increase hospitalization time and decrease patient comfort, which account for patient dissatisfaction and can impact a hospital's ability to be reimbursed in Medicare/Medicaid's Hospital Value-Based Purchasing programs."

Hygiene and wound cleansing products, like Theraworx Protect, can be used to cleanse skin and decrease infection risk, notes Lombardo.

"Theraworx Protect has been proven safe for the stratum corneum, mucosa, face and perineum, including deep wounds," he continued. "As a proven, non-inferior bathing alternative to standard ICU bathing, it supports antimicrobial stewardship programs. Plus, unlike other hygiene and wound cleansing products that can cause dryness and break down the skin's barrier— increasing the risk of infection—Theraworx Protect is actually good for the skin, supporting the skin's natural antimicrobial barrier and defensive functions. Its no-rinse, non-irritating formulation has no sticky residue leading to its inclusion in clinical bundles indicated to prevent hospital-associated infections."

Other skin cleansers, non-antimicrobial dressings and bathing gloves can aid in bathing and protection of skin to lower infection risk, explains Tony Forsberg, RN, BSBA, WCC, CSPHA, National Clinical Director, Essity HMS North America Inc.

"Our skin cleansing and protective products clean and protect while promoting a healthy pH and minimizing trauma from removal," he indicated. "Caregivers have found the TENA Bathing Glove to be an important tool when needing to provide baths to those who are bedbound."

Tony Forsberg

"Cutimed Sorbact dressings, with DACC technology, provide clinicians a lower-cost and effective treatment for all stages of wounds. Ease of use and atraumatic removal may help increase patient satisfaction. Sorbact dressings are an excellent alternative to antimicrobial dressings and work via a physical mechanism of action, immediately and irreversibly binding hydrophobic microorganisms, including bacteria," Gray added.

Wounds commonly lead to amputations, which are hazardous and life-threatening, stresses Fertram Sigurjonsson, founder, president and CEO of Kerecis.

"Wounds are a major cause of amputations in the U.S., where more than 100,000 amputations are performed annually," Sigurjonsson reported. "The 1.2 million amputees living here have a five-year survival rate of less than 30 percent, a rate similar to lung cancer. Even if an amputation is not needed, a chronic wound needs ongoing medical attention, which increases the cost of treatment and decreases the patient's quality of life."

Theraworx Protect line from Avadim Health, Inc.

Fish-skin grafts, like Omega3 Wound, can be used to help quicken healing and decrease chances for amputations or infections, explains Sigurjonsson.

"Quality wound care can speed healing, reducing the need for amputation, improving lives and lowering costs because fewer treatments are needed," he said. An example is Dennis Reneau, a former U.S. Marine and top U.S. body builder who faced having both his feet amputated. Kerecis Omega3 Wound saved Dennis from a double amputation and gave him his former life back."

Kerecis Omega3 Wound fish-skin graft

"Clinical studies have found that Kerecis Omega3 Wound heals wounds faster, with fewer infections, than the standard of care," Sigurjonsson added. "For example, an independent comparative study conducted by The Institut Curie, Henri-Mondor Hospital, Paris-Est University and University PSL found that patients treated with the Kerecis products healed in an average of 32 days, compared to 68 days for patients treated with standard treatment. The Kerecis patients experienced less pain and fewer infections. Also, the U.S. Office of Naval Research found that wounds treated with the Kerecis products were much more resistant to staphylococcus infections than wounds treated with competing products."

Skin health amid COVID-19

COVID-19 remains a health concern for everyone. In addition to life-threatening infections, it also can cause skin issues for healthcare workers and additional health problems for infected patients.

"Irritation from PPE has been a common issue throughout this pandemic," pointed out Essity's Gray. "Clinicians could benefit by using a skin prep product under their masks. Hand sanitizers and disinfectants can dry out and irritate the skin. Dry skin can crack, which can become a portal of entry for bacteria. It is incredibly important to keep the skin hydrated with moisturizers. Essity's Cutimed Protect has been an effective solution for this issue."

Avadim Health, Inc.'s Lombardo agrees it is vital for healthcare staff to keep their skin, hands and faces clean and disinfected to help shield against contagious pathogens.

"When skin breakdown occurs under PPE, it can lead to more frequent touching or scratching of the broken skin and incorrect or premature removal of PPE, which gives viruses and bacteria the ability to penetrate the body and access the circulatory system," he shared. "Theraworx Protect helps protect the hands and the face, particularly the T-zone (eyes, nose and mouth)—an area that leaves us most vulnerable to infection."

For some COVID-19 patients, a rash may develop that is linked to the infection, describes Sigurjonsson of Kerecis.

"One unusual symptom of COVID-19 is a rash, which has been nicknamed "COVID toes," he stated. "The red-purple, tender or itchy bumps develop mostly on the toes, heels and fingers. Although the jury is still out regarding the cause, many experts think that COVID toes may be one of the ways the body responds to the virus."

What's next in wound, skin care

As COVID-19 has sidelined or discouraged many people from seeking medical care, wound conditions may become more challenging to treat, notes Kerecis' Sigurjonsson.

"We expect wound care to become a bigger issue because so many patients did not get treated during the pandemic," Sigurjonsson said. "As a result, their wounds have become more serious and may require treatment in a hospital setting. It's likely that hospitals will be able to treat only the most complex wounds, and that patients with less serious conditions will be treated elsewhere."

ConvaTec Inc.'s Rian predicts advancements in wound and skin care applications that can help patients with challenging conditions to safely recover at home.

"Wound care treatment modalities and skin care products will continue to evolve, with new components, materials and innovations developed to more effectively manage complex, non-healing wounds," she explained. "The full impact of the coronavirus pandemic remains to be seen, but the need to have advanced wound care dressings that can effectively manage the hard-to-heal wounds of patients cared for at home will likely intensify. With the increase in COVID-19 patients requiring critical care, along with proning these patients who develop Acute Respiratory Distress Syndrome, the use of dressings, such as AQUACEL Foam Pro, for skin protection from pressure injury will continue to be an important intervention."

Greater knowledge of the skin's make-up and restorative properties will be a concentration in the future of care, foresees Avadim Health, Inc.'s Lombardo.

"As we understand more about the role of the skin's microbiome and the important role of antimicrobial peptides in infection prevention and skin and tissue restoration, we're very close to having products on the market that can protect wounds from infection and biofilm formation and adherence, re-establish healthy inflammatory response and cellular renewal, and encourage tissue oxygenation – all in a way that's safe and comfortable for the patient and healthcare providers," Lombardo expressed.

Gray and Forsberg of Essity envision ongoing education about wound care and prevention, as well as wish for the equipment needed to safely care for patients.

"Obesity and other co-morbid conditions make caring for these patients challenging," Gray said. "As nurses, we need to be vigilant when developing care plans. Hopefully, resources, such as lifts, transfer sheets, low air-loss surfaces, foams, breathable briefs, etc., will be readily available in all facilities." HPN

SPD makeovers from layout to payout to payoff

by Kara Nadeau

Photo courtesy: Kat Velex, LeeSar

As surgical procedures, instruments and devices continue to advance, Central Sterile/Sterile Processing Department (CS/SPD) processes and equipment must evolve as well. Yesterday's decontamination, cleaning and sterilization practices simply can't accommodate the complexity and volume of today's surgical and medical services.

Whether building a new CS/SPD or renovating an existing space, hospitals have access to a broad range of innovations to maximize output, optimize performance, streamline workflow and ensure high-quality reprocessing services.

Investing in IFUs

Because the CS/SPD is viewed as a cost center rather than a revenue generator, it can be hard to convince hospital leaders to invest in the department, according to Mary Olivera, MHA, CRCST, CHL, FCS, oneSOURCE Consultant & President and CEO of OSPECS Consulting.

"More than ever the operating room (OR) demands a quicker turnaround time for surgical instruments, which as a result requires SPD teams to be as productive and efficient as possible," said Olivera. "Today, most (CS/SPD) departments function using obsolete equipment, processes and facility designs that make it very difficult to perform the simplest tasks. The benefits of applying new technology can be rewarding - improving productivity and process quality - and ultimately keep patients and staff safe and healthy."

Mary Olivera

Olivera points to the following innovations as being the "highest need" in the CS/SPD today:

- Online instructions for use (IFU) databases
- Ergonomic equipment
- High-capacity reprocessing equipment
- Cleaning verification and performance qualification technology based on the device manufacturers' IFU
- Water filtration systems
- Process traceability technology

"Following the reprocessing equipment IFU helps the department maximize the loads and optimize cycles to increase turnaround time," Olivera added. "Understanding the process listed on the cleaning verification products ensures the technician identifies bioburden left on the instruments and therefore delivers a high-quality product. Being able to find updated instructions for cleaning, disinfecting and sterilizing for a medical device quickly streamlines the process and potentially prevents patient harm."

Olivera notes how oneSOURCE saves time and streamlines workflow in the CS/SPD. In addition, it allows teams to maintain compliance 24/7 and arms them with the most updated IFU and preventative maintenance (PM) service manuals needed to accomplish the increasingly difficult objectives these departments face.

Smart reprocessing

"Most CS/SPD professionals are challenged with limited resources – equipment and staff – coupled with increased pressure from the OR and other clinical customers to reprocess instruments quickly and safely. CS/SPD leaders are always on the lookout for ways to improve efficiency and safety while reducing waste. One way to do so is to avoid unnecessary reprocessing through an automated system that tracks when specific instruments have been processed.

According to Marcus Super, CCSVP, Director of Sales & Marketing, Summit Medical, tracking is particularly important given the U.S. Food and Drug Administration's (FDA's) recent guidance regarding tracking individual robotic devices that have a specified reprocessing life. In direct response to this need, Summit Medical, in partnership with Practico Solutions, developed its CycleTrak robotic module for use with da Vinci Si, Xi, and Sp instrument and accessories. Using an existing computer with an internet connection and a barcode scanner, a CS/SPD can use CycleTrak to quickly keep track of

Marcus Super

Page 34

TWO SIMPLE WORDS: THANK YOU

While these two words are simple, we know the work you do every day in sterile processing is not. We thank you for being 100% dedicated to improving patient safety through everything you do. From all of us at Key Surgical, Happy International Sterile Processing Week Oct. 11-17. And... thank you.

KEYSURGICAL

CALL 800.541.7995 OR VISIT KEYSURGICAL.COM

individual instrument reprocessing cycles and be notified when it has reached its maximum cycle life.

"In less than three days your facility can implement CycleTrak, comply and confidently monitor individual instrument reprocessing cycles," said Super. "You will be clearly prompted when it is time to retire an instrument from use, manage inventory and reprocessing cycle counts, and generate reports for audit compliance. This helps minimize unnecessary reprocessing, saving CS/SPD time and money."

Diane Amaral, BSN RN CNOR, Operations Manager, OR, Robotic Coordinator, Hoag Hospital, shares her experience using CycleTrak and the benefits her organization has derived from the solution.

"CycleTrak has saved us money and time, the two most important commodities in the OR world," said Amaral. "We can immediately check to see if our instruments need to be reprocessed or discarded so we don't waste time reprocessing instruments with no lives left. This has eliminated the insertion of an instrument during a procedure and discovering that it needs to be replaced, increasing surgeon and staff satisfaction."

Enhanced visualization

As instrument and device complexity has grown, so has the challenge of cleaning them. For example, cannulated instruments can harbor debris invisible to the naked eye. That is why CS/SPD are increasingly implementing enhanced visualization methodologies to improve reprocessing efficacy, efficiency and safety.

Ash Crowe, MHA, Project Manager, St. Onge Company, points out how the Association for the Advancement of Medical Instrumentation (AAMI) cites the importance of enhanced visualization in its ANSI/AAMI ST79: 2017 Comprehensive guide to steam sterilization and sterility assurance in health care facilities, which states:

"Methods that are able to measure or detect organic residues that are not detectable using visual inspection should be considered in facility cleaning policy and procedures (AAMI7.6.4.5)."

"The enhanced visualization provided by borescopes streamlines the workflow by eliminating rework and helps ensure that instruments are completely cleaned to a department's high-quality standards," said Crowe. "They can also be deployed in the clean work area for an additional inspection. From a design perspective, one of the things that's nice about the borescopes is that they are relativity small and can be added to newly constructed or renovated spaces easily. Often it is even possible to add them to an existing department without any renovation."

