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Supply Chain as a Strategic Differentiator

Henry Ford Health's supply chain team is the organization's "horsepower under the hood," says this year's *JHC* Contracting Professional of the Year.

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2023 At Last

Happy New Year! And for the first time in a few years, I actually mean that! At the beginning of 2021 and 2022 there was so much uncertainty that I simply couldn't project a happy year ahead. Uncertainty has always been scarier to me than known challenges. This year, I'm much more confident that we have good things to look forward to, and I will get to those shortly.

I'd be naïve, and it would be insensitive, for me to not acknowledge that we still have many challenges looming in the U.S. healthcare supply chain. The biggest challenges that come to mind are inflation, supply interruptions and labor issues.

Inflation will put a lot of pressure on buyer-supplier relations. The costs of raw material, transportation and labor are putting upward pressure on product costs. This will certainly have suppliers seeking price increases even mid-contract. It will be interesting to see how these increase requests are received and accommodated.

Supply chain leaders I've spoken to tell me they are spending over half their time chasing back orders and stock outs. Hopefully that will recede. Suppliers must do a better job communicating to providers when there is going to be a disruption.

Labor issues are in every corner of industry today. The one that suppliers should really pay attention to is what their client's nursing situation is. Any value proposition you can take to IDNs that helps them make their nurses happier and safer will be received with open arms!

Reasons to be happy in 2023 are plentiful, but the top of the list for me are a full cadence of industry meetings, people returning to the office and a bountiful amount of grace and patience by all.

In-person meetings are so important. I had no idea how much I valued them until they were gone. I know much of the industry meetings have become routine, and much of the content can be shared virtually. But it so hard to build trust and really read a person if you are not face to face. From what I can tell, 2023 should be a banner year for meetings.

People returning to the office will foster collaboration that may have been missing for the last few years. I'm not sure we will ever be back to pre-pandemic hours, but we will see it increase from the last couple years. In some way the separation we have seen may make us appreciate our time together a little bit more, and be more mindful of the value of collaboration.

I do believe we're witnessing more grace and patience than before the last trying years. It seems when you tell someone something they didn't expect, they're more apt to be understanding than disappointed. Maybe we are willing to give people a little more benefit of the doubt. I hope you are experiencing this as well, and I for one hope this is a long-lasting side effect of the pandemic.

Happy New Year! Thanks for reading this issue of *The Journal of Healthcare Contracting*!

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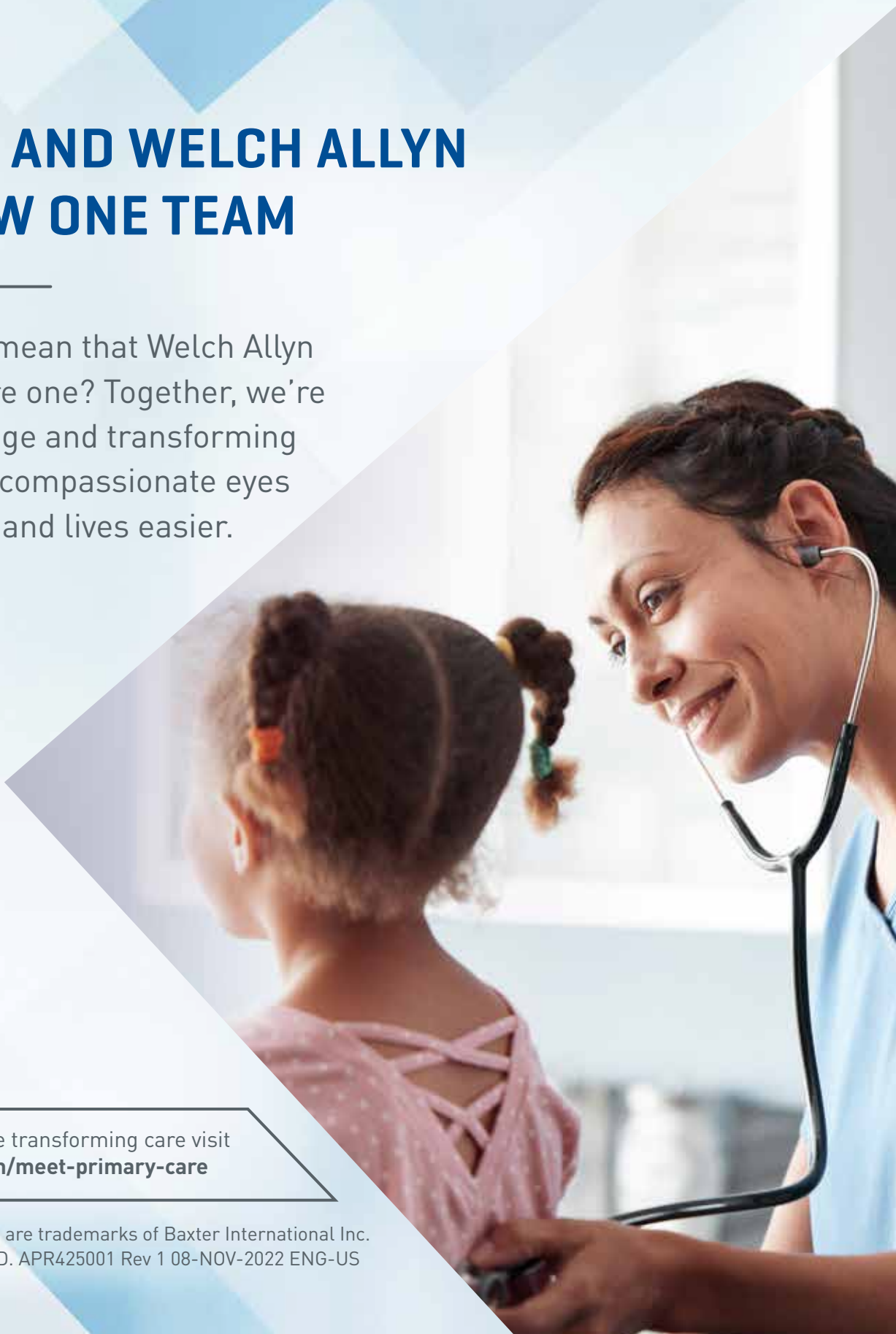

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Explaining the Healthcare Value Chain

How one business professor is on a mission to demystify an important segment of the U.S. healthcare supply chain.

Dr. Lawton Burns

When Lawton Burns, Ph.D., MBA, looked at the literature available for the U.S. healthcare system, he saw a large gap in information and education about group purchasing organizations (GPOs) and pharmacy benefit managers (PBMs).

"I'll give you an illustration of how frustrating this can be," said Dr. Burns, professor of Health Care Management at The Wharton School, University of Pennsylvania. "Everybody who talks about the history of GPOs starts with the formation of the Hospital Bureau in 1910. Then they jump to the present day – and miss what happened in the last 110+ years. There is a total gap in everybody's understanding. I like to tell my students that the only thing new in the world is the history you don't know."

Dr. Burns said a good chunk of his recently released book, "The Healthcare Value Chain: Demystifying the Role of GPOs and PBMs," is the history of GPOs and PBMS that nobody knows. In an interview with *The Journal of Healthcare Contracting*, Dr. Burns discussed some misconceptions about GPOs and PBMs, and the importance of these two entities in today's healthcare supply chain.

JHC: **Why was it important to write this book? How long has it been brewing?**

Dr. Burns: Once you understand the history, you understand not only where these organizations came from, but also how they operate, why they operate, and for whom they're working. It demystifies the entire field. The subtitle to this book, "Demystifying the Role of GPOs and PBMs", was a deliberate effort to say these organizations aren't as dark and mysterious as a lot of people paint them to be.

In 2002, I wrote a book called "The Healthcare Value Chain," on the relationship between manufacturers, wholesalers, GPOs, and hospitals. That was also the same year that the U.S. Senate held the first of four hearings on GPOs and the same year the *New York Times* began an investigation of GPOs. All the stuff was negative. I have a chapter in this book on

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1. Cooke, M., Ullman, A., Ray-Barruel, G., Wallis, M., Corley, A., Rickard, C. (2018). Not "just" an intravenous line: Consumer perspectives on peripheral intravenous cannulation (PIVC). An international cross-sectional survey of 25 countries. Plos One. https://doi.org/10.1371/journal.pone.0193436
2. ECRI https://www.ecri.org/press/racial-ethnic-health-disparities-top-patient-safety-concern-for-2021

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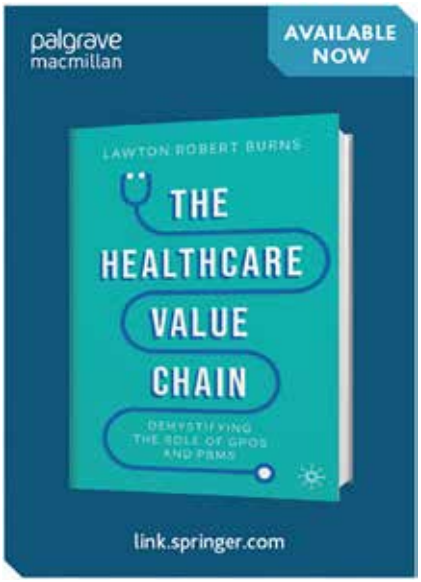
what was brought up in the Senate hearings, and what was brought up in the *New York Times* articles that debunks a lot of the stuff that surfaced then.

But the GPOs didn't do a very good job of defending themselves, and there was no written record to set everybody straight. That's what this book is trying to do. Several years ago I began teaching my MBA students on the PBMs, and then the light went off. I recognized that the PBMs are the retail channel equivalent to the GPOs who operate in the institutional channel. So you have the PBMs operating in the retail channel going to the retailers, and GPOs operating in the institutional channel going to the hospitals and nursing homes, and they play similar roles. I thought there might be something to learn by examining them both.

***JHC:* In your book, you mention that both organizations are often "cloaked in mystery." Are GPOs and PBMs misunderstood?**

Dr. Burns: The first chapter of my new book is called "Dark Territory". When you mention GPOs or PBMs, a lot of negative connotations come to mind. There's a lot of suspicion and mistrust, and I think a lot of unfair allegations. But as I said, there's no comprehensive treatment of the GPOs or the PBMs in the literature. And in that kind of a void, there are a lot of parties who have an ax to grind, who have written articles and reports that are quite partisan and one-sided, and they're often written without really understanding what takes place inside of these organizations and who these organizations work for.

I take a great deal of time to explain that the GPOs and the PBMs don't exist and didn't arise on their own – they're "agents" working for other companies who we call "principals". It's called the agent-principal relationship. The GPOs are agents working for hospitals, and the PBMs are agents working for the insurance companies. They're not working for themselves. They were fostered and developed and supported by the people they're working for.



In general, most people don't understand what intermediaries do. The other classic intermediaries are the health insurers. Nobody in the public understands what health insurers do except they distrust them and don't like them. Intermediaries like insurers, GPOs, and PBMs are not well understood. They're usually blamed for everything that's bad in the healthcare system. They're criticized for allegedly taking fees without doing anything or making anything.

They're also often criticized for taking kickbacks. That's the loaded word used in the healthcare supply chain. "They're on the take, taking kickbacks from manufacturers, and they're out there to serve the manufacturers' interests." Now kickbacks have a negative connotation, even though people don't recognize that these payments that people call kickbacks are permissible under federal statutes for the GPOs. They're also permissible based on some other rulings for the PBMs, but everybody likes to use the loaded term kickbacks.

