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# A Centralized Supply Chain

## Multitiered analytics tool helps Johns Hopkins maintain its supplier resiliency.

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**Feature**

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» pg10




**Special Supplement Section:**

JOHN PRITCHARD

# In This Together

**If we've learned anything over the last 2+ years amid the pandemic it's how connected** everything in the U.S. healthcare system is. Especially in regard to the supply chain. The disruption of one small part of a critical product further upstream in the supply chain can cause all sorts of problems for health systems and suppliers who are delivering the care.

We're connected in more ways than one. For instance, the added stress of the pandemic to our nation's frontline caregivers has been felt across all areas and all facets of our industry. In this issue we explore the topic from several angles. In "A Nursing Shortage and Frayed Workforce" we examine educational opportunities, technology and policies being implemented with the hope of easing the strain on our nursing workforce. Nurses are the largest staffing group in healthcare, and the U.S. is in the midst of a critical nursing shortage. According to a TWC Labor Market analysis, there is a current gap of approximately 20,000 RNs in Texas alone. But demand for all healthcare occupations is expected to grow at a much faster rate than all occupations combined.

Indeed, the last two years has created overload and burnout among our nation's healthcare workers. I recently spoke with several supply chain leaders to hear how their IDNs are trying to reduce burnout and create a more enjoyable and safer workplace environment. In "Creating Happy and Healthy Environments for Healthcare Workers" they shared some best practices on what their organizations are doing to ease the strain being felt nationwide.

In one example, Ed Hisscock, senior vice president, supply chain at Trinity Health said his organization has created a colleague care team. "We've selected some people and they come from all different walks of life. There are some change management experts, there are some folks that are from our HR team with various levels of expertise," said Hisscock. "Basically, what we're doing is we are taking colleagues offline. Their full-time role is to interview other colleagues on what's going on, how they are feeling." Hisscock says the data they have collected from these interactions is invaluable, allowing Trinity Health to make the necessary tweaks to avoid further caregiver burnout in the future.

It's encouraging that so much effort is being put forth to protect those who protect us from pandemics, illnesses and more. We'll continue to shine the spotlight on the heroes of our healthcare system in future issues in the hopes that their stories inspire and provide a few workable solutions to their problems all our hospitals and health systems are facing.

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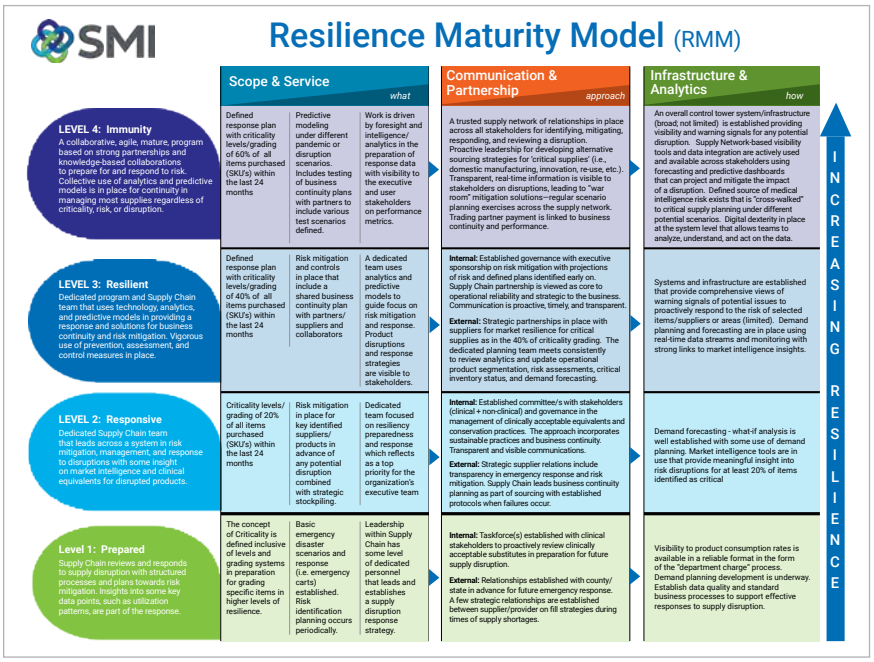
# The Resiliency Maturity Model

SMI creates model, playbook to drive planning in healthcare.

**The Strategic Marketplace Initiative (SMI), a nonprofit, member-driven** consortium of industry thought leaders in healthcare supply chain, released its Resiliency Maturity Model (RMM) and Playbook this year to help the industry be better prepared and mitigate risk for future potential disruptions. It incorporates core fundamentals of preparation, responsiveness and resiliency planning across the industry.




"We needed to understand how organizations were planning for resilience going forward," said Nancy Anderson, Associate Executive Director of SMI.

SMI engaged with collaborators at North Carolina State University (N.C. State), including Rob Handfield, the Bank of America University Distinguished Professor of Operations and Supply Chain Management and Executive Director of Supply Chain Resource Cooperative. N.C. State students and the SMI team collected data and interviews that helped provide the critical structure to the new model.