Jeno Lewis, ORT, CRCST, CHL, Central Processing Department Operations Manager, Children's Hospital of Philadelphia, comments on the use of boroscopes and enhanced visualization when reprocessing reusable devices.

"I wholeheartedly feel borescopes are essential to reprocessing reusable surgical devices, which include any type of inner channel requiring visual inspection," said Lewis. "It's being called out in some of the newer and better written IFU manuals that accompany the device specifying the utilization of 'enhanced visualization.' I absolutely stand by their effectiveness to provide the opportunity to properly perform internal visual inspections, as well as next-level visualization in areas never inspected previously."

Process automation

The benefits of automation and standardization have been leveraged throughout healthcare, including the CS/SPD. The ability to automate manual processes saves time, enhances quality and, in many cases, lowers costs.

"Automated systems are becoming more and more relevant to renovations," said Megan Pietura, Business Operations Manager, Pure Processing. "With the investment of new equipment, more managers are starting to ask, 'What can my equipment do for me so that my technicians can be focused elsewhere?' Automated flushing systems are just one example to eliminate the timely investment of syringe-flushing lumens."

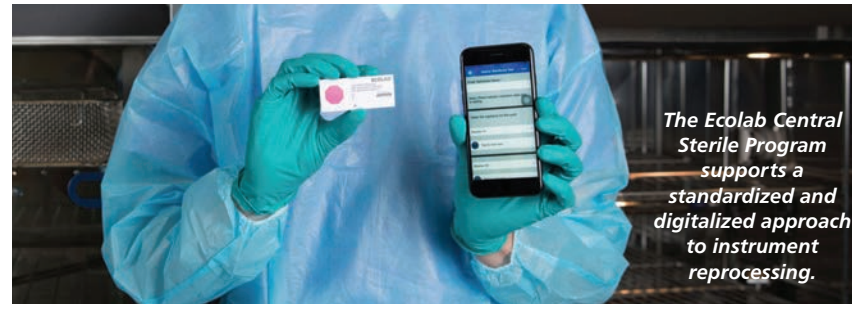
Megan Pietura

"While automation definitely improves throughput of reprocessing, it does challenge our thinking of the department as a whole," Pierura added. "Automated processes are being introduced in every piece of equipment, at every stage. It's a balancing act for some departments."

Olivia Broaddus, Marketing Manager for Ecolab Healthcare's Operating Room and Central Sterile Programs, describes how CS/SPDs are implementing holistic solutions, such as the Ecolab Central Sterile Program, which takes a comprehensive approach to instrument reprocessing that helps monitor and standardize daily washer testing processes.

With its Central Sterile Program, Ecolab has transformed an otherwise paper and binder process of daily washer testing into a digitalized process management system. Customizable, user-friendly dashboards collect data on washer cleaning effectiveness, measure and digitally record testing records for compliance, and easily pinpoint precisely where corrective action is needed, down to the washer, technician or rack level.

"These actionable insights allow Central Sterile staff and other authorized users to lead process improvements where they are needed most, standardize workflows and keep patients safe," said Broaddus. "The program also includes regular Ecolab audits that provide feedback on quality, Joint Commission compliance process and efficiency to continually drive progress."



The Ecolab Central Sterile Program supports a standardized and digitalized approach to instrument reprocessing.

"Our program drives measurable improvements in operational and financial metrics," Broaddus added. "It helps reduce contamination on instruments, which is linked with surgical site infections (SSI), and ensures industry standard compliance and Joint Commission audit readiness."

Stricter separation of clean from sterile

Derrick Bransby, MBA, Senior Manager, St. Onge Company, says that while many existing CS/SPDs in the U.S. have only two zones – soiled and clean – as the minimum recommended by AAMI, Association of periOperative Registered Nurses (AORN) and Facility Guidelines Institute (FGI), three-zone flow, made

Derrick Bransby

possible through dual-sided sterilization, addresses concerns regarding quality and safety.

In a three-zone department there are three physically distinct zones – decontamination, clean work and sterile storage – connected via pass-thru equipment, Bransby explains. In this configuration, assembled trays pass through steam and/or low temperature sterilizers, much like soiled instruments pass through washers, from clean work into sterile storage. He notes how such flow and compartmentalization is common practice in clean manufacturing environments, as well as in European CS/SPDs.

"Placing a physical barrier between clean and sterile material is a form of mistake proofing, or 'poka-yoke' as Lean practitioners call it, which prevents inadvertent distribution of non-sterile trays to the OR," said Bransby. "In a three-zone department, assembled trays can only enter storage after sterilization occurs (or a staff member intentionally transports it there). Such flow also improves workflow and performance by eliminating processes and procedures required to identify sterile and non-sterile material in and around traditional, single-sided sterilizers. The primary challenge associated with implementing three-zone flow is space. The simple fact of the matter is that dual-sided sterilization equipment requires more space to load and unload than their single-sided siblings."

Page 36

AMSCO 600 Steam Sterilizer from STERIS

Travis Tingle, BSN, RN, CRCST, Director of Sterile Processing at Houston Methodist Hospital, which operates both two- and three-zone CS/SPDs, comments on why he prefers the three-zone approach.

"Physical separation of dirty, clean and sterile material ensures alignment between workflows, regulations, and guidelines," said Tingle. "It forces compliance and improves patient safety. During an audit, it's easy to show Joint Commission or CMS your workflows and know they are compliant. It's intuitive. Moreover, it makes sense to non-CS/SPD staff. In a three-zone department, if someone from the OR pulls a tray from storage, then you can be pretty confident that tray has been sterilized. It works out for everyone. The workflow is better, regulations are covered, and staff have a clear understanding of what to expect based on location within the department."

Space & time saving sterilization

For those CS/SPDs that cannot build a completely new department, maximizing existing space is critical, particularly as instrument reprocessing volume continues to rise, explains Samuel Watkins, CCSVP, Director of Marketing, IPT, STERIS.

"When renovating an SPD, customers are requiring more throughput with less space," said Watkins. "The STERIS solution for this need is the AMSCO 600 Steam Sterilizer. This autoclave offers easy loading with an automated vertical door and requires no side or rear clearance, allowing multiple sterilizers to be installed side-by-side and creating a space-saving powerhouse with 70 percent space savings per unit. Additionally, the AMSCO 600 comes clean steam ready with stainless steel piping and a standard 15-year chamber warranty. Making the service or biomed team happy, the steam-activated gasket never requires lubrication and the fully-jacketed chamber means less condensation forming on the chamber interior."

"Additionally, this sterilizer can help departments batch smaller loads that are needed quickly, maintaining a continuous workflow," Watkins added. "Pairing with ConnectAssure Technology and/or SPM, SPD staff will enjoy being connected with load status of the AMSCO 600."

Hänel Rotomat Automated Carousels

Streamlined storage

Another way to make the most of a CS/SPD renovation or rebuild is to maximize storage space. The variety and number of supplies required for surgical procedures today can be overwhelming. Finding ways to effectively organize and store them for easy access saves CS/SPD professionals' time, speeds delivery to the OR and helps support on-time case starts.

Amy Flynn, OR/CS Market Manager with Hänel Storage Systems, explains how the company's Rotomat Automated Sterile Storage Carousel also protects supplies against contamination, which is always a concern but even more so during the current COVID-19 pandemic.

"With racks, it's common to rifle through items you don't need in order to find those that you do," said Flynn. "Items are inadvertently handled on a regular basis, which needlessly exposes them to potential contamination. The COVID-19 pandemic has dictated that people touch objects less often, so the best way to ensure less incidental contact of sterile wraps, packs and containers is to secure them inside a Rotomat. Supplies are surrounded on all sides and kept out of sight, so they're only handled when absolutely necessary, and also protected from airborne pathogens and contaminants."

Another benefit of the Rotomat is stockpile management, according to Flynn. She points out how the COVID-19 pandemic has highlighted the challenges of supply shortages and their impact on patient care. An automated supply management solution can help hospitals maintain adequate inventory levels so that supplies are available when needed.

Loraine Durigan, Sterile Processing Manager with AdventHealth Altamonte Springs, FL, implemented the Rotomat during her department's renovation.

"We condensed two rooms measuring approximately 1,500 square feet each, with wall-to-wall carts on tracks, down to one 1,000-square-foot space by using four Rotomat units," said Durigan. "Each Rotomat can support double and sometimes triple the amount of supplies we had prior to the conversion, while still allowing room for additional product. The enclosed units

Page 38

Communicate Important Messaging to Promote Safety Throughout Your Facility

Healthmark offers Wall Signs and Floor Signs to help remind facility personnel and visitors to maintain social distancing, wear masks and more

Wall Signs

Healthmark's COVID-19 related Wall Signs serve as a visual reminder for individuals to wash hands frequently, don gloves and masks, practice social distancing, be aware of quarantine areas and more!

Floor Signs

Healthmark's COVID-19 related Floor Signs serve as a visual reminder for individuals to be aware of designated quarantine areas, practice social distancing measures, when to don gloves and masks, as well as refrain from shaking hands.

healthmark

INTELLIGENT SOLUTIONS FOR INSTRUMENT CARE & INFECTION CONTROL

HMARK.COM | 800.521.6224

Healthmark offers many custom labeling and signage solutions to suit your needs. To learn more about our options, visit

HMARK.COM

allow us to maximize floor-to-ceiling space and keep any dust, dirt or debris from accumulating on sterile product."

Sterility assurance

Keeping instrument sets and trays sterile and free from contamination after sterilization or high level disinfection (HLD) is a challenge most CS/SPDs face, whether it is during handling, transport or in a sterile storage space.

Tears in sterilization wrap, also known as "blue wrap," most frequently occur during the handling of instrument sets from one location to the next or stacking of the sets on top of one another during storage and/or transport, according to Ian Loper, Vice President, DSI.

Traditional wire shelving (before) and DSI's No-Tear system (after)

"DSI's No-Tear storage system is one part product innovation, second part process improvement," said Loper. "With sterility in mind, we've designed a storage system specifically around wrapped instrument with the end goal being complete elimination of tears or punctured holes with the blue wraps. No-Tear in wrapped instruments equals no reprocessing delays and a tremendous cost savings for the hospital."

With DSI's no handling systems approach, combined with its high-density storage systems, the wrapped sets are not touched until being unwrapped in the OR. DSI's No-Tear system also enables the department to store up to 40 percent more instrument sets in the same amount of space, while enhancing its workflow, thereby alleviating any bottlenecks throughout the room due to space limitations and congestion.

The HALYARD and Belintra SMART-FOLD Sterisystem

Joseph Hannibal, Marketing Director for Sterilization, Surgical and Infection Prevention, Halyard, says innovations in design can transform the sterilization process by decreasing the risk of contamination, reducing reprocessing time and maximizing efficiency and storage space. He describes the benefits of the Halyard and Belintra SMART-FOLD

STERISYSTEM, an end-to-end system addressing sterilization, storage and transport.

"The unique system combines Halyard SMART-FOLD sterilization wrap with Belintra's stainless-steel instrument trays and transport shelves," said Hannibal. "Halyard SMART-FOLD Sterilization Wrap is three times more tear-resistant than conventional wrap.[1] The wrap also features two contrasting layers that are bonded together for quick and easy breach identification. Belintra's trays and shelves improve efficiency and organization by eliminating the need for stacking, further reducing the chance for tears, cuts and holes in the wrap."

"The SMART-FOLD STERISYSTEM addresses challenges and provides benefits throughout the entire sterilization workflow," Hannibal added. "Safety-wise, the system reduces touchpoints to two, in line with the AAMI standard 79 guideline recommendation."

Endoscope tracking

COVID-19 is placing increased pressure on healthcare facilities to ensure they are following every step, in the right order and on time amidst the high volumes of reprocessing and increasing pressures brought on by pandemic conditions, explains Melinda Benedict, MS, CIC, CFER, Senior Manager, Infection Prevention, Olympus Corporation of the Americas. Therefore, she says being able to track information about outbreaks is more important than ever.