***JHC:* While occupying similar roles, what are some significant ways that GPOs and PBMs are helping shape the supply chain?**

Dr. Burns: One thing I hadn't fully realized until researching this book is that they both started as cooperative organizations. The GPOs were hospital cooperatives trying to save money. The PBMs actually grew out of a lot of the early prepaid medical group HMOs, health maintenance organizations, and they were basically designed to save money for capitated enrollees to save money on the drugs that were being used to treat those patients. So, they both started off as these local consumer cooperatives.

Another way in which they're similar is that the GPOs negotiate contracts and prices with manufacturers for products that their hospital sponsors use. For their part, the PBMs administer prescription drug plans developed by insurers, help to develop the product formularies, and then negotiate the drug prices with the manufacturers.

So, they're doing the same thing. Sometimes the GPOs are owned by the hospitals, and increasingly the PBMs are owned by the insurance companies. So the "principal-agent" relationship is changing as these intermediary functions

are brought in-house. This clearly shows who these intermediaries are serving. They resemble one another because they're serving as bargaining agents for the hospitals and the insurers to get lower prices for the products that their members are using.

GPOs are developing contracts for medical/surgical items, medical devices, drugs administered in the hospital, capital equipment, etc. PBMs are negotiating prices and contracts for the retail drugs that the enrollees and the insurance plans are going to use. They're basically using the same leverage of collective buying or pooled purchasing on behalf of their customers.

Going beyond that, they help with product selection. The GPOs have clinical committees. The PBMs have pharmacy and therapeutics committees, and they're helping with product selection to help their downstream customers balance two things: they want access to innovative technologies, but at the same time, they don't want to have to pay list price for it. They're balancing quality and cost and trying to make trade-offs between those two things.

JHC: **Can you describe how these organizations can control costs and improve outcomes?**

Dr. Burns: They started as cost control vehicles. Healthcare input costs are pretty high, and they've been rising over time. These two organizations use pooled purchasing to get lower input costs by extracting discounts from the product manufacturers. Basically, they're trading higher volume for a lower price, so it's a standard economic exchange. "We'll buy more in bulk from you if you give us a lower price." It's like going to Costco.

Secondly, they help to diminish the impact of continued price hikes by the device manufacturers and drug manufacturers. Manufacturers hike their prices multiple times during a year. If you add up all those price hikes on their drugs, that's quite a big price increment for people downstream to pay.

What the PBMs and GPOs do is essentially mitigate all those price hikes by negotiating them down, such that instead of having a high single or low double-digit price increases, these intermediary organizations help them negotiate net price hikes in the low single digits.

The other thing PBMs and GPOs do to help control costs is earn rebates from the manufacturers, the majority of which they share back with their downstream sponsors, whether it's the hospitals or the insurance companies, and then the employers. Then it's up to those organizations to figure out what to do with the savings.

But the GPOs and the PBMs are basically negotiating savings that help the hospitals, insurance companies and employers downstream. I don't think most people recognize that.

JHC: **How would you say they are performing in their respective roles? Are they good or bad for competition?**

Dr. Burns: The GPOs have been out there for the last 110 years. I think they're playing their role really well. But PBMs came along much later. The first one started in the late '60s, and then they took off in the '70s and the '80s. Then both organizations underwent mergers and acquisitions to become big national organizations.

But both parties essentially want to maintain competition among the product manufacturers to keep the product manufacturers honest and say, look, if you jack up your prices too much, there are other product manufacturers out there we might shift our business to. What these intermediaries are trying to do is maintain competition in the product manufacturer market. They're not out there to serve the product manufacturers. In fact, what these two organizations want is competitive markets so they can extract price discounts and pass them along to their sponsors downstream.

Now, not everybody agrees with that. The PBMs and the GPOs have aggrieved parties who continually complain about them, and you can't please everybody. The PBMs and GPOs are out there to satisfy hospitals and insurance companies and employers, but there are other stakeholders in the healthcare value chain that feel wronged or disadvantaged by the GPOs and the PBMs. The major party that's always complained about the GPOs are the small medical device manufacturers. The PBMs have always been criticized by the independent retail pharmacies.

So, some people win, some people lose, and some people feel disadvantaged. Not everybody is in full agreement that GPOs and PBMs play positive roles that everybody ought to champion and support. There are winners and losers in the marketplace, and it's what we call static efficiency versus allocative efficiency. These organizations make things more efficient, but not everybody is advantaged by them. So, it's just hard to please everybody. But you know, what else is new? ■

2023: Time for Solutions

Last year brought its share of challenges. Finding solutions is the hard work awaiting everyone in the healthcare community this year.

2022 presented all kinds of challenges for providers, patients and public health professionals. No doubt many of those challenges will linger in 2023, and new ones will arise. However, researchers, providers, public health professionals, lawmakers – and supply chain leaders – can be expected to keep working through the tough issues facing them. In the first part of a series, *JHC* examines the following issues:

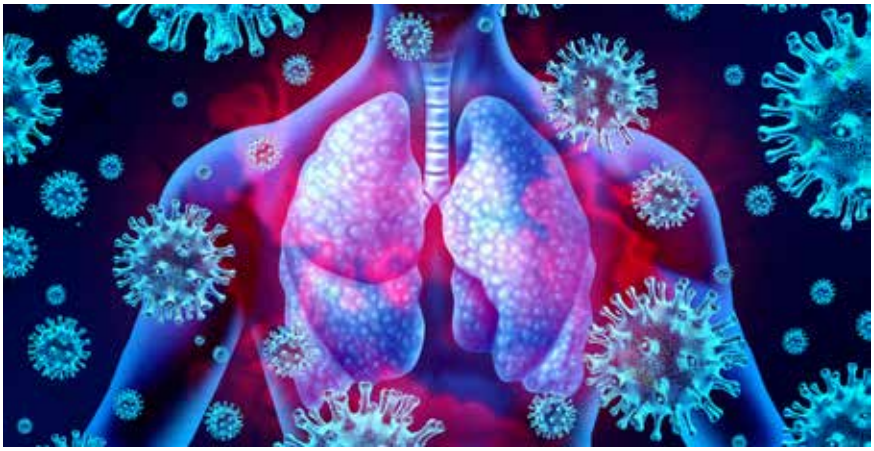
- Respiratory season
- Monkeypox

Respiratory season: In like a lion

Predictions of a tumultuous respiratory season – fueled by COVID-19, influenza and respiratory syncytial virus – appeared to be coming true at year's end. Will any of the public-health-related measures society learned during the pandemic ease the damage?

In November, the Centers for Disease Control and Prevention (CDC) reported that early increases in seasonal influenza activity were continuing nationwide, with the Southeast and South-Central areas of the country hardest hit. The agency estimated that as of Nov. 1, influenza accounted for 1.6 million illnesses, 13,000 hospitalizations and 7,300 deaths (including two pediatric deaths), and the cumulative hospitalization rate was higher than the rate observed in week 43 during every previous season since 2010-2011.

In addition to elevated levels of flu, CDC was tracking rises in respiratory syncytial virus (RSV), Rhino viruses and animal viruses. Children's hospitals were overflowing with RSV patients.



Long COVID

Although the incidence of COVID-19 had abated by late 2022, the healthcare community still faced a challenging after-effect – Long COVID. Between 7.7 million and 23 million people in the United States could have Long COVID, whose symptoms can linger for weeks, months and even years, according to U.S. government estimates.

The most reported symptoms include fatigue, symptoms that worsen after physical or mental effort, fever, and lung (respiratory) symptoms, including difficulty breathing or shortness of breath and cough.

People who had suffered severe illness with COVID-19 were more likely to experience organ damage affecting the heart, kidneys, skin and brain. Abnormalities of the thyroid joined the ever-growing list of

side effects attributed to Long COVID, according to research presented at the American Thyroid Association 2022 Annual Meeting in October. Inflammation and problems with the immune system were also said to occur. Effects such as these could lead to the development of new conditions, such as diabetes or a heart or nervous system condition, according to Mayo Clinic.

At year's end, researchers were still questioning whether Long COVID is a new syndrome and unique to COVID-19. That's because some symptoms are similar to those caused by chronic fatigue syndrome and other chronic illnesses that develop after infections. Despite the questions, however, the healthcare community continued to learn more about Long COVID, how to treat it, and even how to prevent it.

For example, in November, the U.S. Department of Veterans Affairs released a study showing the medication Paxlovid can reduce the risk of symptoms of Long COVID. The study, which included more than 56,000 veterans with a positive SARS-CoV-2 test, showed that those given the oral antiviral medication in the first five days of a COVID-19 infection had a 25% decreased risk of developing 10 of 12 different Long COVID conditions studied, including heart disease, blood disorders, fatigue, liver disease, kidney disease, muscle pain, neurocognitive impairment and shortness of breath.

Monkeypox: Lessons learned about 'stigma' disease

Monkeypox cases were declining by year's end, but some observers believe progress could have been swifter.

In the U.S., about 27,635 cases were reported in late October, about 85% down from the peak at the outbreak, reported Demetre Daskalakis, MD, White House National Monkeypox Response deputy coordinator. However, he added, "the outbreak is really concentrated in communities of color, specifically among Black individuals."

The CDC reported on a clinical consultation for 57 hospitalized patients with severe manifestations of monkeypox, most of whom were Black men with AIDS. Delays had been observed in initiation of monkeypox-directed therapies. Twelve patients died, and monkeypox was a cause of death or contributing factor in five patients to date, with several other deaths still under investigation.

As a result, CDC advised clinicians to consider early treatment with available therapeutics for those at risk for severe monkeypox disease, particularly patients with AIDS. Engaging all persons with HIV in care remains a critical public health priority.

According to one U.S. epidemiologist, the monkeypox experience demonstrated that the world has made little progress since the 1980s AIDS epidemic. "As with the AIDS epidemic, sluggish responses from governments and international institutions, plus outright homophobia and bureaucratic bumbling, have hampered efforts to contain the outbreak," wrote Gregg Gonsalves, an epidemiologist at the Yale School of Public Health in New Haven, Connecticut, in a commentary in Nature. "Very often, humanity has the ability to prevent and treat infectious disease; not doing so is a political choice."

That said, public health officials around the world were applying lessons learned from the AIDS epidemic to monkeypox. "Local staff in the most affected states [in Nigeria] have reported that stigma, connected with commentary from across the world blaming gay people for monkeypox, is discouraging some people from seeking care," said Dr Leo Zekeng, UNAIDS Country Director and Representative in Nigeria in August. "State Health officials are working to ensure that staff at health clinics are sensitized to break down such stigma, and not to reinforce it. State Ministry of Health officials are also embarking on community sensitization on monkeypox, emphasizing identification of symptoms, prevention and the need to get tested."

In September, the U.S. FDA made a significant step forward in early detection of monkeypox by authorizing emergency use of in vitro diagnostics for the detection or diagnosis of monkeypox. These diagnostics may detect the monkeypox virus specifically or more generally detect non-variola orthopoxviruses, which include monkeypox virus. ■

Building Supply Chain Resilience

How an Arizona report on its healthcare system can help the entire U.S. healthcare supply chain.

In 2016, HHS released the 2017-2022 Health Care Preparedness and Response Capabilities guidance to describe what the healthcare delivery system, including healthcare coalitions, hospitals and emergency medical services must do to effectively prepare for and respond to emergencies that impact the public's health. There had been lessons learned from natural disasters like hurricanes in Texas and Florida, but nothing foretold the coming COVID-19 pandemic in 2020.