Melinda Benedict

"Even more so, being able to identify or prevent potential breaches *before* they occur is a goal for which CS/SPD departments strive," said Benedict. "Many are turning to digital technology to help bridge gaps being created by COVID-related restrictions. Some solutions are already available, such as Olympus' Unifia software for tracking endoscope use."

Unifia not only provides real-time alerts in the event that an endoscope is not following the proper reprocessing protocol prior to reuse, but also collects historic data so that a user can be informed if the endoscope may need to be sent for servicing, based on the number of times it has been used. Eliminating the need for manual record keeping, the system records who carried out which task and when. For hospital or clinic management, the system provides proof that reprocessing procedures were followed, while also enabling them to track and manage their assets more efficiently.

Bayside Endoscopy Center in Providence, R.I. is a high-volume endoscopy center with six procedure rooms. Mike Paiva, Reprocessing Supervisor and Lead Technician, describes how his team's use of Unifia has streamlined and improved endoscope tracking processes.

"Before using Unifia, when we needed to report on the usage of our scopes, we had to comb through reams of paper records," said Paiva. "Now we're able to print records with a few keystrokes, and that's a process that would have taken me up to a week before we had Unifia. We now have the ability to track that scope from the cabinet to the procedure room, to the doctor, to the patient, making sure the pre-cleaning is done – to show it's going into the sink, it's going into the automated endoscope reprocessor (AER), coming out of the machine and being put back on the wall. We know who is handling it at every step, and if something goes wrong, we're able to figure out very quickly what happened. Scopes are a big investment and knowing that they're being properly used and maintained is important." HPN

Reference:

1. Study comparing SMART-FOLD Sterilization Wrap to ONE-STEP Sterilization Wrap, Kurt Salmon and Associates, 2001. Comparing SMART-FOLD H650 Sterilization Wrap to ONE-STEP H600 Sterilization Wrap.

HEALTHCARE PURCHASING NEWS

September 2020

The self-study lesson on this central service topic was developed by STERIS. The lessons are administered by Endeavor Healthcare Media.

Earn CEUs

After careful study of the lesson, complete the examination at the end of this section. Mail the completed test and scoring fee to *Healthcare Purchasing News* for grading. We will notify you if you have a passing score of 70 percent or higher, and you will receive a certificate of completion within 30 days. Previous lessons are available at www.hpnonline.com.

Certification

The CBSPD (Certification Board for Sterile Processing and Distribution) has pre-approved this in-service for one (1) contact hour for a period of five (5) years from the date of original publication. Successful completion of the lesson and post-test must be documented by facility management and those records maintained by the individual until recertification is required. DO NOT SEND LESSON OR TEST TO CBSPD. For additional information regarding certification, contact CBSPD - 148 Main Street, Suite C-1, Lebanon, NJ 08833 • www.sterileprocessing.org.

IAHCSMM (International Association of Healthcare Central Service Materiel Management) has pre-approved this in-service for 1.0 Continuing Education Credits for a period of three years, until August 4, 2023. The approval number for this lesson is **STERIS-HPN 200408**.

For more information, direct any questions to *Healthcare Purchasing News* (941) 259-0832.

LEARNING OBJECTIVES

1. *List standards for drying and how to meet those standards*
2. *Identify the types of air required to dry medical devices and where they are located in a reprocessing area*
3. *Explain the multiple consequences of inadequate drying*

Sponsored by:

STERIS

SELF-STUDY SERIES

Do your medical device drying processes meet the standards?

by Tamara Behm and Pamela Carter

Residual water creates opportunities for the growth of many types of organisms, in many environments. For example, have you ever left wet clothing or towels in the washer until they became smelly from mildew? Did you know that water left in your ear after swimming creates a perfect environment for bacteria to proliferate, which can cause a bacterial infection called swimmer's ear?

In healthcare reprocessing environments, such as gastroenterology (GI) departments and sterile processing departments (SPDs), wet reusable medical devices can be even more dangerous than laundry mildew and swimmer's ear. They can interfere with sterilization and/or disinfection processes. They can also cause device damage and can contribute to the formation of biofilm that contains infectious agents. Biofilm also can prevent effective disinfection or sterilization of the surfaces it adheres to. All these factors can create a serious infection risk for the patients in whom the device is used.

This article will review current recommendations for effective medical device drying, discuss the appropriate types of air to use and explain how to complete drying steps safely in SPD and GI reprocessing areas.

Current standards and rationales

The Association for the Advancement of Medical Instrumentation (AAMI) has numerous standards for decontaminating and sterilizing medical devices. Many of these standards stress the importance of thorough drying and explain the reasons.

For example, ANSI/AAMI ST79 discusses steam sterilization as one of the most commonly used methods in healthcare facilities. Since steam cycles use water to sterilize devices, it may seem counterintuitive that wet reusable devices could hinder the process. However, as ANSI/AAMI ST79 explains, excess moisture can lead to wet packs that supply a pathway for microbial invasion into the pack. It can also lead to device corrosion.

Gas and vapor sterilization processes are even more susceptible to moisture. Ethylene oxide reacts with water, creating a hazardous byproduct called ethylene glycol (ANSI/AAMI ST41). This byproduct can harm patients. In addition, water can prevent vaporized hydrogen peroxide from reaching a device's surface, thereby preventing sterilization (ANSI/AAMI ST58).

Drying is also a critical function when performing high-level disinfection (HLD) or liquid chemical sterilization (LCS) on endoscopes. As ANSI/AAMI ST91 explains, the failure to completely dry endoscopes after processing creates an opportunity for waterborne organisms, like *Pseudomonas aeruginosa,* to colonize in the scopes and potentially form biofilms. This can lead to the transmission of infection to the next patient the endoscope contacts.

Thorough drying is a requirement of all disinfection and sterilization processes. AAMI's standards discuss several methods for drying devices after cleaning and rinsing:

- *Air dry*: placing devices in an area of limited access allowing moisture to evaporate from the device
- *Towel dry*: using a non-linting towel to absorb moisture from the surfaces of devices
- *Mechanical drying*: removing moisture with heat or forced air from device surfaces and lumens

In addition, some standards define an optimal location to perform drying. For example, ANSI/AAMI ST91 states that endoscopes should have a designated area for drying. This standard also stresses the importance of endoscopes being dry before sterilization, storage and patient use. The point in the process at which drying is required depends on the process. Always

refer to the manufacturers' instructions for use (IFU).

Quality of air for medical device drying

Staff in SPD and endoscopy use a combination of tools to dry devices. Non-linting towels quickly absorb surface moisture. Air nozzles supply forced air to hard-to-access areas, lumens and channels. Drying cabinets enhance drying of surfaces and lumens by directing warmed air to and through devices. Independent air pumps flow air through long lumens, such as endoscope channels.

Having good quality air available for medical device drying is vital for safe reprocessing in SPD and GI departments. Healthcare facilities often use *instrument air* and/or *high efficiency particulate air* (HEPA) to assist in the drying process.

Instrument air is sometimes mistaken for medical-grade air. Medical-grade air (respired) is administered to patients and/or used for calibrating powered ventilator equipment, whereas instrument air is a medical gas that falls under the general requirements for medical gases as defined by the National Fire Protection Association, NFPA 99: Health Care Facilities Code. It is compliant with the American National Standards Institute and International Society of Automation ANSI/ISA 7.0.01, which recommends air filtered to 0.01 microns, free of liquids and hydrocarbon vapors, and dry to a dew point of -40°C (-40°F) as the quality standard for instrument air. SPD leadership should work with facilities to ensure that the air supplied meets these requirements. This requires specialized equipment or gas cylinders to deliver the appropriate air.

In addition to its quality, the placement of instrument air tools helps optimize its use by SPD staff during reprocessing. Specifically, instrument air should be available in the decontamination area to help loosen/remove debris from surgical devices, such as lumens and drills, and in the prep and assembly area to remove residual moisture on inner and outer device surfaces when needed.

There are also growing numbers of SPDs and GI departments using HEPA-filtered drying cabinets, with or without automated flushing pumps/channel purge components, on manually cleaned, disinfected or liquid chemical sterilized heat-sensitive devices, such as flexible endoscopes, cystoscopes, bronchoscopes, cameras, light cords and drills. In GI areas, the cabinets are used to enhance drying and protect endoscopes from environmental contamination during storage. In SPDs, the transfer cabinets are used to dry devices before packaging for sterilization. HEPA-filtered enclosed drying cabinets can remove up to 99.97% of particulates from the air. In addition, a recent study conducted by Perumpail et al. (2019) found that using a HEPA-filtered drying cabinet helped to speed up endoscope drying and reduced the risk of microbial growth.

Drying instructions

It's critical to follow each manufacturer's drying instructions to prevent retained moisture and device damage. Manufacturers are required to conduct thorough testing and validation to assure that each device's reprocessing IFU will successfully achieve a safe, reusable device for patient use when all instructions are followed. Instructions may be unique to a particular device, so they may state different drying times, or may specifically require forced, filtered air to remove moisture, for example. Reprocessing staff must know which drying process to use for each device they process.

In addition, a manufacturer's IFU may provide several methods for drying a particular device. Managers can determine which methods are best for their departments. Regardless of the method used, facilities can perform verifications of the drying process. Popular verification methods include:

- Visualization of internal lumens with a borescope (see Figure 1)
- Surface, internal lumen and box lock checks with moisture-sensitive indicator papers (Ofstead et al.)

SPD and endoscopy teams should also review the manufacturer's IFU for all the automated disinfection and sterilization equipment in the department. These systems are also classified as medical devices, so their IFU are thoroughly tested and validated and are, therefore, equally as important to follow in order to assure disinfection or sterilization.

Gas and vapor sterilization methods often include warnings and precautions about wet devices. IFU of some automated endoscope reprocessors (AERs) or liquid chemical sterilant processing systems state to use processed devices immediately after processing or to dry them according to the device manufacturer's IFU. ANSI/AAMI ST58, which provides recommendations for HLD and chemical sterilization, states in Section 6.6.6 that all devices should be dried in accordance with their IFU, to remove residual liquids.

It's also important to follow any IFU specifications for pressure, air type, humidity level and temperature. Ensuring that the pounds per square inch (PSI) is regulated and within a device's safe range will help prevent damage. Also, if a drying cabinet is used, its temperature must be set to a safe level according to the medical device's IFU. Higher temperatures can damage some heat-sensitive components and adhesives.

Where drying takes place

In SPD, drying happens at several points along a surgical device's journey. By understanding the whole process, leadership can better supply the drying resources needed at each point.

Items begin their journey at the decontamination sink. Items are cleaned and rinsed, then they either move on to the washer-disinfector or the pass-through window. At this point, technicians can remove residual moisture before loading them into the automated washer. Residual moisture can be blown from lumens, box locks and other surfaces.

Machine-washed devices must be thoroughly dried before they are assembled into sets for HLD or sterilization. Lint-free towels and instrument air should be used to remove all residual moisture. Some facilities will also use a drying cabinet to enhance the drying process. Pass-through cabinets are often used to allow access to the dried devices on the clean side.

Figure 1: Borescope insertion for visualization of residual moisture within an endoscope channel

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

Page 42

Devices should be manually dried before placing them into a drying cabinet, following each device's IFU.

Devices enter the prep-and-pack area through the pass-through drying cabinet or the washer-disinfectors. At this point, items should be inspected for residual moisture under magnification. It may also be necessary to use a borescope or moisture-sensitive paper to check lumens. In this area, staff will need access to instrument air and lint-free towels.

In GI departments, scopes should be dried before placing them into an AER or HLD soak because residual water could dilute the AER or HLD chemistries and make them less effective. Even more importantly, the device should be thoroughly dried after AER, HLD or LCS processing is complete and before storage. A recent study by Ofstead et al. (2018) showed that residual fluid remained in nearly 50% of scopes and could be contributing to infections in patients because over 70% of the wet scopes were contaminated with organisms after processing and storage. Therefore, residual water may contribute to cross-contamination of scopes. Kovaleva (2017) wrote that a wet endoscope environment contributed to the replication of gram-negative organisms and that residual moisture created an ideal environment for growth.

Consequences of inadequate drying

In addition to contributing to bacterial proliferation and impeding sterilization and disinfection processes, poor device drying can also be a major contributor to damage and degradation of external and internal device surfaces. Damage can include discoloration, corrosion, rust and pitting. Moisture and debris are notoriously known to hide in tight areas, such as box locks, jaws, lumens and crevices of devices, so thorough drying and magnified inspection needs to be performed to find moisture before it can cause damage or biofilm formation.

Biofilm is a slime-enclosed community of bacterial colonies that can form anywhere on a moist surface. Some examples of surfaces that can form biofilm are water pipes, wet device surfaces and wet internal and concave surfaces of lumened or cannulated devices, such as endoscopes, suction tips, shavers or drill bits. According to Dancer *et al* (2012), coagulase-negative staphylococci (CoNS) and *Bacillus* species found in biofilms on devices were responsible for surgical site infections (SSIs). Also, in a recent review article by Alfa and Singh in *Gastrointestinal Endoscopy*, inadequate manual cleaning and drying storage failures led to biofilm build-up in endoscope channels, causing bacterial replication. The results of several studies show that inadequate cleaning and drying of endoscopes prior to storage are associated with a high risk for contamination, causing healthcare associated infections (HAIs). This risk has led to some healthcare facilities including a borescope in their work instructions to visualize the internal channels of lumened/cannulated devices and check for cleanliness and residual moisture before moving on to the next step of sterilization prep and pack, HLD or placement in a storage cabinet for drying.

Support for an optimal drying program

Medical device drying is an extremely important infection-prevention function in the reprocessing loop. Evidence-based research has reinforced the risks, and standards support its importance. To ensure patient safety, facilities should establish a quality management system (QMS) for monitoring device drying. The QMS needs to identify risks by assessing current practices in order to identify and mitigate potential sources of residual moisture (and therefore potential contamination) that can contribute to SSIs. Documented practices should be based on manufacturers' IFU, hospital standard procedures and industry standards and guidelines, and should be monitored continuously as part of the QMS. In addition, ongoing employee education, training and competency testing need to be provided to help reduce contaminated device events due to ineffective cleaning and drying. Once a drying QMS is in place, consistent, effective drying protocols can be achieved, and patient safety is enhanced. HPN

Tamara Behm, MSN, RN, CIC, FAPIC, CER is a clinical education specialist for STERIS Corporation, with 14 years of clinical nursing leadership and healthcare experience. She has held various roles as a director of ICU, ICU nurse, infection prevention director, infection prevention consultant, mentor, adjunct professor, presenter, author and mock surveyor. She is an expert in infection prevention, CMS and other regulatory requirements and process improvement. She is a member of APIC, SHEA, AORN, IAHCSMM, SGNA, ASQ and AAMI.

Pamela Carter, BSN, RN, CNOR, AGTS, CRCST, is a clinical education specialist for STERIS Corporation. She provides customer education, clinical support and device reprocessing troubleshooting expertise. She also performs medical device audits/assessments based upon regulatory guidelines and infection prevention practices to help promote patient safety. She is a certified perioperative registered nurse with over 27 years of experience in nursing management, perioperative and sterile processing education, infection prevention and quality systems. In addition, Pamela has written articles for HPN, AORN and the periOperative Nursing Clinic and is an active member of AAMI, AORN, APIC, ASCA, ASQ, IAHCSMM, and SGNA.

References:

1. Alfa MJ, & Singh H. Impact of wet storage and other factors on biofilm formation and contamination of patient ready endoscopes: a narrative review. *Gastrointestinal Endoscopy*. 2019; doi: 10.1016/j.gie.2019.08.043

2. ANSI/AAMI ST91: 2015. Flexible and semi-rigid endoscope reprocessing in health care facilities. Arlington, VA: Association for the Advancement of Medical Instrumentation.

3. ANSI/AAMI ST79: 2017. Comprehensive guide to steam sterilization and sterility assurance in healthcare facilities. Arlington, VA: Association for the Advancement of Medical Instrumentation.

4. ANSI/AAMI ST58:2013. Chemical sterilization and high-level disinfection in health care facilities. Arlington, VA: Association for the Advancement of Medical Instrumentation.

5. ANSI/AAMI ST41: 2008/(R)2012 Ethylene oxide sterilization in health care facilities: safety and effectiveness. Arlington, VA: Association for the Advancement of Medical Instrumentation

6. Association of periOperative Registered Nurses. 2020. Guidelines for Perioperative Practice. Processing Flexible Endoscopes.

7. Dancer SJ, Stewart D, Coulombe C, Gregori A, Virdi M. Surgical site infections linked to contaminated surgical instruments. *Journal of Hospital Infection*. 2012; 81(2012): 231-38. doi: 10.1016/j.jhin.2012.04.023

8. Evangelista S, Guimaraes NR, Garcia NB, dosSantos SG, deOliveira AC. Effectiveness manual versus automated cleaning on staphylococcus epidermidis biofilm removal from the surface of surgical instruments. *American Journal of Infection Control*. 2019; 48(2020): 267-74. doi: 10.1016/j.ajic.2019.08.024

9. Instrument Society of America. Quality standard for instrument air. ANSI/ISA 7-0-01-1996. New York: ISA, 1996.

10. Kovaleva, J. (2017) Endoscope drying and its pitfalls. *Journal of Hospital Infection*. 97; 319-328.

11. Lopes LK, Costa DM, Tipple AF, Watanabe E, et al. Complex design of surgical instruments as barrier for cleaning effectiveness, favouring biofilm formation. *Journal of Hospital Infection*. 2018; 103(2019): 53-60. doi: 10.1016/j.jhin.2018.11.001

12. Nation Fire Protection Association. Health care facilities code. NFPA 99. Quincy (MA): NFPA, 2012.

13. Ofstead CL, Heyman OL, Quick MR, et al. Residual Moisture and Waterborne Pathogens Inside Flexible Endoscopes: Evidence from a Multisite Study of Endoscope Drying Effectiveness. *American Journal Infection Control*. 2018; 46(6): 689-96.

14. Perumpail RB, Marya NB, McGinty BL, Muthusamy, VR. Endoscope reprocessing: Comparison of drying effectiveness and microbial levels with an automated drying and storage cabinet with forced filtered air and a standard storage cabinet. *American Journal Infection Control*. 2019; 47(9): 1083-89. doi: 10.1016/j.ajic.2019.02.016

CONTINUING EDUCATION TEST • SEPTEMBER 2020

Do your medical device drying processes meet the standards?

Circle the one correct answer:

1. **Which is the quality standard that addresses instrument air?**
   a. ANSI/AAMI ST79
   b. ANSI/AAMI ST 58
   c. ANSI/ISA 7-0-01-1996
   d. SGNA
2. **Instrument air and medical-grade air are the same.**
   a. True
   b. False
3. **To thoroughly dry heat-sensitive devices after manual cleaning, they can be placed in a/an ...**
   a. HEPA-filtered drying cabinet
   b. ETO Sterilizer
   c. Drawer with a towel wrapped around
   d. Steam sterilizer
4. **When would you use a borescope?**
   a. To visualize internal lumens for retained debris or residual water
   b. On a sterile field
   c. To inspect a malleable retractor
   d. On a non-lumened endoscope
5. **Medical device drying is performed _____?**
   a. In GI before storing an endoscope
   b. On the decontamination side in SPD before sending a lumened item through the pass-through window
   c. On the clean side of the SPD before low-temperature or steam sterilization
   d. All of the above
6. **According to ANSI/AAMI and other standards, what guidance should be followed for medical device drying?**
   a. The device manufacturers' IFU
   b. The high-level disinfector/sterilizer manufacturers' IFU
   c. Both a and b
   d. None of the above
7. **Water and moisture create an environment for bacteria to _____.**
   a. Die
   b. Grow or proliferate
   c. Move from one place to another
   d. Easily be removed from a device
8. **Wet instrumentation and endoscopes can be the cause of _____.**
   a. Biofilm formation
   b. Wet packs and corrosion
   c. Failed low-temperature sterilization loads
   d. All of the above
9. **Medical devices that are susceptible to biofilm formation if not cleaned and dried properly include ...**
   a. Endoscopes
   b. Lumened devices such as a Frasier suction
   c. Drill bits
   d. All of the above
10. **Who is responsible for establishing a quality management system for medical device monitoring in the hospital?**
    a. The manufacturers
    b. The sales rep
    c. The healthcare facility
    d. None of the above

IAHCSMM
Instrumental to Patient Care

The approval number for this lesson is **3M-HPN 200408**.

CBSPD

Request for Scoring

o *I have enclosed the scoring fee of $10 for EACH test taken –*
Payable to Healthcare Purchasing News. *We regret that no refunds can be given. (It is not neccessary to submit multiple tests separately.)*

Detach exam and return to:
Continuing Education Division
Healthcare Purchasing News
2477 Stickney Point Road, Suite 315B
Sarasota, FL 34231
PH: 941-927-9345 Fax: 941-927-9588

Presented by
HEALTHCARE PURCHASING NEWS

Please print or type. Return this page only.	
Name	
Title	
Hospital Name	
Mailing Address	
Apt/Suite	
City, State, Zip	
Daytime Phone	
Email	

SUBMIT YOUR QUESTIONS: **editor@hpnonline.com**

Transporting soiled and sterile items separately; testing all levels of washer disinfectors

by Ray Taurasi, MBA, CRCST, CHL, FCS, ACE

Q I am the infection control coordinator of an ambulatory surgery center. We have eight procedure rooms. All of our rooms are in line along a corridor, and at the end of the corridor is our instrument reprocessing/sterilization area and sterile supply room. Sterile sets and supplies are delivered to the surgical procedure rooms on open, three-tier, stainless steel carts. At the end of a surgical procedure, soiled instruments are placed back in an instrument basket with a moist towel over them, put in a clear plastic bag and then placed back on the cart. Any unused instruments or sterile packages are placed in an open plastic bin on the same cart. They are then transported up the corridor to the reprocessing area.

We recently were inspected and received a negative rating for the way we were handling and transporting soiled and sterile items. We only have the one corridor from the OR, and it is a very short trip, nonetheless the inspector said our practice is unacceptable and we must come up with a better protocol. We really do not have the space to provide separate carts for used and unused items. Do you think our practice is unacceptable considering our constraints? If not, what would you suggest?

A Your current practice for transporting contaminated items is in violation of OSHA regulations, as well as professional guidelines and standards, such as AAMI and AORN. It is essential that at all times there is complete segregation between clean, soiled, and sterile items. Soiled instruments should be transported in a closed containment device, which is clearly identifiable, either by labeling or other means, as containing soiled biohazardous items. Soiled instruments need to be in a rigid, puncture-resistant, closed container. The soiled instruments could easily tear or puncture a plastic bag, becoming a potential source of cross-contamination and possible cause of injury to staff.

The fact that you are transporting your items a very short distance does not negate the need to comply with standards and regulations. There are several options of closed carts suitable for transporting and containing soiled items from the OR to the reprocessing areas. I understand your space constraints and would recommend that you consider a two-compartment cart, with which one compartment is exclusively for clean and/or sterile items, while the other segregated compartment is used to hold soiled items. The carts are available in many different sizes with the ability to hold between four to twenty containers. A tall cart design takes up less floor space and would work very well in your situation. (See figure 1.)

Photo courtesy: Healthmark Industries

Figure 1

Q I am the OR materials manager. We have four instrument washers in our reprocessing room. Each machine has three shelves in it. Recently, the new lead surgical tech has begun running daily washer tests on every machine and shelf. We have been using 60 tests a week, which is very costly. If we were to continue this high usage, it would increase expenditures to well over $9,000 annually.

I proposed that we test one shelf of one machine per day and do a different washer each day. That way we would be doing daily testing as guidelines recommend and each machine would be tested weekly. We can't afford to continue this excessive testing and my proposal will reduce the costs by 90 percent. I am getting some resistance to change from the lead tech and some staff members. Do you see any disadvantage to my proposal?