The U.S. healthcare system wasn't alone in the lack of preparedness. Global action and leadership was needed throughout the world's healthcare systems. For example, the European Union created the European Health Emergency Preparedness and Response Authority in response to the pandemic, but it must continue to support countries in revamping and nurturing their own preparedness capacities.

In Arizona, a team of Arizona State University (ASU) undergraduate, graduate and doctoral students, along with staff from the Healthcare Transformation Institute, which is affiliated with ASU, surveyed members of the Arizona Coalition for Healthcare Emergency Response (AzCHER), including hospitals, long-term care facilities, medical clinics, dialysis centers and other medical care providers, and interviewed medical

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They were led by Professor Eugene Schneller, adjunct faculty member Jim Eckler and Assistant Professor Mikaella Polyviou in the Department of Supply Chain Management at the W.P. Carey School of Business at ASU. Schneller, Eckler and Polyviou spoke at *The Journal of Healthcare Contracting*'s IDN Insights: Showcasing Level IV Health Systems last year, chronicling supply chain preparedness for the long game and the implications for providers, suppliers and distributors.

Report: Building Supply Chain Resilience in the Arizona Healthcare System

Their report on *Building Supply Chain Resilience in the Arizona Healthcare System* was prepared to familiarize the Arizona healthcare community with the need for resilient supply chains and to propose solutions for the design and sustenance of a resilient and prepared supply chain. It focused on the perspectives of Arizona providers of care but also considered other key stakeholders: manufacturers/suppliers, distributors, GPOs and governments. Most of the findings, conclusions and recommendations in the study for Arizona providers are applicable to other U.S. providers.

AzCHER is a federally funded program administered by the Arizona Hospital and Healthcare Association (AzHHA) through a grant from the Arizona Department of Health Services. AzCHER has focused on the availability of critical medical supplies and equipment prior to and during the COVID-19 pandemic. It worked closely with county public health departments, hospitals and healthcare facilities across Arizona to provide resources and means to access medical supplies and equipment.

And in 2022, AzHHA contracted with the Healthcare Transformation Institute to complete the Medical Supply Chain Integrity Assessment for AzCHER.


Ann-Marie Alameddin

"Documented in the full report, Building Supply Chain Resilience in the Arizona Healthcare System, are clear and significant vulnerabilities along with a wide range of mitigation strategies, the capabilities required to engage in mitigation activities and the required business structure," said Ann-Marie Alameddin, president and CEO of AzHHA, in a statement. "AzHHA and AzCHER will utilize this information to coordinate effectively within the state, in collaboration with ESF-8 public health and medical service agencies, to develop a joint understanding and strategies to address vulnerabilities in the medical supply chain."

Alameddin says these strategies provide AzCHER a pathway to enhance its efforts in meeting its mission to build a more resilient healthcare system so that it is prepared to respond to and recover from a large-scale emergency or disaster.

More frequent and significant disruptions for patients and healthcare workers

There are increasingly more frequent and significant disruptions that influence patients and healthcare workers. These disruptions make the systems and their services vulnerable to failure. And the highly fragmented structure of the U.S. healthcare system leads to many providers learning about the problems too late with insufficient time to properly adjust to the situation.

Many of the disruptions during the onset of COVID-19 were related to reliance on suppliers across the globe, who themselves faced disruptions. This was especially true for PPE. And for blood, disruptions had to do with the reluctance of their donors, the source of their supply.

Before COVID-19, PPE supplies were largely treated as "Class C" items by organizations, or least important. During the pandemic, they had to engage more closely and at a strategic level with their suppliers. A blood supplier told the research team:

"[…] things like PPE supplies, [which are] typically a "C item" [for which] we don't heavily manage… but, in light of the circumstances, they

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became more of a critical supply. So, when we engage those suppliers, we engage to a better, more strategic level… I know, most of the executive team at those suppliers… at the chief operating officer level. So that's the level we were dealing with we had to get to that level people that can make decisions quickly, not only on our side, but commitments from the supplier."

An extensive assessment of the uncertainties surrounding PPE and supply issues in the U.S. revealed overlapping entities and multiple networks. But strategies to buffer against dependencies are quickly evolving.

Those six mitigation strategies include:

- Increased flexibility and redundancy.
- Formal collaboration and coordination programs.
- Information transparency across the supply chain.
- Good governance of the supply chain.
- Organizational authority to do what is needed.
- Good supply chain management practices.

The report also includes recommendations for upgraded business structures and capabilities to facilitate these strategies.

"Experts have predicted that medical supply chain disruptions will increase in frequency and severity in the coming years. More resilient supply chains are critical for our ability to confront and manage these disruptions."

Mitigation strategies to help provider resilience and preparedness

Building Supply Chain Resilience in the Arizona Healthcare System addressed supply chain resilience and preparedness needs for healthcare providers to meet long-term disruptions in the supply chain.

"This work, while focused on providers in Arizona, is directly applicable across the country and globally," Schneller said in a statement. "The findings and recommendations for building resilience apply to all aspects of healthcare delivery. We strongly urge more focus on six fundamental supply chain strategies."

"Experts have predicted that medical supply chain disruptions will increase in frequency and severity in the coming years," Schneller added. "More resilient supply chains are critical for our ability to confront and manage these disruptions."

According to the report, the mitigation strategies above provide a path for providers to reduce the impact of supply chain disruptions and develop resilient organizations. However, organizations need a set of business capabilities to support the supply chain processes and preparedness mission, including:

- Information visibility for monitoring risks, product availability and setting allocation goals.
- The presence and commitment to a collaborative culture.
- Leveraged sourcing to competitively procure necessary products.
- Capital to finance the implementation and operation of these capabilities.
- Competencies in the practice of supply chain management.

These capabilities can enable organizations to successfully apply mitigation strategies. To establish and manage these capabilities, basic supply chain management structures are needed in the organizations. Four basic business structures to support the capabilities include:

- Information systems.
- Governance processes.
- Trained workforce.
- Distribution networks.

The report scrutinized seven categories of supplies and their ability to respond to the experienced surges in demand during the COVID-19 pandemic. Reliance on the global supply chain significantly impacted the availability of PPE supplies like masks and gowns. Deficiencies in supply for other categories were impacted for various reasons and impacting the supply of blood was the reluctance of donors to come to blood bank locations due to fear of travel and being in public places.

Building Supply Chain Resilience in the Arizona Healthcare System reveals the important roles fulfilled by healthcare coalitions and provides insight into their potential role as an important supply chain facilitator.

Find the full report at azcher.org. ■

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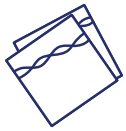

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Supplier Diversity

Why it's critical and how to get started.

Since the pandemic, supply chain strategies have become top-of-mind for executives across business functions. A recent survey by HealthTrust Performance Group℠ showed that an overwhelming 85% of respondents, who are owners and operators of healthcare systems across the U.S., are now taking a more proactive approach to ensure stable supply chains for their organizations.

By Joey Dickson, Supplier Diversity Officer and Assistant Vice President of Strategic Sourcing at HealthTrust Performance Group℠

One key proactive supply chain strategy is supplier diversity – The use of minority, woman and service-disabled veteran enterprises (MWSDVEs) to provide goods and services to hospitals and non-acute healthcare settings. For providers, supplier diversity has clear operational and supply chain benefits.

Strengthening business operations

An increasing number of organizations are embracing diversity, equity and inclusion (DEI) as critical and integral components of their corporate culture. Taking steps to diversify the supplier base can help hospitals and healthcare providers meet these broader goals.

Diverse suppliers, which are often smaller companies, can also become more ingrained in the businesses they serve. They grow to know their clients' organizations as if they were their own. As a result, over time, these suppliers can both identify opportunities for innovation and/or business efficiencies and help implement these changes. This might include

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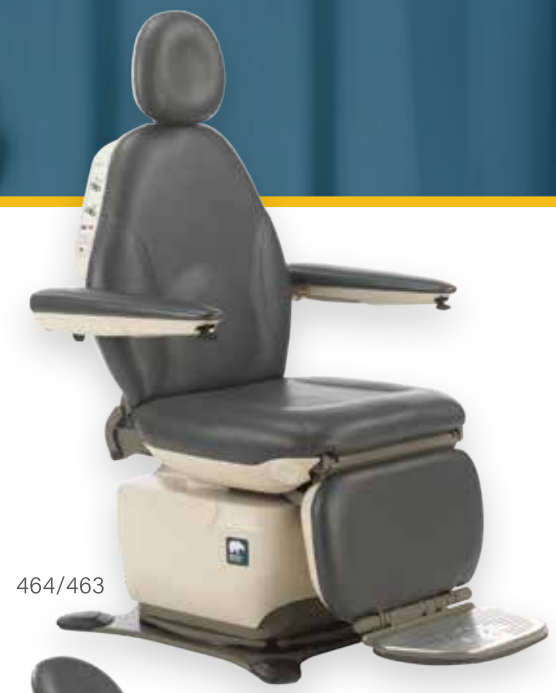

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finding new ways to use everyday products, upgrading technology, or automating processes. These recommendations can strengthen business operations and set new standards for reliable service.

Diversifying the supplier base can also provide other benefits. MWSDVEs are generally more responsive, provide higher quality of service, and nurture more personalized connections. Overall, these practices foster and strengthen ties across local communities. Particularly for healthcare organizations serving local regions, growing community connection points foster trust and improve the quality of care they are able to provide to patients.

How to get started

While supplier diversity is a clear business catalyst, healthcare leaders may be averse to changing their current operations; or they may overestimate the difficulty of diversifying their supply base. The good news is that the process to get started is easy. Leading partner organizations provide toolkits to assist in starting and enhancing diversity spending initiatives. Overall, healthcare companies looking to diversity their suppliers should follow these steps:

1. **Take stock of current relationships.** Hospitals and health systems generally have identified spend targets around MWSDVE businesses. As a result, most will typically have diverse suppliers on their roster. So, to start, it is important to dive into the data and understand current contracts and relationships.

2. **Confirm executive support.** Diversity goals cannot be accomplished without prioritization and clear communication from the top. It takes focus, collaboration and intent. Before going any further, it is critical to confirm the business' key decision-makers are aligned and willing to champion related efforts.

3. **Establish clear goals.** Set concrete, finite and realistic objectives. For example, increase diversity spend by a certain percent over the next 12 months, or establish a diversity spend threshold for a given project. Then talk about the goals, not just with employees and others within the company, but with prospects, clients and your supplier base. Make it clear that the organization as a whole is serious about finding the right companies to partner with and infuse this focus on diversity across all of your contracted products and services.

4. **Build slowly and steadily.** Once goals are established, work to build toward them in small but meaningful ways. This might include consolidating language interpretation services or cleaning products distributors from many into one diverse service provider. Every choice will move you closer to your goals.

Businesses looking to establish an organizational focus on diversity should think holistically about where overall impact could be made.

Healthcare organizations that have diversity programs in place and relationships with diverse suppliers, tend to be more profitable. Companies in the bottom quartile for gender, ethnic, and cultural diversity were less likely to achieve above-average profitability, according to a study of diversity in the workplace by McKinsey & Company. Similarly, The National Minority Supplier Diversity Council reports that certified minority business enterprises generate $400 billion in economic output, leading to the creation or preservation of 2.2 million jobs and $49 billion in annual revenue for local, state and federal tax authorities. These numbers are steadily increasing.