A AAMI ST79 standards state that mechanical cleaning equipment performance should be tested each day the equipment is utilized and that the test results should be recorded. To adequately test a multi-level washer disinfector, you really need to test each level. Each level of a washer relies on separate spinner arms to deliver water, cleaning agents and mechanical action, e.g. impingement. The impingement, or force of spray from the spinner arms, is necessary to dislodge and or remove soil from the items being cleaned. The spinner arms of each level work independently of each other. Any one spinner arm could malfunction or get clogged and not deliver the water, detergent and required mechanical action to the level of the washer they service. It therefore is possible to have any one level of a washer fail to effectively clean the items on that level.

Without testing every level of a washer, you will have no assurance that washer is functioning properly. Improperly cleaned instruments and medical devices can provide a conduit to disease transmission, presenting a risk to patients' and healthcare workers' safety and welfare.

You asked if I see any disadvantage to your proposal: Yes, I believe that your proposal is extremely dangerous, and that you should rescind it immediately. You also stated that you could not afford to do this "excessive testing." I would hope that after reading my response, you'll agree that the daily testing is not excessive, rather it is the correct way to confirm the proper performance of a mechanical washer. In my opinion, you cannot afford not to perform your washer testing properly. **HPN**

Ray Taurasi is Principal, Healthcare CS Solutions. His healthcare career spans over five decades as an Administrator, Educator, Technologist and Consultant. He is a member of AORN, AHA, SGNA, AAMI and a past president of IAHCSMM. Taurasi has been a faculty member of numerous colleges teaching in the divisions of business administration, nursing and health sciences.

Sterile Processing Week: Top ideas for recognition, education and collaboration

by Julie E. Williamson, IAHCSMM Communications Director and Editor

Each year, beginning the second Sunday of October, Sterile Processing Week presents a fresh new opportunity to celebrate the department's dedicated, hardworking and knowledgeable team members and, ideally, help set the stage for even bigger positive developments the remainder of the year (and beyond).

With October 11-17, 2020, just around the corner, IAHCSMM urges Sterile Processing (SP) leaders to start planning now to ensure every professional within the department is not only thoughtfully honored for their vital daily contributions, but also reminded of the importance of continuing education and standards-based practices that promote patient safety and quality service.

Although there's no secret recipe for a successful Sterile Processing Week, the association has shared some of its top celebratory tips over the years and has sought planning and event details from its board members and countless other SP professionals. The result? A wide and varied collection of can't-miss ways to celebrate, educate and collaborate. No SP department (SPD) needs to reinvent the proverbial wheel in order to make the very most of the dedicated week and, thankfully, some of the best ways to pay tribute to the team and the collective discipline cost very little (or nothing at all).

Expand reach of recognition

It's long been said that SP professionals are the unsung heroes of healthcare (although IAHCSMM has been singing their praises and offering countless levels of support since the association's inception in the 1950s). We sincerely hope that every facility and, certainly, every SP leader takes time to thoughtfully express gratitude for each SPD team member's daily hard work and contributions. Before the start of Sterile Processing Week, leaders can snap digital photos of all SP employees across all shifts and pair them with a brief writeup that highlights key professional aspects for each employee (such as certifications, tenure at the facility, total years of experience, favorite aspect of working in SP, future goals and an example of a success story or achievement in their role). This information can then be used to develop a "team document" that can be shared with the facility's Human Resources department and, perhaps, published in an employee newsletter or other community site. This approach helps put faces and names on the inner workings of the department, which can boost employee morale and help improve understanding and collaboration from SP professionals' various healthcare customers.[1]

Consider also carving out time to share with each employee during Sterile Processing Week how they have contributed to and benefited the department. Beyond that, privately ask each employee about their career path goals and any career ladder opportunities you might envision for that individual given their strengths (or how you can help them reach career aspirations they may have set for themselves, such as attaining more certifications to become an instrumentation specialist or, perhaps, assuming a leadership role). Even though these types of discussions generally happen during annual employee reviews, Sterile Processing Week is a great time to reinvigorate previously outlined goals or identify new ways to support employees. The leader can then summarize the discussion for each employee, keeping one copy on file and including another with a heartfelt Thank You note, along with a small token of appreciation (if budgets don't allow for even inexpensive purchased items, consider homemade certificates of excellence that can be customized to each employee).[1] Every employee wants to be heard and valued, and keeping the conversation positive and in the spirit of Sterile Processing Week will help them feel supported and motivated – long after the week draws to a close. HPN

Feed the mind

While it's true that a party just isn't a party without good food and beverage (it's often what drives people to join in the festivities – and keeps them there longer), an even better approach is to build some form of education around the snacks, and not just for each day, but for each shift.

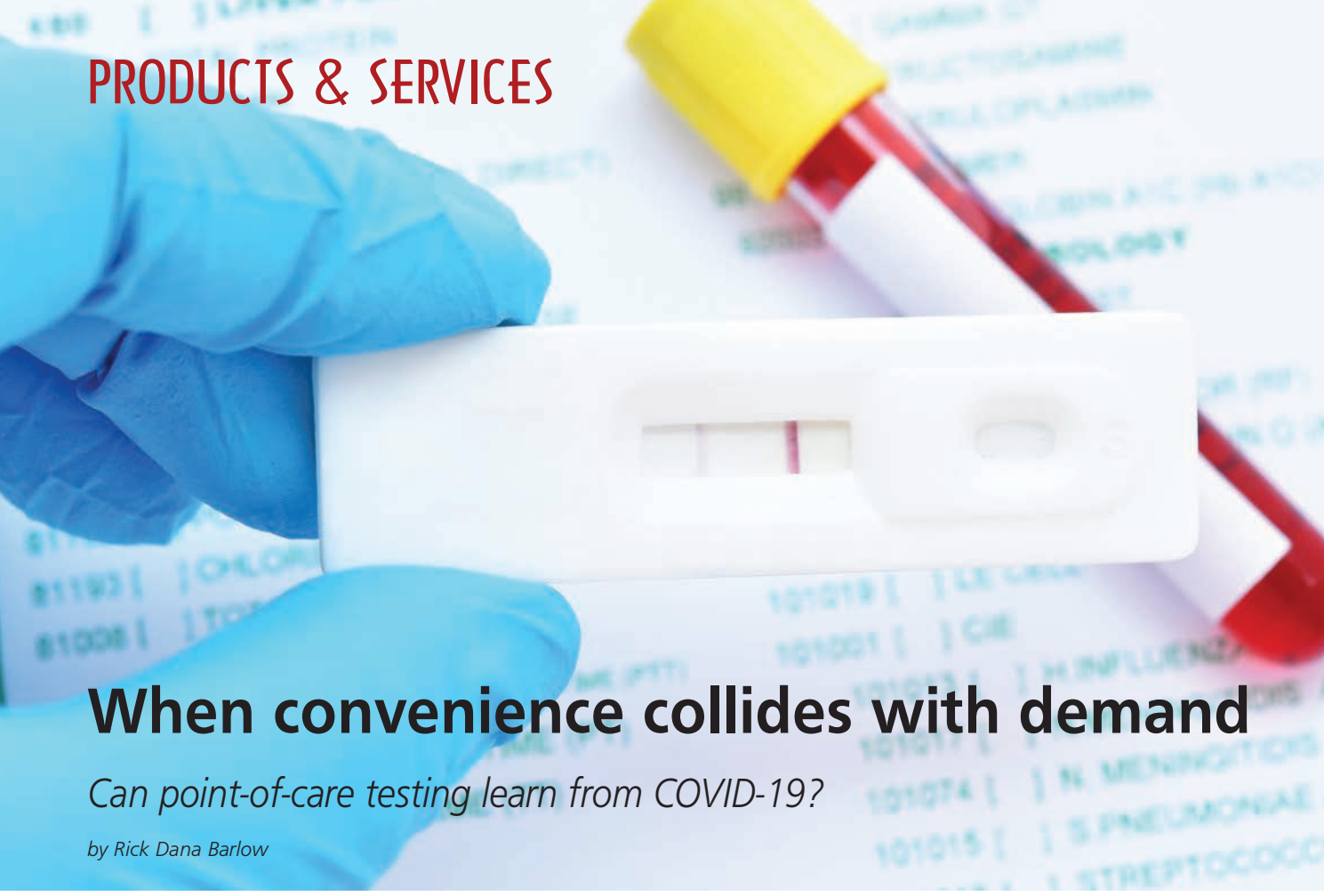
Consider a Jeopardy-inspired trivia game for the department's employees, with answers based on standards and best practices, for example, or host a scheduled educational event, such as a vendor-provided inservice or an SP educator- or Infection Prevention-led discussion where donuts, pizza or other treats are provided. Another successful strategy: Having a combined open house/ice cream social where employees from virtually every department in the facility – including those in the C-suite – can tour the SPD, meet the team and learn more about all that takes place within the walls. It also creates a golden opportunity to share impressive statistics, (e.g., average number of instruments/sets processed per month, low error rates, professional certifications held, etc.) with a diverse and captive audience.

While you're at it, consider asking the facility's infection preventionist and/or a member of the surgical team to contribute to the education. SP professionals are integral to infection prevention and positive surgical outcomes; however, not all healthcare professionals or members of the general public are fully aware of that. Having these allies participate in Sterile Processing Week functions and educational offerings can help not only advance their own knowledge and understanding of what takes place in the SPD, but can also help support that message with administrators and other healthcare departments. *Note: Infection Prevention Week (Oct. 16-22) overlaps Sterile Processing Week slightly this year, so it's a perfect time to partner up and commemorate the events in a meaningful way. SP professionals should reach out to their IPs to see how they can assist with their week of honor, and then reach out in a similar way to the Operating Room in November to help support nurses during Perioperative Nurses Week.*

Reference:

1. Williamson JE. Sterile Processing Week 2020: Celebrating Your Critical Role in Patient Safety. *PROCESS*. Sept./Oct. 2020. IAHCSMM. Chicago, IL.

Want more ways to show your team how they impact the department, the facility and patient care? IAHCSMM created a number of no-cost Sterile Processing Week templates for celebration materials (including posters, Thank You cards and more) that can be customized, downloaded/printed and shared. Visit https://www.iahcsmm.org/events/sp-week.html and click the 'USE OUR TEMPLATES' tab underneath the Sterile Processing Week Sample Documents section.



When convenience collides with demand

Can point-of-care testing learn from COVID-19?

by Rick Dana Barlow

Clinical data culled from the laboratory based on the results of testing undergirds, underlines and underpins the vast majority of decisions made by physicians and nurses involving their patients.

The more thorough the results and the quicker the response time, then the earlier the clinician can help the patient heal. This can mean the more satisfied the patient becomes, which then is tied to reimbursement. Think of it as a daisy chain healthcare effectiveness, efficiency and process performance.

Accuracy, comprehensiveness, convenience (which includes ease-of-use/user-friendliness) and speed represent the quartet of quality among point-of-care testing (POCT) development, growth and overall success. Of course, cost always remains a factor that includes consumption and waste.

Whether the patient comes to the test or the test comes to the patient at the point of care (be that a clinic, hospital room, physician office or testing site), the clinician and patient alike both seek a painless (as much as possible) and rapid application, coupled with a speedy and thorough response with accurate results.

Much of the general public – globally – has witnessed POCT in action via ongoing media reports of COVID-19 testing. Even though COVID-19 represents but one distinct area in the much-larger POCT pantheon, how might current events drive development in POCT products and services in other areas? What can healthcare learn – if anything – from the COVID-19 testing that can be applied to POCT segment-wide to improve the collecting, maintaining, storing and tracking of data as well as enabling optimal analysis of results?

Dual-sided views

POCT products and services provide a wealth of value to both the clinicians who administer them and the patients who undergo them, according to Jamie Phillips, Ph.D., Senior Scientific Affairs Manager, Medical and Scientific Affairs, Roche Diagnostics Corp.

"Benefits and features can be markedly different when referring to point-of-care testing," Phillips told *Healthcare Purchasing News*. "The unique value of a point-of-care test is its ability to provide a critical result faster, near the patient, allowing healthcare providers to determine the best course of action or treatment quickly. This provides obvious benefits across a variety of settings, from the emergency room to a community pharmacy and even at-home care or self-testing."

Jamie Phillips

Phillips references numerous peer-reviewed studies that have shown that testing for respiratory infections at the point of care can:

- Shorten a patient's length of stay in a hospital setting
- Enable appropriate and timely treatment
- Reduce unnecessary testing
- Help healthcare providers implement appropriate patient isolation when needed

"Additionally, many point-of-care tests are classified as CLIA-waived," she continued. "Tests that are considered CLIA-waived use direct, unprocessed specimens, and are easy to perform with negligible chance of error. Thus, they can be performed by individuals without formal

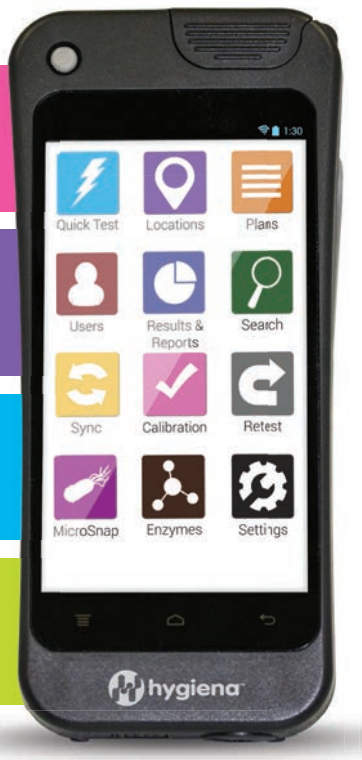
Page 48

BE A HERO.

Keep people & patients safe, one surface at a time.

EnSURE™ Touch - The Most Innovative ATP Cleaning Verification System Helps You:

- Track cleaning efforts and verify they have been effective.
- Verify high-touch areas in your facility have been cleaned properly.
- Verify hand-washing effectiveness.
- Verify common areas, meeting rooms, and offices have been cleaned properly.



www.hygiena.com/ATP20

hygiena™

laboratory training. This facilitates their use outside of the central laboratory setting, offering healthcare institutions greater flexibility and streamlined workflows."

Clinicians and healthcare organizations favor POCT's convenience.

"For clinicians and healthcare institutions, the greatest benefit of point-of-care testing is that it enables them to access patient test results faster and more conveniently," Phillips noted. "This helps them identify the best course of action or treatment quickly, often while the patient is still in their care. Improving their ability to prescribe the appropriate medication contributes to greater antibiotic stewardship as well."

They also favor another "C," according to Joseph Vickers, Product Manager, Membrane & Media, Pall Medical.

Joseph Vickers

"From our interactions, the factor which is always highlighted as the most important is test consistency," Vickers said. "This is influenced by many aspects of the overall quality of the test materials, including sample capture substrates, reaction pads and visual indicators. The clinician must not experience any ambiguity or subjectivity in the test results. They must get the right result every time."

For patients, POCT affects their experience, which then motivates satisfaction survey results used to determine reimbursement.

"Point-of-care testing can improve the patient experience significantly," Phillips observed. "The patient can often find out the results of a test during the same physician visit rather than returning home or waiting in a hospital bed and worrying about what the results might be. As a result, the process can be much more convenient for the patient and can provide greater peace of mind."

Unfortunately, not all POC tests generate fast readouts or results, regardless of proximity to patient or facility location.

"Many of the point-of-care tests from Roche provide results in about 20 minutes or less, which would be considered rapid," Phillips noted. "Some point-of-care tests may use a chemistry that requires a longer reaction and analysis time. However, there is still an advantage to having the testing close to the patient because it helps to mitigate the workflow, safety and time challenges that can occur when sending a patient sample to a central lab location. Another significant advantage to point-of-care testing unrelated to test turnaround time is that it provides access to testing for remote populations that cannot easily come to a central healthcare facility or testing location."

For Pall, patients prefer a fundamental requirement.

"Top of the list for the patient is accuracy," Vickers insisted. "Undergoing medical diagnostics is often a stressful process and the results of a POCT must be accurate. The impact of false positives or negatives on a patient's treatment process and overall health and well-being can be catastrophic. False results must be avoided at all costs."

Connectivity concerns

One way to improve point-of-care testing prospects involves electronic accessibility, according to Phillips.

"Many point-of-care tests are not connected electronically, or through a cloud-based data management hub, so providers are required to enter testing results manually into the patient's EMR, or electronic medical record," she indicated. "There is a significant opportunity here to use connectivity to eliminate many manual reporting elements. Having seamless connectivity between point-of-care testing and the EMR system would create greater efficiencies and improve documentation of testing, with less risk of error or omission during transcription."

Of course, data privacy and cybersecurity issues loom large as a challenge.

"Certainly data privacy and security are important considerations in any connectivity solution," Phillips acknowledged. "But device manufacturers and healthcare institutions can partner with cloud-based data security providers to address those concerns effectively."

In fact, there's a high probability that POCT becomes standard operating procedure during the next decade, accelerated perhaps by current pandemic events.

"Seamlessly connected POC testing is very likely to be the norm rather than the exception a decade from now," Phillips forecast.

Ease of use and overall utility top Pall's list of desired improvements, Vickers indicates.

"One of the main advantages of POCT is the ability for the test to be performed by a minimally trained individual, often in an adverse environment," he said. "A large positive impact to POCT could be made by improving the tests' ease of use – both during operation of the test, in terms of its robustness and simplicity to use, and combining that with the effortless interpretation of results."

Digital upside

Phillips predicts a bright future for POCT products and services by 2030, taking cues from convenience concepts and experience ideals in other industries.

"The healthcare landscape is evolving rapidly today, and one of the primary drivers of the evolution is digital technology," she observed. "Healthcare is starting to catch up to industries like transportation and retail shopping, where innovators like Uber and Amazon have transformed the business models and the consumer experience. The introduction of wearable technology and mobile apps is already changing the way consumers engage in their own healthcare.

"A decade from now – or sooner – one could envision how secure wireless connectivity and personal healthcare apps could further change the way vital health information is accessed and shared between patient mobile devices, databases such as electronic medical records, and point-of-care testing devices, including those used at home for patient self-testing," she continued. "While there are hurdles to overcome, this enhanced, real-time connectivity could provide a more efficient, seamless and convenient experience for both patients and providers, helping to improve patient care while reducing costs."

Vickers foresees expansion and complexity defining POCT products and services during the next decade.

"As we move to a more cloud-based and connected society there will be big changes in POCT over the next 10 years, and we have to think about integration of testing and apps," he noted. "As POCT develops and we see more multiplex and qualitative testing, app integration could provide many advantages, such as the ability to have qualifying questions about symptoms and recent experiences prior to taking the test." Further, this might enable the caregivers to provide more qualitative interpretations and feedback with more context to the patient, he added.

Vickers also contemplates a migration to "more advanced whole, cell-based diagnostic markers, moving away from the protein- or hormone-based markers often used today and enabling the provision of more sophisticated insight into the disease state." HPN

Made in the USA

Introducing ...

EcoVue® HV
Ultrasound Gel

Fine-tuned formulation. Flexible options.

The best features of EcoVue ultrasound gel - natural formula, exceptional image quality, no propylene glycol so it is easier on equipment, and optimal integration with the transducer - are now available in a **NEW high viscosity option**. EcoVueHV offers a choice for procedures with more challenging scan surfaces that demand more staying power, delivering efficient, accurate scans.

formulated to be **35% Thicker***

for procedures that demand more staying power.

Visit **ecovue.com** to request a free sample.

EcoVue® HV
Ultrasound Gel

*than original EcoVue® Ultrasound Gel

WORTH REPEATING

Enhanced visualization when reprocessing reusable devices

"I wholeheartedly feel borescopes are essential to reprocessing reusable surgical devices, which include any type of inner channel requiring visual inspection. It's being called out in some of the newer and better written IFU manuals that accompany the device specifying the utilization of 'enhanced visualization.' I absolutely stand by their effectiveness to provide the opportunity to properly perform internal visual inspections, as well as next-level visualization in areas never inspected previously."

Jeno Lewis, ORT, CRCST, CHL, Central Processing Department Operations Manager, Children's Hospital of Philadelphia

Wound care and HAIs

"Facilities are losing millions of dollars per year due to hospital-acquired pressure injuries. CMS deemed this one of its never events in 2009. Most acute care facilities have skin integrity committees to ensure that processes are in place and protocols are followed to minimize occurrence."

Amy Gray, RN, BSN, CWS, Wound Care Clinical Leader, National Clinical, Essity HMS North America Inc.

Cleaning during COVID-19

"Hospitals and healthcare facilities are paying more attention to the important work their cleaning staff performs and have a heightened sense of the importance of disinfecting additional areas throughout their facilities, not just contact precaution rooms. Manual cleaning is still subject to human error, so the use of no-touch disinfection technology, such as UVC, has become an essential addition to a bundled process.

Steven Baiocchi, Chief Operating Officer, Steriliz, LLC.

POCT delivers faster results

"Benefits and features can be markedly different when referring to point-of-care testing. The unique value of a point-of-care test is its ability to provide a critical result faster, near the patient, allowing healthcare providers to determine the best course of action or treatment quickly. This provides obvious benefits across a variety of settings, from the emergency room to a community pharmacy and even at-home care or self-testing."

Jamie Phillips, Ph.D., Senior Scientific Affairs Manager, Roche Diagnostics Corp.

PEOPLE & OPINIONS

Supply Chain in the time of the coronavirus

How hospitals can utilize best-in-class supply chain processes in a changing world

by Mark Kuta

The coronavirus pandemic has brought supply chains into the televisions of almost every American. As a supply chain professional, this is a silver lining behind this very dark cloud we are under. When compared to other industries, hospitals are underinvested in supply chain tools. Much of this is due to their business model, and by business model I am referring to "business as usual." Unlike a manufacturer who must forecast today the mix and number of products they believe they will sell four months from now, hospital supply chains have been designed to be reactive. Hospitals normally replenish suppliers based on usage. While this may work for C type items, how did that PAR location replenishment work as COVID-19 hit? Kind of like the manufacturer who finds a million dollar jet engine held up due to a $.50 fastener. In addition to the COVID-19 event – using forecasting terms – today's hospitals are also seeing fewer elective surgeries and are investing capital in protecting their care providers. We will also address a change in philosophy that will allow hospitals to better deal with the unexpected as well as daily business as usual, once we all move forward from this crisis.

Vince Lombardi used to start every training camp by holding up a football and saying, "Gentlemen, this is a football." The supply chain equivalent for providers is, "Gentlemen, timely and accurate information could be a matter of life and death." However, as hospital executives know, you are also running a business. Let's look at how best-in-class supply chains can help providers to do both.

Product hub data

In the healthcare industry, products are not standardized across the supply chain. Teamed with the tremendous volumes of data hospitals must deal with (new product introductions, end-of-life (EOL) products, and variability in procedures, etc.) this becomes quite challenging. Our fundamental football will start by having hospitals utilize a hub approach to data. This will ensure that all items are standardized, regardless of their individual supply chains. The hub will also let the provider place attributes on each of these items. The product hub, combined with attributes, can be used to provide visibility to product

Photo credit: chinnarach | stock.adobe.com

alternatives, as well as facilitate recalls on items. This expands the value beyond the supply chain to purchasing partners, operations, and even the financial end of hospitals. For example, this same strategy of a product data hub will allow hospitals to quickly and accurately integrate financials across different organizations, or business entities.

Forecasting history to future

The art of forecasting used to be summarized by a statement similar to "the future will be similar to the past." Today's supply chain professional uses numerous different information streams to develop scenarios of the future, as well as the costs associated with them. From here, decisions can be made as to the optimal course of action for the hospital.

Getting to a best-in-class approach to the current COVID-19, we will start our forecast by looking at the last five years of flu admissions - our history - and compare this to what we might see with COVID-19. In addition, we will also compare our history with some other available information that is not from our history. This type of information is called causal factors, and it might be general US flu information from the Centers for Disease Control and Prevention (CDC), our local state, or perhaps even Google (https://www.google.org/flutrends/about/data/flu/us/data.txt).

Forecasting software can compare our history with these causal factors and develop a curve for how COVID-19 might act. We are in effect treating COVID-19 as if it is a new product introduction. Once we have the COVID-19 curve, we can manually put in additional 'what if' scenarios, each of which have costs associated with them. Using the power of collaboration these forecasts, assumptions, costs, etc. can be not only shared but used in collaboration to achieve the best outcome for the hospital.