Looking beyond supply chain

Enhancing supplier diversity works best when it is part of larger DEI initiatives across an organization. Businesses looking to establish an organizational focus on diversity should think holistically about where overall impact could be made. This should foster broader discussions around DEI related to business operations, talent acquisition and retention and governance structures. Leaders must set clear paths for their overall diversity strategies and then promote the imperatives throughout their divisions.

By increasing the focus on organizational diversity, hospitals and other healthcare facilities can make a meaningful impact on both their corporate culture and the communities they serve. ■

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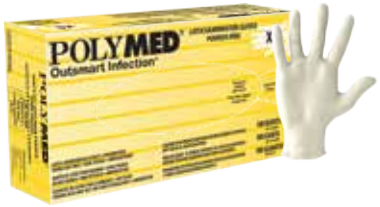

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Bill Moir, senior vice president of supply chain management, Henry Ford Health

Supply Chain as a Strategic Differentiator

Henry Ford Health's supply chain team is the organization's "horsepower under the hood," says this year's *JHC* Contracting Professional of the Year.

Henry Ford Health believes that everyone benefits when all businesses are afforded an opportunity to compete in the healthcare marketplace. To that end, it reinvested in its supplier diversity program, partnering closely with its strategic sourcing to ensure that diverse suppliers are identified, included, evaluated and awarded appropriately as part of the formal bid process.

"We're one of the health systems that signed a pledge as a member of the Healthcare Anchor Network (HAN), and its multifaceted goals from supply chain to sustainability to hiring," said Bill Moir, senior vice president of supply chain management for Henry Ford Health, and this year's *JHC* Contracting Professional of the Year. "We have some lofty goals around supplier diversity which we aim to achieve through our multidisciplinary Supplier Diversity Champions Committee."

"This isn't just a supply chain issue at Henry Ford, it's an everyone issue," he said.

Moir has served as senior vice president of supply chain management for Henry Ford Health since January 2021. His responsibilities involve overseeing all supply chain functions, including strategic sourcing, supplier diversity, purchasing, accounts payable, linen, supply chain systems and analytics, supply chain operations, and distribution and logistics.

He has held supply chain leadership roles in some of healthcare's leading organizations such as Advocate Aurora Health, Ascension Health and Trinity Health. He is a champion for integrating supply chain management into clinical and financial outcomes and putting the stakeholders and communities he serves first.

Increasing diversity spend uplifts communities

Henry Ford Health's supply chain connects with departments from across the integrated, nonprofit health system to increase diversity spend in different areas that have targets for growth. Sourcing diverse and local suppliers is critically important to the health system, which serves Metro Detroit and south central Michigan, while bringing domestic manufacturing back to Detroit is an even larger goal.

"Domestic manufacturing not only helps to derisk the supply chain, but also helps to create jobs, which is huge for health equity," Moir said. "It's not just about sourcing. It's about creating income and wealth because you cannot keep people healthy if they cannot afford food, housing or insurance. So, creating jobs in those communities we serve at Henry Ford is what supplier diversity is about. It's an easier pathway to health equity and we're very committed to it."

Henry Ford Health also hosts community outreach events for strategic introductions between suppliers and system stakeholders. It is strategic around partnering with vendors in the community that have been historically marginalized and making the community healthier.

"Supplier diversity lives in our Community Empowerment pillar within our Henry Ford Health Diversity, Equity, Inclusion and Social Justice Plan," Moir said.

The health system partners with community organizations like United Way for Southeastern Michigan to create a community information exchange – a grassroots council that targets patients, especially senior citizens, who are experiencing food insecurity. It's called Closing the Loop and it's a partnership between United Way for Southeastern Michigan, Henry Ford Health, Templin Medical Center, Gleaners Community Food Bank and Fish & Loaves Community Food Pantry.

A Henry Ford Health doctor notifies a United Way representative about a patient's food needs. That representative then calls the patient to set up an appointment at Fish & Loaves, which provides the patient with free, nutritious food at their location. Then, a United Way representative follows up to support the patient throughout the process and help with other needs.

"This has the capacity to serve over 500 patients by the end of 2022. That's the goal," Moir said. "And we plan to identify and

recruit at least five other healthcare organizations to scale these efforts in 2023. We plan to complete 350,000 food insecurity screens and 75,000 full social need screens by the end of 2023."

The Healthcare Anchor Network Impact Purchasing Commitment

Collaborating with other healthcare organizations is important to Henry Ford Health.

In 2021, it signed the HAN Impact Purchasing Commitment with 12 other HAN member health systems across the country to build healthy, equitable and climate-resilient local economies through what and how they spend their dollars. This includes increasing spending with Minority and Women Owned Business Enterprises (MWBEs) as well as local and employee-owned, cooperatively owned and nonprofit-owned enterprises by at least $1 billion collectively over five years.

For sustainability, signatories committed to selecting a minimum of four Core Sustainability Goals and to achieving each goal within five years. For community wealth building, signatories committed to establishing and tracking progress toward five-year spend goals with vendors that are locally headquartered, owned and operated at the neighborhood or regional level, and majority employee-owned, cooperatively owned and nonprofit-owned enterprises.

Finally, signatories committed to implementing strategies, policies and practices to incentivize internal departments, vendors and GPOs to engage in impact purchasing.

Investing in domestic manufacturing and mitigating manufacturer risk

"Resiliency must be a strategic pillar of the healthcare supply chain," Moir said. "It's critical we have the supplies we need. Historically, supply chains have pushed for the lowest cost – high quality, but lowest cost – and that created some of the challenges we had in the pandemic. Now, we're looking at how to derisk the supply chain and a cornerstone of that strategy must be domestic manufacturing, but that's not the only answer. Supply Chain resiliency must be diversified like your personal investment portfolio."

Henry Ford Health has invested with Premier, its GPO, and 15 other Premier members in Prestige Ameritech, a diverse American manufacturer based in Texas, for masks. It has also invested in DeRoyal Industries in Tennessee for gowns. And it's participated in a domestic glove resiliency program with Honeywell.

It's also part of a group of Premier members working on risk scoring manufacturers. "Everyone is trying to get this information," Moir said. "We're figuring out how to make the resiliency variable more objective to include in our strategic sourcing selection scorecards."

"If Vendor A has a risk score of 10 with low risk and Vendor B has a risk score of 90, then that should be considered when you select supplies through the sourcing process," he said. "And if 90% of your manufacturing is in Shanghai, China, that's not diversification."

Moir said scale is going to be the key, not only with obtaining more manufacturer data but also in efficiency. "Ten individual IDNs doing this score carding separately would be a heavy lift. Why would you duplicate efforts? It's another good collaboration opportunity with partners like Premier and others in the industry," he said.

Rolling out supply chain inventory management and analytics, and overhauling P2P

Henry Ford Health has rolled out its Point of Use Supply Chain Inventory technology in the past year, which is predicated on safety, revenue and data capture.

"A lot of people think inventory management when they think Point of Use, and that's certainly a benefit, but our goal is to translate data capture into actionable outcomes," Moir said. "We're just starting phase two of continuous improvement with

data capture, but what makes us unique is our methodology and approach with a direct connect between our EMR and ERP."

The Point of Use strategy is a collaboration with Henry Ford Health's IT, clinical stakeholders and operators, and supply chain team. "This is going to be the bread and butter to make us successful. It's a huge initiative," Moir added.

The health system has also overhauled its Procure to Pay (P2P) program from start to finish. "P2P is really moving from the sourcing to the implementation of the products, making sure we have the right controls in place around financials and controlling the supply chain in cost and care," Moir said. "The only way to make sure we control the supply chain is through our collaborations with our clinicians."

Moir says Henry Ford Health has a strong history of clinical collaboration but it's seeking even more transparency around supplies and a wider net for cooperation with medical groups and private physicians. These strong relationships will be leveraged toward a more consistent and inclusive sourcing methodology.

Its strategic sourcing leads 14 system-wide value analysis teams that meet regularly to assess current and potential new products, services and equipment, and it manages the health system's GPO relationship with Premier.

"We had a really great foundation when I arrived at Henry Ford to build from," Moir said. "Leadership at Henry Ford has made it a point to say supply chain must be a strategic differentiator. We've invested in our data management systems and analytics team, and we've brought in diverse talent and collaborated with multiple stakeholders."

Moir believes people truly are the strategic differentiators in healthcare organizations and supply chains. His servant leadership approach intends to enhance engagement with his customers, stakeholders and team. Moir believes this engagement and collaboration must be centric to challenging the status quo related to supplier diversity, analytics, resiliency and realizing value in supply chain. "We have a phenomenal Supply Chain team at Henry Ford Health, they truly are the horsepower under the hood," Moir said.

The supply chain team at Henry Ford Health partners with the quality team and IT analytics team to drive value, and it partners with the service lines delivering care as well as external collaborators like Premier.

"We're still evolving using data and analytics. Our objective is to ensure you are capturing what you use in cases to effectively derive an actual cost-per-case. If this is not done successfully your clinicians will likely have to use modeled data, which will be less informative and actionable, yielding lower value for utilization efforts," Moir said.

"Data capture has historically been ineffective in the healthcare supply chain for years," he said. "But we're working with

Premier, our service lines, operators and our analytics team to develop a true cost-per-case model."

Consolidated service center and distribution center opening in 2023

And finally in another project aimed at bending its cost curve down, Henry Ford Health is slated to open its consolidated service center (CSC) and distribution center in 2023. The first floor will be dedicated to physician preference items in med/surg products, and the second floor will be committed to pharmaceutical distribution.

"It's intended for high-dollar density items and those physician preference items," Moir said. "It won't be as big as some CSCs at other health systems, but we aim to drive greater value through our unique design and products selected."

Henry Ford Health will use the CSC to manage its inventory more effectively and help in its resiliency strategy. ■

HAN Impact Purchasing Commitment Signatories

- Advocate Aurora Health
- Banner Health
- Baystate Health
- Bon Secours Mercy Health
- Cleveland Clinic
- CommonSpirit Health
- Henry Ford Health
- Intermountain Healthcare
- Kaiser Permanente
- Providence
- Rush Health
- Spectrum Health
- UMass Memorial Health

Building Surgical Case Carts from The Customer Up

Case carts are crucial within a hospital or surgery center. A fully stocked cart, with all of the necessary supplies and instruments for a surgical case, needs to get to the OR on time to maximize efficiency. Carts getting to the OR late or without crucial items can cause chaos in the OR and plays havoc with the surgery schedule. Metro decided to go directly to the users to find out the biggest problems with the carts they were currently using and work on real solutions. Here are the biggest problems Metro heard from customers and distributor partners.

Case Carts are Missing Items

Case carts house many vital components for a surgery including surgical packs, supplies, and instruments. Most carts have no system that tells an outside observer if something is missing. Many hospitals use orange traffic cones on the tops of carts to indicate there are missing items!

Metro designed their new CaseVue™ Surgical Case Carts with four color indicators clearly visible on the top of the cart that identifies the status of the cart. If it has a green indicator showing, the cart is ready for use. Orange means there is a missing product, blue indicates a cancelled case, and red indicates biohazard waste on board and that the cart needs cleaning. The colors can also be customized to your facility needs.