Getting away from COVID-19, doing this on a yearly basis will allow your hospital to get early visibility to the flu and perhaps secure the required stock levels of Tamiflu, while other providers who do not have such strong supply chain processes find themselves facing stockout situations.

Forecasts are not only used for Rx products. Like manufacturers who have a bill of material (BOM,) hospitals have preference cards. They also have schedules from their practicing surgeons that, while not 100% accurate by any means, are in reality much more predictable for many types of surgeries than that above mentioned manufacturer. While it might not be as politically feasible to rationalize the items in a preference card among the physician groups in a hospital, having a true cost comparison to such changes might help to get them executed.

Measuring forecast error

Before we move on to discussing how the forecast impacts supply decisions, let's address forecast error. You know, that concept we are not hearing about now as we all see the latest "numbers" that various agencies and centers are using for their coronavirus forecasts.

Forecast error is the difference in what was forecasted and what actually happened. Now, it can get complex as generally (but not always) the closer you are the more accurate your forecast will be. The key for hospital supply chains is to pick a lag time that you want to measure and use this to measure your forecast error. If you have an item with a three-week lead time, for instance, that is the error you will use.

What I call the "art of forecasting" comes in when we consider the error. Is it showing bias by consistently over or under forecasting, or is it bouncing around up and down? Both of these situations require a different "massage" in the generated forecast, and if we are talking about what supply goes with that forecast, the error will help us to size our safety stock.

Capacity planning and profit

Like best-in-class manufacturers, hospitals should also use the forecast to collaborate with their suppliers, whether they are replenishing via a PAR location or direct to the distribution center or hospital. This information can also be used when negotiating rates and terms of your contracts. It can even help answer strategic decisions such as "Does it make sense to do a window buy for our items?"

Best-in-class supply chain companies also forecast for capacity planning, and many times, optimization. This is not something that hospital supply chain managers often do. Simple capacity planning can also be done using a forecast for surgeries. Utilizing such things as physician preference cards, individual preferences (for example, back surgeries on Mondays) and history of past surgeries will allow hospitals to more effectively plan and time phase purchases or assemblies for those ORs. Throw in some causal factors (perhaps skier forecasts from the trade association in Colorado for a Denver hospital, for instance) and you have the makings of a capacity plan that can lead to strategic decisions, with cost and even profitability implications.

Best-in-class supply chain processes as outlined above can drive profitability for the business in many different ways. For example, what would changing your OR mix from 20 percent orthopedics to 40% orthopedics do to your revenue? An accurate way to estimate either new product introductions and/or EOL products will see the optimized decisions drop right to the bottom line of the hospital. In the current COVID-19–specific environment, a hospital would be able to forecast ICU capabilities, costs to increase these capacities, as well as provide a forecast for everything from manpower requirements to ventilators.

Supply chain visibility, testing

Complete supply chain visibility, and the ability to impact changes in said visibility, is another best-in-class supply chain concept hospitals should be focused on. Many hospitals order items, even with expedited freight costs, while a different location of the same hospital or a sister hospital a few miles away might have four weeks supply of that same item. Visibility, matched with the ability to align supply and capacities with where they are needed, will eliminate such non-value added reactions.

I used to be on the board of directors of a major financial institution, and every year we would do an interest rate "shock test" for our book of loans. While hospitals may not need to test their debt instruments in this manner, what they should do on a regular basis is "shock test" their supply chains for COVID-19–type pandemics, or even local emergencies (we are addressing you, California hospitals!). Ideally, the hospital should have a committee made up of supply chain and financial professionals, who can do these shock tests on at least an annual basis. Only a best-in-class supply chain process will allow hospitals to do this, and make decisions based on anticipated outcomes and costs associated with these shock tests.

There is a reason why the Superbowl trophy is called the Lombardi Trophy. With best-in-class supply chain processes, there is no reason whatsoever that hospital executives cannot implement best-in-class supply chain processes that increase patient outcomes as well as efficiency. Strive to be the best! HPN

Mark Kuta Jr. is a supply chain expert for Oracle, and the author of four books, including, most recently, Supply Chain Rx, a hands-on, how-to book for hospital supply chain practitioners.

FEATURED PRODUCT SPOTLIGHTS

CLEANSPACE

CleanSpace HALO is a Revolution in Respiratory Protection. HALO is a light-weight, reusable PAPR with no belts or hoses. HALO is safer and more economical than disposable masks and is more comfortable and easier to deploy than any other PAPR on the market. Arrange your demonstration today.

Visit www.ksrleads.com/?009hp-031

GOJO

Smart Technology. Smart Service.

In today's world, Environmental Services and Maintenance Staff are tasked with reducing costs while increasing productivity. PURELL SMARTLINK Service Alerts provide real-time monitoring of dispenser refill status, battery life and system health for proactive servicing that reduces touch-points and improves workflow.

Visit www.ksrleads.com/?009hp-018

HALOSIL

Raising the Standard for Whole Room Disinfection

The Halo Disinfection System unleashes a new disinfection standard for complex and high-traffic environments. As an EPA List N solution, Halosil's HaloMist disinfectant and proven line of foggers eliminate challenging pathogen types, bringing greater efficacy and affordability to whole room disinfection.

Visit www.ksrleads.com/?009hp-029

HR PHARMACEUTICALS

NEW! EcoVue HV

EcoVue Ultrasound Gel is now available in a NEW high-viscosity option – delivering the same exceptional image quality optimized for challenging scan surface procedures like echocardiogram, vascular, and MSK scans.

Visit www.ksrleads.com/?009hp-032

HYGIENA

Hygiena is committed to helping you provide patients, staff, and affiliates the peace of mind that your efforts to keep them safe are working. The EnSURE Touch ATP Cleaning Verification System is designed to be the smartest, easiest-to-use, and most intuitive way to monitor cleaning efficacy available.

Visit www.ksrleads.com/?009hp-008

MÖLNLYCKE

The Z-Flex boot combines Mölnlycke's unique fluidized positioner with a single low-pressure air chamber. The fluidized positioner molds and contours around the vulnerable Achilles tendon, supporting and protecting the tendon. The air chamber in the boot uses Positive Air Displacement to redistribute pressure from the heel and Achilles tendon to the whole lower leg. This adds comfort while encouraging natural alignment of the leg without the need for a wedge or pillow.

Visit www.ksrleads.com/?009hp-034

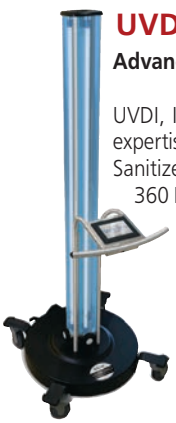
RUHOF

Disinfectant Effective Against COVID-19

Ruhof's Biocide DETERGENT DISINFECTANT PUMP SPRAY (EPA Registered disinfectant #1839-83-39468) has demonstrated effectiveness against viruses similar to the 2019 novel coronavirus (SARS-CoV-2) when used in accordance with the directions for use against Hepatitis A virus on hard, nonporous surfaces (10-minute contact time). Ruhof is increasing production of our BIOCIDE Detergent Disinfectant Pump Spray in pint size (500ml) as well as larger gallon size (4L).

Visit www.ksrleads.com/?009hp-030

UVDI, INC.



Advanced Ultraviolet Disinfection Simplified.

UVDI, Inc. draws on over 70 years of UV-C technology expertise to design and manufacture the UVDI-360 Room Sanitizer, used in over 650 hospitals globally. The UVDI-360 Room Sanitizer inactivates over 35 pathogens, including *C.difficile* in five minutes at eight feet and is proven in clinical studies to help decrease HAIs.

Visit www.ksrleads.com/?009hp-027

BELLWETHER LEAGUE

Bellwether League Inc. inducts the Bellwether Class of 2020 at its
13th Annual Bellwether Induction Event
broadcast online via BellwetherLeague.org, Monday, October 5, 2020

To be inducted this year:

Jack R. Anderson

Doug Bowen

Gregory R. Bylo

Fred W. Crans

Kathleen Garvin

Edmond D. Hardin Jr.

David Reed

Rita L. White

Future Famers Class of 2020 to be recognized:

Hunter Chandler

Jack Koczela

Kenneth Scher

2020 Honoree, Dean S. Ammer Award for Healthcare Supply Chain Performance Excellence to be recognized:

Randy V. Bradley, Ph.D., CPHIMS, FHIMSS

Access/viewership is free and welcomed; limited broadcast sponsorships are available.
For more information on celebrating the event, visit www.bellwetherleague.org
or contact Rick Dana Barlow at rickdanabarlow@bellwetherleague.org.

HEALTHCARE PURCHASING NEWS salutes all 120 healthcare supply chain innovators, pioneers and visionaries in Bellwether League's Hall of Fame for Healthcare Supply Chain Leadership.

Visit www.bellwetherleague.org for more details about the
13 Bellwether Classes, six Future Famers Classes and the 2020 Ammer Honoree.

BELLWETHER LEAGUE:

Honoring Supply Chain Leaders of Yesterday, Today and Tomorrow

Demand planning and forecasting: Healthcare's time has come

by Karen Conway, Vice President, Healthcare Value, GHX

They say, "Timing is everything," and perhaps the time has finally come for healthcare to embrace collaborative [demand] planning, forecasting, and replenishment that has proven valuable in other industries. The critical shortages of personal protective equipment and other supplies needed in the fight against COVID-19 have exposed the weaknesses of a supply chain where information on existing inventory levels and consumption is not routinely shared between suppliers and providers, and forecasts are more art than science.

The concept is not new to healthcare. In 1996, the Efficient Healthcare Consumer Response (EHCR) report cast light on the value of standardized data and automation to support demand planning, among other things. The EHCR effort was based upon an earlier Efficient Consumer Response (ECR) study conducted in the grocery and consumer packaged goods industries.

The primary objectives of ECR initiatives, regardless of industry, are better customer response AND a more efficient supply chain. Given the opinion that too much reliance on Lean manufacturing and Just-in-Time distribution exacerbated the supply shortages with COVID-19, some may question if efficiency and effective response are mutually compatible. But others, like Ruben Taborda, who experienced the benefits of ECR firsthand, beg to differ. Taborda currently serves as senior director for Hospital and Distributor Supply Chain Solutions with Johnson & Johnson, but he previously worked on ECR initiatives when he was with the retail side of the company. He says both objectives can be achieved but only with investments in data standardization and digitization, automation and system integration. The return on those investments, he says, is the ability for manufacturers to better meet changing customer demand, whether for PPE or a sophisticated medical device.

Currently both hospital and manufacturer supply chains struggle with knowing what products are where and in what quantity, where they are moving and most importantly when they are used. As a result, it is very hard for manufacturers to accurately predict demand and deliver product when and where it will be needed, at least not without a lot of workarounds.

That was the case in the retail world, Taborda says, until trading partners began collaborating on inventory management and demand sensing. Walmart led the change by making investments in bar-code scanning and linking those systems with its enterprise resource planning (ERP) system. As a result, Walmart is able to provide suppliers with visibility into not only how much inventory it has on hand but also point-of-sale consumption information. As other retailers followed suit, manufacturers have been able to generate more accurate demand forecasts based on actual sales versus estimates from purchase orders and shipping information.

Taborda would like to see similar capabilities in healthcare, which he says can deliver benefits across the supply chain. Manufacturers can improve fulfillment rates and minimize the amount of expensive inventory that is held in the field or delivered to hospitals just in case it will be needed. Providers, on the other hand, can be more confident they will get supplies when and where they need them and minimize the amount of product that expires before use.

To achieve this vision, Taborda says trading partners need to automate supply chain processes and collaborate to achieve data standardization and digitization, so everyone is calling the same thing, the same thing and is able to share standardized data in transactions. These capabilities are foundational to data sharing between trading partners and the ability to replenish supplies based on actual demand.

Taborda says more collaborative relationships are also critical; just because the data exists does not mean trading partners will be willing to share, unless they see the benefits for their own organizations. Once again, the timing is right. While collaboration has been elusive in healthcare, that appears to be changing. As we discussed in the June issue of *Standard Practices*, COVID-19 has led to increased collaboration, across functions within organizations and across the various stakeholder organizations, even those who typically compete with one another.