Case Carts are Bulky, Heavy, Noisy, and Hard to Maneuver

With all of the labor shortages healthcare facilities are facing, keeping workers healthy is particularly important. A fully loaded cart can weigh hundreds of pounds so designing the cart ergonomically with maximum maneuverability is imperative.

The new CaseVue™ Surgical Case Carts offer two exclusive ergonomic features. The swing up handle allows for workers of various heights to steer the cart easily. The optional 5th wheel steering assist is ground-breaking, assuring maximum control in transit.

The Thermoplastic Rubber casters were designed to mitigate vibration noise from being transferred to the cart body. The doors bumpers, reinforced floor, and contoured side panels along with the new casters make this cart one of the quietest available in the market.

After Cleaning, Cart Handles are Too Hot to Handle

Case carts go through the cart wash after each case. Many facilities have potholders available so that healthcare workers can touch the newly cleaned carts without getting burned.

Metro has cool touch, antimicrobial handles on all of their case carts so no need for potholders. The case carts are also constructed of Type 304 Stainless Steel which has superior corrosion protection. These carts can go through the cart wash several times a day so being more rust resistant helps these carts last longer.

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UAMS's Response to Climate Crisis

Using energy savings to fund sustainability at an Academic Health Center

BY KRISTIE HADDEN, PH.D.; CHRISTINA CLARK, M.B.A.; STEPHANIE GARDNER, PHARM.D., ED.D; DAVID DOBRZYKOWSKI, PH.D.; AND CAM PATTERSON, M.D., M.B.A.

Hospitals and labs are responsible for 4.4% of the planet's greenhouse gas emissions each year, ranking in the top six of the worlds' largest emitters, and the United States accounts for 27% of the global health care emissions footprint. (Karliner J., *et al*, 2019) The negative environmental impact of Academic Health Centers (AHCs) on human health is not only misaligned with, it is contrary to the missions of these institutions. Calls to action have been voiced and supported by world and national associations, including the Association of American Medical Colleges (AAMC). These calls demand changes that shift health care institutions from being the biggest contributors of emissions to becoming models for other industries to follow. In response to acknowledging our responsibility to safeguard the health of our communities through mitigating the current environmental crisis, as well as to create a proactive, sustainable model for AHCs, the University of Arkansas for Medical Sciences (UAMS) is making strides towards becoming carbon neutral. Through innovative strategy and financing, radical changes toward reducing our institution's carbon footprint have been made possible.

UAMS is the only health sciences university in the state, with five graduate colleges and a hospital on its main campus in Little Rock. Our University is committed to addressing climate change and human health in our education and research mission areas, as well as through campus sustainability efforts. Additionally, and in an effort to promote inclusive climate change activism, our campus aims to reduce pollution and the negative impact of its consumption on the vulnerable community that lives in the shadow of its buildings. (North Carolina Environmental Justice Network, 2016) To that end, our leadership prioritized and is now executing a comprehensive facilities plan that is already having a positive impact on sustainability. The plan also addresses many institutional and organizational challenges that are common for academic health centers.

UAMS, like many other academic health centers, faces a strategic challenge of funding critical and deferred maintenance needs across its campus while maintaining energy efficient, state-of-the-art facilities. Innovative funding solutions are required to address these critical needs in a budget-positive manner. Our solution allows energy efficiency, critical infrastructure, and deferred maintenance projects to be completed and paid for over time through guaranteed energy savings, operating cost savings, and avoided capital investments. Leveraging these energy cost savings allows our University to invest more in our programs that support our mission to improve the health and wellbeing of the people in our state through education, research, and clinical care. This article highlights the challenges that led to our innovative facilities approach, describes the processes implemented to achieve lofty facilities goals in Energy Savings Performance Program (ESPP), and illustrates the financial, environmental and other outcomes of the ESPP that may be relevant for other health care facilities in need of energy-related facilities investment.

Innovation

Because UAMS is a state government agency, the facilities transformation began with a Request for Qualifications (RFQ) process to select a local Energy Services Company (ESCO). The three-step RFQ process yielded an ESCO selection based on qualifications and Investment Grade Audit (IGA) price per square foot. The ESCO completed a review of compliance with state standards, confirmed savings methodology, approved contracting structure, and verified overhead/profit/margin fees, cost estimates, and engineers' credentials. UAMS worked with the ESCO to frame the Energy Savings Performance Project (ESPP), which started in early 2018 and is expected to be fully complete by the end of 2022.

Energy Savings Performance Contracting is a method of contracting that allows energy savings projects to be performed and paid for over time by the guaranteed savings realized in energy bills, operations cost, and avoided capital investments. The enabling state legislation for this is titled "Guaranteed Energy Cost Savings Act." An excerpt taken from the definitions page of the statute reads: "'Guaranteed energy cost savings contract' means a contract for the implementation of one (1) or more energy cost savings measures and services provided by qualified energy service companies in which the energy and cost savings achieved by the installed energy project cover all project costs, including financing, over a specified contract term." (Arkansas General Assembly, 2019) In other words, for a project to be eligible under this program, we look for facilities or equipment on our campus that are wasting energy, in need of replacement, causing excessive maintenance cost, or would perform better if repaired or upgraded. These are termed Cost Reduction Measures (CRMs). By completing one or more CRMs, a certain amount of energy and operational cost will be saved. Savings can be realized in electricity, gas, fuel oil, water, maintenance, capital, or any other type of operational cost. This savings must be sufficient to pay for the conservation measure, plus the financing fees – and any other project costs – over an acceptable term. The statute sets an upper limit of 20 years for the applicable project. The goals of the ESPP were to positively impact our local environment and to significantly reduce energy costs. Additionally, the ESPP focused on improving campus resiliency by addressing critical infrastructure needs, improving campus safety, and implementing previously approved deferred maintenance requirements. The ESPP approach included the following CRMs:

Retrofitting internal and exterior lighting with LED

Lighting energy costs for typical commercial buildings range from 10% to 15% of a building's overall utility costs. This can vary greatly depending on building occupancy, function and the type of lighting technology deployed. UAMS has a diverse use of lighting technology


Power plant construction

across its campus. Based on a lighting audit performed during the Investment Grade Audit (IGA), more than 70,000 fixtures were identified and evaluated for possible retrofit to an LED alternative. LED lighting technology provides a more energy-efficient solution when compared to traditional fluorescent fixtures.

Building new generator plant

UAMS had a 13.5 megawatt (MW) diesel generator plant that allowed the institution the opportunity to participate in our local utility's demand response program under its Optional Interruptible Service (OIS) rider. (Entergy Arkansas LLC, 2022) The OIS program generates substantial cost savings for UAMS by the utility agreeing to charge the institution a special electric rate since the generator presence allows the utility to shift UAMS and other off-taker participants from the utility's power grid during peak electric demand. The generator plant provides complete backup to the normal power system on a portion of the UAMS' campus as well as for the off-takers that include neighboring Arkansas Department of Health and the Arkansas State Hospital facilities. In the ESPP, UAMS constructed a new 24 MW generator plant. The intent is to provide complete backup to the normal power system and take advantage of our local utility's OIS rate, similar to the previous arrangement.

Upgrading essential power system

In concert with the new generator plant, UAMS also is upgrading the existing essential power system on a portion of the campus to be served from the newly constructed generator plant. UAMS presently has 19 independent generators on campus that serve various buildings and loads. These generators are maintenance intensive and in need of replacement. This upgrade will remove these generators and re-feed the emergency power circuits associated with those loads to the new generator plant.

Retro-commissioning and installation of building energy management controls

Building Automation System (BAS) controls are vital to energy efficient operations. Controls technology has advanced over the last several years with the advent of Direct Digital Controls (DDC), which are far superior to pneumatic controls.

However, even the presence of DDC does not ensure energy efficient operations. Controls technology becomes outdated and incorrect implementation of DDC control sequences are seen commonly throughout the industry. Substandard performance is often the result of poor programming and sequence development, even though the controlled equipment is designed to be energy efficient. The ESPP includes upgrading and retro commission of building automation to address the BAS and optimize its operation through two distinct components: 1) upgrading the existing BAS to current technology and 2) retro-commissioning the existing and upgraded BAS to optimize system operation. These two components of the ESPP will generate substantial energy savings and resolve persistent operational and maintenance issues.

Upgrading chilled water and heating water systems

As UAMS uses a chilled-water system for cooling its buildings, part of the ESPP involved upgrading our chilled-water plant from a primary secondary pumping arrangement to a variable primary pumping system. This entails the replacement of existing primary and secondary pumps with new variable speed primary pumps and closing isolation valves on the existing primary secondary decoupler to increase plant pumping efficiency as well as replacing two existing chillers with new standard efficiency chillers to improve chiller plant efficiency. In addition to the these upgrades, the ESPP also includes the upgrade of existing cooling tower cells by replacing six existing cooling tower cells with new cells and extending equalization piping to the new cells such that any cell can be used with any chiller. These upgrades will provide an additional 1,500 tons of cooling tower capacity for our campus.

Replacing critical air handling units

Air Handling Units (AHUs) can have a substantial impact on energy consumption and costs for a building. AHUs are common HVAC equipment seen in most commercial buildings and are responsible for the primary air movement of the HVAC system. AHUs have a finite useful operating life ranging from 20 to 25 years on average. Many AHUs on the UAMS campus have reached or are operating beyond their useful life and are in need of replacement. The ESPP included designing three prioritized AHUs in strategic locations across our campus.

Outcomes of implementation

The ESPP delivered substantial cost savings for the campus (see Figure 1) while also promoting energy efficiency and reducing the impact of the campus physical plant on the environment. The positive financial outcomes included an estimated $4.8 million in annual energy savings and $3.3 million in annual operational cost savings. At the same time, more than 250 trees were planted on the 100-acre campus and more than 65,000 LED light bulbs were installed to replace older, less energy efficient lighting. As a result of the initiatives, UAMS reduced carbon emissions for natural gas and electricity by 32%. Additionally, 19 end-of-life generators were

Figure 1. Actual Savings Versus Projected Savings for first three years

replaced with the eight new generators. The mechanical, electrical and plumbing systems of a 1960s-era building were upgraded and the building is now shelled space for future occupancy, also contributing to significant energy savings.

Conclusion

It is critically important that AHCs' strategic, transformative approaches include a framework that represents all three mission areas: health care, education and research. By mitigating the negative impact of carbon emissions of our facilities, our institution is addressing the health and health care of our community.

The innovative strategy and financing that has made our institution's positive environmental impact possible has been realized over time. As savings have been realized, including the $8.1 million saved annually through energy efficiency and operation cost reduction, investments in further improvements have been made. This approach of strategic savings/investment focused on energy and facilities can create opportunities for AHCs and other health care organizations to address health and well-being by creating models of responsibility and sustainability. ■

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Wearables and the Physician Office

Health apps are everywhere ... except the exam room.

Have you noticed that most people checking their watches aren't looking for the time, but rather, for the number of steps they've taken today? The fact that so many people – an estimated 45% of Americans – wear fitness trackers has given rise to the term "quantified self." There's even a nonprofit based in the San Francisco Bay area called Quantified Self, whose tagline is "Self-knowledge through numbers."

To date, consumers, employers and health plans have been responsible for driving much of the adoption of wearables and health apps, like fitness trackers. But it remains to be seen how – or if – physicians will jump in.

It's not just about wellness anymore

Wearables range from Fitbits, AppleWatches and Galaxy Fits, to more sophisticated devices that collect information on blood pressure, glucose levels, oxygen levels and gastrointestinal issues. In fact, health apps are increasingly focused on health condition management rather than wellness management, with the former accounting for 47% of all apps in 2020, up from 28% in 2015, according to the research firm IQVIA Institute for Human Data Science. Mental health, diabetes and cardiovascular disease-related apps accounted for almost half of disease-specific apps in 2020.

Wearable health devices offer several benefits to users and healthcare providers, according to researchers from Cornell University in 2020:

- They offer a convenient way to monitor, store and share health information in real-time.
- They provide feedback to users to make appropriate changes to their daily routines or behavior.
- They can facilitate remote patient monitoring and provide proactive and faster data access to physicians.
- They can be particularly useful for patients with chronic conditions, patients with cardiovascular risks, and elderly populations.

Working with a mobile health app platform in Asia, the researchers monitored health activities (e.g., exercise, sleep, food intake) and blood glucose values of 1,070 diabetes patients over several months. They found the adoption of the mobile health app led to improvements in health behavior, reductions in blood glucose and glycated hemoglobin levels, and fewer hospital visits and lower medical expenses. Patients who used the app undertook more exercise, consumed healthier food, walked more steps and slept for longer periods of time, and they were more likely to substitute offline visits with telehealth visits.

The business model

Developers of digital health apps initially marketed and sold them using a direct-to-consumer business model, but developers of apps providing the most significant health benefits are increasingly targeting payers and employers, according to IQVIA.

The average employer offers more than 12 digital health programs to their workforce, prioritizing activity, fitness, and sleep programs; nutrition and weight management tools; and diabetes management and prevention programs, according to San Francisco-based Castlight Health. (Castlight identifies itself as a connected healthcare navigator, offering employers and health plans a menu of health resources and plan designs, including health apps.) Successful employers are likely to incentivize employee engagement to use these programs, resulting in engagement levels that are on average eight times higher than those without incentives, according to the company.

Vivante Health

One healthcare application company working directly with employers and health plans is Vivante Health, Chicago. Its digital health products are designed to provide personalized and comprehensive care for people with digestive conditions.

More than 70 million Americans suffer from digestive health issues such as irritable bowel syndrome, Crohn's disease, gastroesophageal reflux disease or other chronic GI ailments, says Vivante Health CEO Bill Snyder. Furthermore, abdominal pain is the No. 1 reason for doctors' appointments and emergency room visits, he says.

Introduced in 2019, the company's digestive health program, GIThrive® is designed to combine interactive technology and 24/7 personal support from nurses, a registered dietitian and a health coach, who in turn are supported by a team of pharmacists, research psychologists, microbiome scientists and gastroenterology professionals.

"As part of our GIThrive program, we offer a dynamic technology platform that uses data-driven insights to personalize the experience for our members," says Snyder. "It also includes novel biomarker collection, including an at-home microbiome test, GutCheck, and GIMate, which is a first-of-its-kind handheld breath hydrogen monitor."

Snyder says that Vivante Health has proven:

- GIThrive consistently saves a company more than **$840 annually** per member on average – a **15%** reduction in spend.
- **87%** of members better manage their digestive symptoms since using GIThrive.
- **89%** of members say their overall well-being improved since using GIThrive.
- **89** Net Promoter Score for GIThrive Care Team.

Health apps and medical practice

Despite the good statistics, it is questionable whether health apps have yet to become an integral part of medical practice.

"Overall, the penetration of digital health tools in gastroenterology patients is low," says Simon Mathews, M.D., clinical advisory board member for Vivante Health and a gastroenterologist at the Johns Hopkins School of Medicine. "The most common way patients interact with the digital world is by searching online and reading more about their condition. Occasionally, they will bring in data reports related to a fitness tracking app.

"At GIThrive, we are looking to be additive to the care ecosystem and ensure we are getting patients to the right care at the right time. We provide immediate access to individuals who may have accessibility barriers based upon various socioeconomic factors. We immediately assess the acuity of our patients and engage them in an evidence-based clinical pathway to reduce their symptoms and get them feeling healthier quickly. We can refer higher-acuity patients to brick-and-mortar providers. We can capture additional longitudinal data that gives us unique insights into the needs of the patients we serve.

"We can share this information with providers to give them a more holistic picture of their patients so they are able to best meet their patients' needs," he says. "Vivante has received great feedback from providers associated with partner health plans on the program that we have built with patients' provider relationships in mind."

That said, integrating information from health apps won't happen without effort. "Integration of digital programs is in large part very fragmented (as with the rest of healthcare!)," says Dr. Mathews. "Health systems or individual departments may have bespoke integrations, but there is no easy, universal approach that facilitates broad access. This barrier is changing, however, as interoperability standards become more commonplace, leading to greater flexibility." ■

Rural Health in America

Why rural hospitals are facing unprecedented financial pressures and workforce shortages.

To understand just how different a rural hospital is from a metropolitan one, Larry Bedell said to picture a Friday night high school football game. Traditionally, mixed in with the crowd of spectators would be not just the nurses, technicians, front office staff and doctors of the local hospital, but the hospital executives as well. Patients and providers know each other on a first name basis. "It's not just a job," said Bedell, executive director for the National Rural Health Association (NRHA) Services Corporation.

Indeed, the stakes are personal for rural hospital leaders. And the margin for error is smaller. Because rural hospital margins are so tight financially, a bad decision could cost the community their facility. "And there's not another facility on the next block, like in a metro area," Bedell said. "I live in Kansas City, a mid-market town. I live within 10 miles of probably 25 hospitals. In a rural community, there's usually not another hospital for over 30 miles. There's not someplace else for those people to get care if anything happens to that facility. That's quite a bit of stress if you care about that community."

Unique challenges

Judging by recent headlines, rural hospital leaders are facing an incredible amount of stress in today's marketplace. The American Hospital Association released a report this year highlighting the variety of causes that resulted in 136 rural hospital closures from 2010 to 2021, and a record 19 closures in 2020 alone. These include many longstanding pressures, such as low reimbursement, staffing shortages, low patient volume and regulatory barriers, as well as the continued financial challenges associated with the COVID-19 pandemic. Recently, expenses for labor, drugs, supplies and equipment have also increased dramatically, ultimately causing difficulties in maintaining access to care for people in rural communities.

"While many hospitals and health systems are facing unprecedented challenges, those faced in rural America are unique," said AHA President and CEO Rick Pollack. "We must ensure that hospitals have the support and flexibility they need to continue to be providers of critical services and access points for patients and communities."

Rural hospitals and health systems make up about 35% of all hospitals across the country and include critical access hospitals (no more than 25 acute care beds and more than 35 miles from the nearest hospital), frontier hospitals (six or fewer residents per square mile) and sole community hospitals (hospitals for Medicare beneficiaries in isolated communities), among other Medicare designations. Rural hospitals are major economic drivers, supporting one in every 12 rural jobs in the U.S. and contributing $220 billion in economic activity in their communities in 2020.

The NRHA, a nonprofit organization working to improve the health and well-being of rural Americans and provide leadership on rural health issues through advocacy, communications, education, and research, lists a wide-range of obstacles that rural hospitals face on its website, including:

Workforce Shortage Problems

- Ease of access to a physician is greater in urban areas. The patient-to- primary care physician ratio in rural areas is only 39.8 physicians per 100,000 people, compared to 53.3 physicians per 100,000 in urban areas. This uneven distribution of physicians has an impact on the health of the population.
- There are 30 generalist dentists per 100,000 residents in urban areas versus 22 per 100,000 in rural areas.

Socioeconomic Factors

- Rural residents tend to be poorer. On average, per capita income in rural areas is $9,242 lower than the average per capita income in the United States, and rural Americans are more likely to live below the poverty level. The disparity in incomes is even greater for minorities living in rural areas. About 25% of rural children live in poverty.
- People who live in rural America rely more heavily on the Supplemental Nutrition Assistance Program (SNAP) benefits program. According to the Center for Rural Affairs, 14.6% of rural households receive SNAP benefits, while 10.9% of metropolitan households receive assistance. In all, 1.1 million households receive SNAP benefits.
- Rural residents have greater transportation difficulties reaching health care providers, often traveling great distances to reach a doctor or hospital.

Health Inequity

- More than 50% of vehicle crash-related fatalities happen in rural areas, even though less than one-third of miles traveled in a vehicle occur there.
- In rural areas there is an additional 22% risk of injury-related death.
- Rural areas have more frequent occurrences of diabetes and coronary heart disease than non-rural areas.
- Mental health creates new challenges in rural areas, such as:
  - **Accessibility:** Rural residents often travel long distances to receive services, are less likely to be insured for mental health services, and less likely to recognize the illness.
  - **Availability:** Chronic shortages of mental health professionals exist, as mental health providers are more likely to live in urban centers.
  - **Acceptability:** The stigma of needing or receiving mental health care and fewer choices of trained professionals create barriers to care.

Future leadership

The single largest determinant for a rural hospital's success is leadership, Bedell said. A couple of decades ago, the average tenure of a rural hospital CEO was 25 to 30 years. The hospital CEO often lived in the local town with his family, spent his or her entire career at the hospital and retired there. "That's not the case now," Bedell said. "That generation of leaders is retiring or has retired. Replacing them has become very difficult." Last year alone, there was about 18% of rural hospital executive turnover, and 2022 could be worse, he said.

It's difficult to find qualified executives for these hospitals for several reasons. First, rural hospitals are typically not flush with cash. Second, it's hard to find a qualified executive willing to move with his or her family to an underserved area.

Still, there are several initiatives to try and make up for the shortfall in leadership among rural health providers. For instance, NRHA's fellows program's goal is to educate and develop a network of diverse rural leaders that will step forward to serve in key positions in the association, affiliated advocacy groups, and local and state legislative bodies with health equity as a main focus. NRHA also has developed training for current rural hospital executives, not just the CEOs, but CFOs, COOs, and even HR directors and board members. Several recruiting firms have taken measures to try and find qualified talent to move to those underserved areas in rural communities.

"But, it's challenging, it's very difficult," Bedell said. ■

A Robust Response to Respiratory Season

With a recent acquisition and continued innovation, QuidelOrtho is committed to bringing testing closer to the patient.

With COVID, flu and RSV all making headlines, this year's respiratory season promises to be one for the ages. One market leader ready to meet that demand is QuidelOrtho. The diagnostics company has undergone a transformation during the past few years with its acquisition of some Alere business and with the acquisition of Ortho Clinical Diagnostics. In a recent podcast, Share Moving Media's Scott Adams spoke to QuidelOrtho Chairman and CEO Doug Bryant about some of those changes and what it means for supply chain leaders.

"Our increased capacity and control of our supply chains could be a competitive advantage for us because our competition has already said that they won't have product for a while," Bryant said. "We started ramping up a while ago, so we're going to be in pretty good shape."

QuidelOrtho is also seeing a continued movement to bring testing closer to the patient. "That could be in a hospital setting, but it also could be urgent care or the physician office," Bryant said. "The train has left the station in terms of the public understanding that if you don't feel well, maybe you should go get tested for something."

There's an expectation on the part of the average person that if they see a physician, they expect to get a test and they want to know the answer. Then if it's treatable, they want to be treated on the spot. The ability to keep moving products closer to where the patient lives will be key in the coming years.

Doug Bryant

Transformational events

With the acquisition of Ortho, the diagnostics company essentially doubled overnight. Running an operation that doubled and integrating all the complexities has come with its challenges, but also opportunities.