COVID-19 has also increased appreciation for the need to invest in supply chain, with early evidence that providers with more digitized and automated supply chains fared better when managing supply shortages. The question now is whether providers and suppliers – both of which have suffered financially during the crisis – will think beyond immediate financial constraints to consider how to make investments similar to those made by their retail peers. Even if those investments need to be delayed until non-COVID care volume and revenue return to some semblance of normal, this is a perfect time for supply chain stakeholders to build the business case for industry-level, collaborative planning, forecasting, and replenishment. In recent years, we have seen individual organizations, like Mercy in St. Louis, invest in capabilities to capture and share standardized consumption data with manufacturers. Unfortunately, when it is just one organization, there is not enough information for suppliers to change their approach to demand management. They need data from enough providers to forecast demand at scale and make necessary adjustments to production levels.

In the midst of significant hardship, COVID-19 has also served to align healthcare stakeholders around a common purpose. We are indeed all in this together, and together, we have the capacity to more efficiently and effectively deliver value to patients, healthcare workers and the organizations upon which a high functioning healthcare system depends. HPN

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.

ADVERTISER INDEX

Advertiser	Page	RS#	Web
3M Commercial Solutions	22	13	3m.com/disinfection
AHRMM	38	12	annual.ahrmm.org
Ambu	5	14	ambuusa.com/aview-2-advance
Bellwether League	53	36	www.bellwetherleague.org
CleanSpace Technology	7	1	www.cleanspacetechnology.com
Cygnus Medical	35	2	www.cygnusmedical.com
Dale Medical Products Inc.	BC	16	www.dalemed.com
DSI	36	15	www.dsidirect.com
EDM Facilities	17	25	edm-facilities.com
Exergen Corp	COVER	4	www.exergen.com
Getinge	3	5	www.getinge.com/cabg
Gojo Industries, Inc.	29	17	gojo.com/hpn6
Halosil International	25	28	www.halosil.com/shadow
Healthmark Industries	37	6	www.hmark.com
Hovertech International	31	19	www.hovermatt.com
HR Pharmaceuticals	49	10	ecovue.com
Hygiena	47	7	www.hygiena.com/atp20
IAHCSMM	39	3	www.iahcsmm.org
Key Surgical	33	11	www.keysurgical.com
Midmark	13	20	midmark.com/careeverywhere
Molnlycke Health Care	IBC	33	www2.molnlycke.us/TNP-HPN
Parker Labs Inc.	26	12	parkerlabs.com/protex
Ruhof Corporation	1	10	www.ruhof.com
Ruhof Corporation	IFC	9	www.ruhof.com
Steriliz	21	21	www.rduvc.com
Subway	9	22	www.subway.com/nontradpartnerships
Terso Solutions	27	23	tersosolutions.com/thetimeisnow
Tork USA	19	24	www.torkusa.com/saferchoice
UVDI	23	26	www.uvdi.com

This index is provided as a service. The publisher does not assume liability for errors or omissions.

HEALTHCARE PURCHASING NEWS

CLINICAL INTELLIGENCE FOR SUPPLY CHAIN LEADERSHIP

How to contact us

Kristine S. Russell, Publisher, Executive Editor
Healthcare Purchasing News
2477 Stickney Point Road, Suite 315B
Sarasota, FL 34231
Phone: (941) 259-0854
Fax: (941) 927-9588
Email: *krussell@hpnonline.com*

SEND EDITORIAL INQUIRIES & MATERIALS TO

Ebony Smith, Managing Editor
Healthcare Purchasing News
2477 Stickney Point Road, Suite 315B
Sarasota, FL 34231
Phone: (941) 259-0839
Fax: (941) 927-9588
Email: *esmith@hpnonline.com*

SEND ADVERTISING MATERIALS TO

Tiffany Coffman
Healthcare Purchasing News
2477 Stickney Point Road, Suite 315B
Sarasota, FL 34231
Phone: (941) 259-0842
Fax: (941) 927-9588
Email: *tcoffman@hpnonline.com*

EAST COAST SALES

Blake Holton
Email: *bholton@hpnonline.com*
Michelle Holton
Email: *mholton@hpnonline.com*
724 Long Lake Drive
Oviedo, FL 32765
Phone: (407) 971-6286
Fax: (407) 971-8598

MIDWEST SALES

Randy Knotts
125 S. Wilke Rd., Suite 300
Arlington Heights, Il. 60005
Phone: (312) 933-4700
Fax: (941) 927-9588
Email: *rknotts@hpnonline.com*

WEST COAST SALES

Blake Holton
Email: *bholton@hpnonline.com*
Michelle Holton
Email: *mholton@hpnonline.com*
724 Long Lake Drive
Oviedo, FL 32765
Phone: (407) 971-6286
Fax: (407) 971-8598

WEB/CLASSIFIED/RECRUITMENT ADS

Tiffany Coffman
Healthcare Purchasing News
331 54th Ave N.
Nashville, TN 37209
Phone: (941) 259-0842
Fax: (941) 927-9588
Email: *tcoffman@hpnonline.com*

SUBSCRIPTIONS

Please visit our website or send all subscription requests to:
Healthcare Purchasing News
331 54th Ave N.
Nashville, TN 37209
Phone: (941) 927-9345 Fax: (941) 927-9588
Email: *hpn-subscriptions@endeavorb2b.com*
Visit *www.hpnonline.com/subscribe*

Supply Chain leadership and succession planning progress

Miles to go before we sleep ... or at least retire

by Jamie C. Kowalski

Five years ago, I formally began exploring leadership and succession planning within healthcare supply chain management as a necessary and useful developmental topic for the benefit of the industry. Much of the intelligence I shared centered on my professional experiences and the responses and data gleaned from an industry-wide survey of healthcare supply chain leaders I conducted.

By the way, the 2020 edition of the Leadership and Success Planning survey remains open if you would like to participate and share your insights. The survey not only gauges the thinking and actions of supply chain leaders who are practitioners, but also reflects how they deal with the real world versus observation and theory.

The first four installments of the Leadership and Succession Planning-focused Periscopes covered the foundations: Definition of terms, applications of principals, skills and characteristics of successful leaders in today's world, and even a real story about how a strong leader used the most frequently recognized and required skills and characteristics of leaders to lead his team to success. One of the many lessons learned about – and from – leaders is that almost all of them share a similar mix of skills and characteristics, regardless of their profession and/or industry. That includes anything from retail and grocery company leaders to leaders of sports teams, such as rugby.

Each installment also explored a data element or two from one of surveys' results, which fomented an "Ah-ha!" moment, adding more depth and emphasizing what successful leaders need and use.

Now, looking at some of the preliminary results of the 2020 survey and comparing selected elements also covered in an earlier edition, we learn that, unfortunately, some things in healthcare supply chain leadership have not progressed, while, other aspects have definitely progressed.

Here are some to consider:

- The total number of years a supply chain leader has served in the highest leader position increased to 15 in 2020 from 10 in 2016. It's likely a mere result of the 2016 survey preceding the 2020 survey by almost five years.
- Time before supply chain leaders expect to retire, remains at four to six years.
- In 2016, only 44 percent of the leaders reported having produced a written Supply Chain Strategic Plan. That number in 2020 has leapt to 67.4 percent. That is quite impressive, yet, there still is a long way to go before it becomes universal. Given the current state of chaos in healthcare, universality must be the least supply chain leaders achieve.
- Regarding succession, 61 percent of today's supply chain leaders believe there are adequate numbers of candidates needed to replace those retiring soon, compared to 47 percent in 2016.
- Here are a couple of oddities:
  - Universities with supply chain curriculum leading to multiple levels of degrees were recognized as the best source of education about supply chain by 76 percent of supply chain leaders in 2020, while only 32.8 percent thought so in 2016.
  - Back in 2016, 64 percent of supply chain leaders felt that current candidates for the top SC position needed one to three more years of mentoring and gaining experience before being ready for the "Chief Supply Chain Officer" position. In 2020, only 33.4 percent felt that way.
- Current supply chain leaders and those aspiring to become one should take note; respondents in both surveys stated that today's candidates for the top leader position need strong *leader* skills to be successful, more so than strong supply chain knowledge and skills. There was virtually no difference in percentage of those that said so. It was 100 percent in 2020 to 96.6 percent in 2016.
- And, (according to both surveys) the executives who supply chain leaders report to are so confident that they will be able to find solid candidates to take the reins of the supply chain leader, from in-house candidates to outside sources, that virtually 100 percent stated they would not even consider outsourcing as a source to find a solid candidate.

Remember, that at press time, the numbers in the 2020 survey responses have been culled from a much smaller sample than that for the 2016 survey, with a participation rate of just under 15 percent. However, in context, other healthcare industry publications that do some of their own surveys, accept a response rate of 10 percent to 15 percent as providing a reliable indication of the views of those from whom responses are sought.

Finally, the 2020 survey included questions associated with the coronavirus pandemic. Many media outlets and politicians made statements about the "brokenness" and lack of performance of the "healthcare supply chain." The healthcare supply chain took many hits and much of the blame for the shortage of key items needed to care for the unfortunate people who acquired the virus. Rather than just ask if the criticisms by many that do not have much knowledge and understanding of the supply chain were either accurate or fair, the survey questions focused on what should or could be done to avoid this disaster from happening again; what knowledge and skills are needed, what players must be engaged to handle the aspects of the supply chain for which they are the best sources, and who should be held accountable.

The survey responses provide a picture of progression, but more work needs to be done to achieve the levels of leadership that such an important part of our lives, our economy and the healthcare system, must have. Nothing less can be accepted. HPN

Jamie C. Kowalski, LFACHE has more than 40 years of experience in healthcare supply chain and expense management as a provider and supplier executive, strategic advisor, thought leader, frequent speaker, author, coach/mentor and supply chain advocate. Following his hospital supply chain career, Kowalski served in executive-level positions at several distributors after 23 years in supply chain consulting. Kowalski is the Co-Founder and Founding Chairman of Bellwether League Inc., and is a member of the Bellwether Class of 2017. He also earned the 2011 George R. Gossett Leadership Award from AHRMM. He can be reached at jamie.kowalski@jckcllc.com.

THIS IS THE NEXT STEP IN HEEL PROTECTION.

Welcome to proven[1,2] heel pressure ulcer prevention. The **Mölnlycke® Z-Flex™** fluidized heel boot features an ergonomic design that prevents pressure ulcers of the heel, which is the second most common site for HAPU's[3]. The design allows for quick assessment, easy adjustment and increases the comfort level for patients. Put it all together and the Mölnlycke Z-Flex fluidized heel boot is how you take a giant step towards a more comprehensive pressure ulcer prevention strategy.

Heel pressure ulcers account for 41% of all DTIs[4] and the effects of a full-thickness heel pressure ulcer can be devastating to ambulation and quality of life.

Scan here to get the complete story.

www2.molnlycke.us/TNP-HPN

1. Macartney K. Reduce the Pressure - Reduce the Injury: Poster presented at the Wound Ostomy Continence Conference 2018 **2.** Cooper, M., et.al., Bundling for Change: Implementing Pressure Injury Prevention, Poster WOCN 2017 Conference **3.** European Pressure Ulcer Advisory Panel, National Pressure Ulcer Advisory Panel and Pan Pacific Pressure Injury Alliance. Prevention and treatment of pressure Ulcers/Injuries: Clinical practice Guideline. The International Guideline. Emily Haesler (Ed.). EPUAP/NPIAP/PPPIA : 2019 **4.** Black, J. Preventing pressure ulcers occurring on the heel. Wounds International Vol 4, eSupplement. Wounds International 2013.

We're here to help. Call your Mölnlycke Health Care Representative or Regional Clinical Specialist.

1-800-843-8497 | www.molnlycke.us

NOW YOU CAN

Get Comfortable with Security

Hold-n-Place®

Catheter Securement

Advanced Catheter Securement, Designed for Virtually Any Catheter or Line

- Maintains optimal catheter insertion angle without the hard plastics that can lead to pressure injuries
- Stays in place up to 7 days
- Superior tensile strength
- Soft and flexible design for improved patient comfort
- Hypoallergenic

Always Reach for Something Better

Learn more at dalemed.com

Dale®

Always Better