"We need to be able to achieve what I would call transformational events from time to time," Bryant said. "Can your organization come together, rise to the challenge that's in front of you and get it done? Can you do it in a way that keeps everybody intact, keeps everybody motivated in wanting to do the next big thing?"

The Alere asset acquisition basically doubled QuidelOrtho's revenue at the time. The company also had to operate in 130 different countries and set up order to cash systems. And they had to put in place the backbone and the infrastructure in all those countries.

QuidelOrtho went from zero to 16 million tests per week with QuickVue as well as millions of tests per week with COVID. "We were one of the first companies in the market with a PCR test," Bryant said. "We clearly didn't have the manufacturing capacity to compete, but we built it. We had a head start with QuickVue, but we were competing with some big companies who had scale already. That was transformational."

QuidelOrtho's people started believing in their capability. "We took a company that was small and got in the ring against the big guys," Bryant said. "We got big quickly. With the cash we had on hand and our ability to access capital markets, we've been able to pull this off pretty nicely."

QuidelOrtho™

Where care begins

While each patient journey is unique, medical diagnostics plays a crucial role in delivering data and actionable insights. At QuidelOrtho, we pride ourselves in providing these critical answers early and often in the healthcare continuum.

See what's new at **QuidelOrtho.com**

BY DANIEL BEAIRD

ASCs See Influx of Private Equity Investment

How are ASC strategies and operations changing in a post-pandemic climate?

A large amount of private equity (PE) capital is ready to be deployed within healthcare services. Partnerships between PE firms and physician groups can result in significant benefits to boost the financial strength of orthopedic groups, as just one example, and other clinical group ownership businesses, especially after the pandemic upset the climate.

Transaction activity in the physician group sector has accelerated rapidly in the post-pandemic atmosphere. A panel discussion at *Share Moving Media's* First Annual Ambulatory Surgery Center Meeting in Atlanta last November tackled this issue for ambulatory surgery centers (ASCs) as well as ASC strategies and operations, and how GPOs and suppliers work with the non-acute supply chain.

Share Moving Media is the parent company of *The Journal of Healthcare Contracting* and *Repertoire Magazine*.

PE firms' entry into the ASC market

PE firms are increasingly acquiring ambulatory surgical centers (ASCs) across the nation. But what are the implications for clinicians and patients? A recent NIH study identified 91 ASCs acquired by PE and 57 ASCs acquired by non-PE entities from 2011-2014 that found "no statistically significant observed change in the probability of an unplanned hospital visit, total costs, or total encounters after acquisition by PE relative to acquisition by non-PE entities."[1]

And when PE-acquired ASCs were compared to matched ASCs that were never acquired, it found the same – no statistically relevant change of an unplanned hospital visit, total costs, or total encounters. But as more physicians sell to PE firms, it has raised apprehension about costs and quality.

The next three to five years will be an important period to watch, according to Robert Mayhew, director of procurement and contracting at Revo Health, which is a management services organization that partners with physicians in business and clinical intelligence, ASC development and management, and professional services. Mayhew spoke about the ASC market in the U.S. at *Share Moving Media's* First Annual Ambulatory Surgery Center Meeting last November. He was joined by Sanchia Patrick, vice president of strategic marketing for Henry Schein Medical, and Hilary Grittner, vice president of non-acute sales for Provista Distribution on a panel discussion.

"There are so many ASCs and independent physician groups that there isn't a one size fits all. It will be different depending on the group," he said.

There are groups that want the money and the freedom that comes with it, and there are groups that want to build something generational. Minnesota-based Revo Health works with the latter. It is owned by physician partners, Twin Cities Orthopedics (TCO), and isn't a PE-backed company. It has a management agreement aimed at providing services, lowering costs and making ASCs more efficient. But it isn't just ASCs, according to Mayhew. It's the entire circle of care as the management company is involved closer to the practice level today.

"There's a resurgence of single specialty and that is PE's focus. You see it with ophthalmology centers," Mayhew said. "Eventually, groups merge and sell to bigger players."

PE firms are creating new strategies and consolidation in the market. But who will help them understand the market?

"It's a great opportunity to start working closely with PE firms," Grittner added. "And to help them understand the pressures of the healthcare supply chain. There's a lot going on in the non-acute space. We're trying to create a partnership with them to say, 'let us be at the table with you and educate you on how you can operate in a timely manner and get what you're looking for.'"

ASC strategies

For suppliers, developing an ASC strategy is specialty specific, according to Patrick. "Pick a specialty and master that specialty, and then pick another," she said. "Ask 'what's your value proposition by specialty?' That's a worthy exercise for your go-to-market strategy."

The ASC market is threefold. There are national groups, independent physician groups and hospital-owned groups and those three segments require different go-to-market approaches.

"You need unique points of differentiation and value props for each of those segments," Patrick said. "How you sell to a C-suite buyer for a large group is very different from a GI center, for example. What are your SEO strategies for ASCs? Where do you rank when a customer googles you? Be informed about that because it's so much of it. So many decisions are already made before you even have an opportunity to get in front of them."

There are groups that want the money and the freedom that comes with it, and there are groups that want to build something generational. Minnesota-based Revo Health works with the latter. It is owned by physician partners, Twin Cities Orthopedics (TCO), and isn't a PE-backed company.

The healthcare industry is trying to fully grasp PE firms as buyers as they put pressure on each player in the field.

"It's real," Patrick said. "PE leaders are competitive and driven to ensure that the operating line is profitable and will grow. It's an intensity to respect and it puts pressure on everyone to be relevant. Constructive tension causes the best of us to rise."

PE firms are focused on states like Florida, Texas and California with large retiring populations and dense ASC locations.

Grittner said Provista, a leader in group purchasing in non-acute healthcare, partners closely with its distributor and supplier partners to prospect together and understand where they are going in the market.

"We're not marketing specifically to specialty because we know from a GPO and contracting perspective which contracts go into which ASCs, and the majority are multispecialty," she said. "We have ophthalmology groups, oral surgery groups and orthopedic groups, but when you look at what they're spending, it's consistent across the board with some subsets of specialty."

Provista has made a large investment in technology for ASCs to make data-driven decisions with its proprietary materials management software platform Envi®. It provides end-to-end procurement expertise, data-driven processes and modern technology.

"This market is a little behind on understanding their data," Grittner said. "Some groups do it better than others, but we need transparency in the market. Technology is a goal of ours. How do we get it to each of our members so that we can help them make more data-driven decisions? It's a broader discussion around total value."

Grittner is challenging her team to ask ASCs what their strategy is: where they are trying to go and explaining their headaches. "We layer solutions in," she said. "Maybe it is a technology play to help create efficiencies and become more profitable. We have to be gamechangers."

Supply assurance programs coming out of the pandemic can also help create a valuable partnership with ASCs and Provista has invested heavily in additional programs that allow for supply assurance.

"We're buying product, as well, for our members to house it and have it in the U.S.," Grittner said. "We're enhancing programs around drug shortages as well. That's a value add as we partner together."

Provista is asking for a three-sided relationship between the customer, the GPO and the supplier partner. "It's not about beating up the supplier for the right price. It's about having enough to go around and how we get there together," Grittner said. "We all have to be at the table having the same conversation. The cost is going up and reimbursement isn't. They're not getting paid more for the patient. It's our job to bring solutions to what we've provided in the past."

ASCs run lean

ASCs run lean, regardless of their ownership structure. There's typically one person who is scrubbing, trading and ordering, according to Mayhew.

"I laugh at conferences when there are five of us who manage 250 surgery centers and there are 50 people from one health system," he said. "We are grossly outnumbered. But when COVID happened, we were fighting the same battles. We needed gloves too, but the hospitals got first dibs, and it exposed a lot of weaknesses within the ASC supply chain because we don't always have the data."

When faced with these challenges, ASCs don't always know where to turn, especially the independent groups.

"It's being able to rely on the distributor rep," Mayhew said. "The independent ASCs need help. They have a sliver of the resources that acute care has but the same expectations and demands."

"The clinical managers at independent ASCs are worn out," Patrick added. "We need to help them and buoy them. They're doing the cases and the ordering and more."

She asked suppliers to implement voice of the customer (VoC) programs to hear the passion and problems along the customer journey at ASCs. "There are different customer journeys. A supply customer journey is different than technology and different than a solution," she said. "There are questions about workflow and efficiency. How can we help solve that? That's where ASCs are focused whether PE-backed or not." ■

[1] Private Equity Acquisitions of Ambulatory Surgical Centers Were Not Associated With Quality, Cost, Or Volume Changes

The Living Stockpile: A New Approach to Preparedness

By Elizabeth Hilla; Senior Vice President, Health Industry Distributors Association

Many people – especially leaders outside the supply chain department – think of a stockpile as a static, set-aside store of supplies that can only be used in a crisis. But this thinking can lead to a vicious cycle of decision-making. The stockpile sits untouched and unused, waiting for the next crisis, while product expires and becomes discarded, and the stockpile shrinks. The organization's leadership begins to question the value of keeping the stockpile replenished, leaving the organization underprepared for the next crisis.

In contrast to a static stockpile, a living stockpile is in continuous motion. Stockpile managers actively identify the most critical products and set up procedures to ensure that these products are regularly replenished. They closely monitor inventory levels to keep them ahead of usage trends as the incidence of pandemic cases rises and falls. Managers of a living stockpile determine the best location for storage of additional inventory, whether it be on-site or off-site.

Two new tools can aid supply chain professionals in managing stockpiles.

- HIDA's new *Pandemic Stockpile Guide* provides a starting point for thinking about what to include and how to manage the reserves.
- The Disaster Available Supplies in Hospitals (DASH) Tool, from the Administration for Strategic Preparedness and Response Technical Resources, Assistance Center, and Information Exchange (ASPR TRACIE), helps providers estimate the reserve levels needed. HIDA was proud to collaborate with ASPR TRACIE on the development of this tool.

The DASH Tool is comprised of four modules – pharmacy, burn, trauma, and personal protective equipment. Users enter information about their hospital and receive recommendations on amounts of specific supplies needed to provide acute care immediately following a disaster. DASH recommends average par levels for specific supplies that acute care hospitals may need to have on hand to respond to a disaster in their community until resupplied. Recommendations are based on user inputs about the size of the hospital, risks in the community, regional role/designation of the hospital, and other factors. DASH can help hospital emergency planners and supply chain staff estimate supplies that may need to be immediately available during various mass casualty incidents and infectious disease emergencies based on hospital characteristics

The experiences of the COVID-19 pandemic have made preparedness a top priority for healthcare leaders across the end-to-end supply chain. Thanks to these new resources, providers can have the tools they need to manage the sudden onset of a pandemic or other crisis. ■

Access, Preparedness and Visibility: The Healthcare Supply Chain in 2023

Todd Ebert, R.Ph., President and CEO of the Healthcare Supply Chain Association (HSCA)

This year, 2023, has the potential to be another transformative year for the healthcare industry. 2021 and 2022 – the years following the onset of the COVID-19 pandemic in 2020 – changed the healthcare landscape dramatically. The pandemic, other public health emergencies, natural disasters, and technology are just some of the factors that have forced the industry to evolve at a rate well beyond its average. Healthcare group purchasing organizations (GPOs) continue to evolve to meet the needs of their provider customers, helping them access the safest and most innovative products and services. While there are many circumstances to take into consideration, and many more than we cannot yet predict, the Healthcare Supply Chain Association and its member GPOs will focus on three key categories in 2023.

Rural hospitals and healthcare access

Year-end projections for 2022 from the American Hospital Association and Kaufman Hall reveal that anywhere from 53% to 68% of the nation's hospitals will end 2022 in the red, nearly double the 34% reported in 2019. The situation is even more dire for rural hospitals, many of which are forced to reduce hours, eliminate services, and enact pay cuts to stay operational. The new federal Rural Emergency Hospital (REH) payment program – the first new program since 1997 – and a funding boost in the omnibus spending package may help

stave off some rural hospital closures in 2023. Rural hospitals who convert to rural emergency hospitals will receive a 5% boost to Medicare outpatient reimbursement and an average annual facility fee payment of $3.3 million.

In exchange, however, they must eliminate their inpatient beds, which is not an attractive option for all rural hospitals. The $1.7 trillion spending package passed in late December included several victories for rural hospitals, including a two-year extension of an add-on Medicare payment adjustment of up to 25% per discharge for low-volume hospitals, a reduction in the physician fee schedule cut from 4.5% to 2% for 2023, and the extension of critical telehealth waivers. GPOs will continue to focus on providing critical cost-savings to small and rural hospitals by reducing transactions costs and helping them obtain discounts for essential products and services.

Future pandemic and public health emergency preparedness

The Biden administration recently extended the COVID-19 public health emergency until April 2023, as they have every 90 days since January 2020. Allowing the public health emergency to expire in 2023 has implications for the entire healthcare industry: the end of provisions like continuous Medicaid enrollment and greater regulatory flexibility will require difficult transitions for patients and providers alike. Evolving out of the COVID-19 public health emergency will also require stakeholders to evaluate future pandemic, public health emergency, and natural disaster preparedness efforts.

The year-end spending package included elements of the Prepare for and Respond to Existing Viruses, Emerging New Threats, and Pandemics Act (PREVENT) Pandemics Act, which the Healthcare Supply Chain offered comments on in 2022. Important provisions to modernize and strengthen the Strategic National Stockpile (SNS), create a White House Office of Pandemic Preparedness and Response Policy, and establish "warm base" domestic manufacturing for public health emergency response through the Biomedical Advanced Research and Development Authority (BARDA) and U.S. Food and Drug Administration (FDA) were all included in the package. HSCA and its member GPOs will continue supporting preparedness efforts and engaging with the Strategic National Stockpile and the Administration for Strategic Preparedness and Response throughout 2023.

As one of the most transparent industries in healthcare, GPOs are well-positioned to work with other stakeholders across both the private and public sectors to encourage greater visibility across the supply chain.

Industry transparency and visibility

Transparency is essential to a resilient healthcare supply chain, and equally essential to GPO practices. All GPOs adhere to reporting requirements that maintain a high standard of transparency in accordance with the federal regulatory safe harbor under which they operate. As one of the most transparent industries in healthcare, GPOs are well-positioned to work with other stakeholders across both the private and public sectors to encourage greater visibility across the supply chain. GPOs encourage sharing supply critical data, such as information about the availability of certain raw materials.

Not only can sharing this data help GPOs determine how to best meet the needs of their provider customers, but it can also help manufacturers and distributors proactively identify solutions to gaps in supply. In the spirit of transparency and collaboration, HSCA will host the first annual Supply Chain Leadership Summit in 2023, which will feature research presentations from leading GPOs and policy discussions with supply chain experts in a variety of fields. The summit will take place from Oct. 3-5, 2023, and more details will be available on the HSCA website in the coming months.

As the sourcing and purchasing partners of healthcare providers, GPOs must be flexible in order to respond to ever-changing circumstances and patient needs. HSCA intends to take the same flexible approach in 2023: addressing crucial supply chain issues while evolving in response to industry and global developments. ■

Supply Chain By the Numbers

Facts and figures that highlight key supply chain trends.

BY JOHN STRONG, CHIEF CONSULTING OFFICER & CO-FOUNDER, ACCESS STRATEGY PARTNERS INC

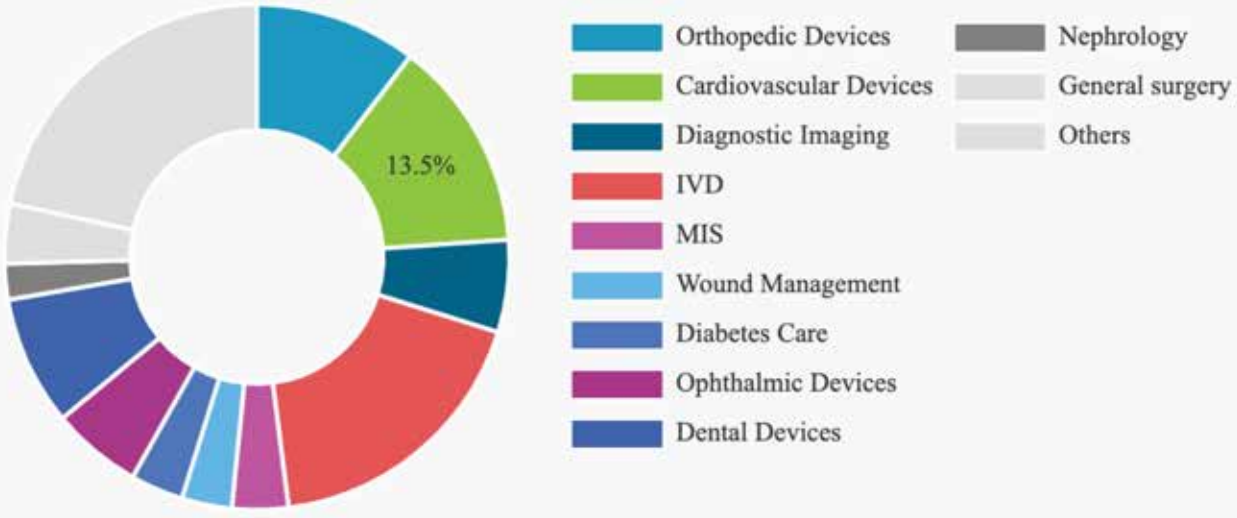
Supply, Purchased Services Costs Increase Dramatically

21.9% increase in supply expense (not including purchased services or pharmaceuticals) for hospitals from September 2021 to September 2022.[1] During this same period, Kaufman Hall reports that purchased services expenses increased **16.2%**.

Hospitals have faced a **$11,950** supply cost increase per bed in 2022.[2] This amounts to an **average increase in supply expense** of about **$330** per admission, and a **6.2%** increase per discharge.

Where are your sourcing operations focused?

U.S. Medical Devices Market Share, By Type, 2021



Source: www.fortunebusinessinsights.com

19% The cost decrease for patients treated at home versus an inpatient hospital setting.[3]

24 hospitals and health systems launched **innovation centers** in 2021.[4] How are suppliers and supply chain going to participate?

By 2030, more than **50%** of joint replacements will be performed in ambulatory Surgery Centers (ASCs)[5]. **21%** of the typical ASC is presently for orthopedic procedures.[6]

0 The number of container ships waiting to dock at the Port of Los Angeles on December 2, 2022.

The number of supply shortages are now roughly **5x** the number in 2019, according to a recent Premier, Inc. study.

5.8% The decrease in quarterly active drug shortages between Q1 2019 and Q3 2022.[7] (276 vs. 260).

Hospitals and Health Systems joining the **Health Sector Climate Pledge** has reached **1,000**. Meanwhile, **71%** of healthcare environmental emissions come from supply chain related activities, according to Greenhealth Exchange.

Politically driven healthcare supply chain waste during COVID is monumental[8]

40,000 Initial estimate by the State of New York on the number of ventilators needed to fight COVID.

8,555 Actual number of ventilators purchased by NY state, for **$166M** along with **1,179** X-Ray machines for **$86.4M**. 2,141 ventilators had been deployed as of September 2022.

200,000 Ventilators ordered by the Trump administration in 2020 for **$3B**, but only **50%** "had the capacity to support the most severely affected patients."

$633M Cost of at-home COVID-19 tests from a political contributor to New York Governor Kathy Hochul.

14,000 ventilators were ordered by California, and many were unused, while Canada bought **40,000**, half of which have never been unwrapped.

[1] Kaufman Hall "National Hospital Flash Report", September, 2022
[2] Computed from Kaufman Hall Op. Cit. and American Hospital Association Data.
[3] American Journal of Managed Care, 2021
[4] Gonzalex, Georgina, "24 hospitals, health systems that launched innovation centers in 2021", © 2021 by Becker's Healthcare
[5] Cheney, Christopher, "No Plateau in Sight for Ambulatory Surgery Center Growth", Healthleaders, May 11, 2022.
[6] © 2022 Becker's Healthcare.
[7] University of Utah Drug Information Center, Downloaded November 21, 2022.
[8] Spector, Joseph, "New York spent $250M on tech to fight COVID that no one uses", Politico, September 20, 2022.

Industry News

Intermountain Healthcare, Story Health partner on specialty care for patients with heart failure

Intermountain Healthcare, a leading health system of 33 hospitals in seven states, and Story Health, a health technology and services company that provides scalable specialty care beyond the clinic, have entered into a strategic partnership to improve access to specialty care for patients with heart failure.

The partnership combines Intermountain's leadership in clinical quality improvement and excellence in healthcare delivery with Story Health's specialty care platform solution to extend access to high-quality heart and vascular care for patients with heart failure.

Intermountain's objective for the partnership is to enhance care for patients and provide an optimal experience for heart patients and their families – including improved adherence to medications and more personalization of care pathways to enhance care for patients.

Intermountain clinicians and Story Health coaches will work collaboratively to personalize patient treatments and stay in close contact with patients as they carry out their care plans.

Health coaches act as their healthcare partners and will be available to respond to patient questions via email, text, or calls – not only reminding them about important medication changes, but ensuring that patients have access to the medications and can safely make changes in between visits with their care providers.

The initial work between Intermountain and Story Health will be a program that implements Story Health's platform into the Intermountain system. The program is already underway, and whitepapers with the program results will be published in late 2023.

VCU Health launches Home Hospital, the first hospital-at-home program in central Virginia

VCU Health has a new program that will allow patients to receive acute, hospital-level care from within the comfort of their homes. The Home Hospital program is the first of its kind in central Virginia and aims to serve nearly 2,000 patients during its first year.

Patients who would normally have needed to be in a hospital for acute care needs, such as sepsis, congestive heart failure or pneumonia, now have the option to receive the same level of care at home.

Hospital-level medical care is provided through video and remote patient monitoring, with a physician overseeing patients in the program. Acute care nurses and other staff will also visit patients in-person. They will be available around the clock to support patients and their families by making sure services and supplies, like oxygen, are delivered directly to the patients' doorsteps.

Studies have shown hospital-at-home programs can improve a patient's care experience and their health outcomes. Known benefits include reduced mortality, faster recovery and fewer readmissions to the hospital, among others.

Additionally, hospital-at-home programs are also considered a cost-effective alternative to hospital stays, which also contributes to more satisfactory experiences for patients.

Over the past several years, the demand has increased for home-based health care solutions. VCU Health has been a leader in the commonwealth in responding to this need. In addition to Home Hospital, VCU Health patients currently benefit from multiple VCU Health at Home options, including home-based primary care, primary and specialty telehealth appointments, remote patient monitoring as well as skilled home health and hospice care. ■

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