"We work closely with several academics," Anderson said. "These experts doing research are so valuable to us in the industry."

The new RMM includes four key criticality levels that define the path towards optimal resilience.

- **Level 1:** Prepared
- **Level 2:** Responsive
- **Level 3:** Resilient
- **Level 4:** Collaborative Immunity

The model also defines three key elements that are critical to achieving each level of resilience, including Scope & Service, Communication & Partnership, and Infrastructure & Analytics. This RMM provides structure to organizations so they can develop their own Preparedness Playbook. It also includes a scoring mechanism that allows organizations to assess their own resilience status.

"Healthcare organizations, both providers and suppliers, can read the template and identify where they sit in each key element," Anderson said. "We see this as an ongoing visual they can refer to as they go down their resilience journey."

## RMM Criticality Levels

- **Level 1: Prepared.** This includes establishing dedicated resources with an organization that are tasked with reviewing and responding to supply chain disruptions. Ideally, this involves establishing a cross-functional crisis response team to create and continually update contingency plans.

- **Level 2: Responsive.** Organizations on this level have invested heavily in human capital and technology resources that allow for committed time on risk mitigation, response and market intelligence in the response to and management of a disruption. A core element here that distinguishes

this level of maturity is a dedicated team that operates across the organization to prevent impacts of disruptions.

- **Level 3: Resilient.** At this level, the dedicated team is more closely aligned with other business functions across the organization and in the use of technology, analytics and predictive models in providing business continuity. There are rigorous uses of prevention planning and controls on disruption in place that ensure continuity of core operations through any emergency.

- **Level 4: Collaborative Immunity.** This is an agile aspirational environment between suppliers, manufacturers, distributors and providers based on strong partnerships and knowledge-based collaborations in the response to risk. Collective use of analytics and predictive models are in place for continuity in managing most supplies regardless of criticality, risk or disruption.

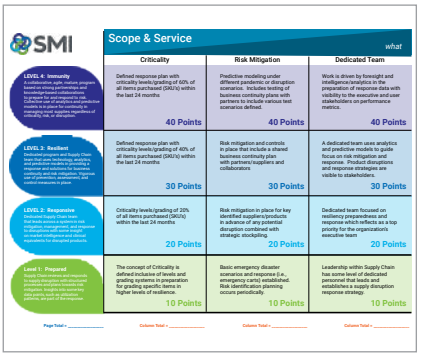
"If we can provide a starting point and that infrastructure, we're hoping we can jump start people on that resilience journey," Anderson said. "I'd take this to my supplier meetings and say, 'let's talk about where we are on the journey – what are you all doing and where would you score yourself and where does that compare to where we are?'"

## Scoring Mechanism and Getting Started

The RMM scoring mechanism allows organizations to assess their own resilience status so they can plan for next steps. With the goal of simplicity, points have been assigned for each maturity level across the key elements.

"This can create more awareness on the supplier side of what the customer is dealing with and hopefully reinforces the work they're doing or gives them a different model of thinking about resilience," Anderson said.

Anderson says SMI members are using the new RMM for their internal plans and embedding the information into their planning processes and documents. Others are sharing it and it's an approach they are deliberating in respect to their resiliency plans.




RMM includes five steps for an organization to get started on building a resiliency plan.

1. **Form a team.** This includes people from security operations, emergency management, supply chain management, inventory and warehouse management, IT, with ad-hoc departments from legal, finance, audit, to quality and patient safety.

2. **Set an objective.** This a goal to initially pull together the right inventory and material data and begin to identify what they mean by "critical products."

3. **Develop contingency plans.** This is for single-source items. Develop risk mitigation plans for key identified suppliers/products disruption with strategic stockpiling.

4. **Consider forming an ongoing risk analysis/market intelligence team.** This is to keep aware of events that could impact supply of critical healthcare items.

5. **Build a playbook.** This identifies roles and responsibilities for future events.

## SMI Team Leaders

Team leaders for SMI include Amanda Chawla, Chief Supply Chain Officer at Stanford Health Care, and Alan Mavis, Director, Integrated Delivery Networks at Baxter. They guided more than 40 SMI members and collaborators in creating this RMM tool to support healthcare organizations regardless of their resilience journey.

"Amanda and Alan will lead our resiliency and transparency work going forward at least through 2023," Anderson said. "A two-person team leads all of our Thought Leadership Councils, including one provider and one supplier."

SMI's Thought Leadership Councils focus on specific topics that SMI members consider essential for creating a leading-edge, cohesive, resilient and collaborative healthcare supply chain from manufacture to point of care. Chawla and Mavis lead the Resilience and Transparency Council.

SMI has established four Thought Leadership Councils to provide direction and insight to SMI, its members and the industry on targeted issues in healthcare. They include Clinical Integration, Collaboration, Diversity and Inclusion, and Resilience and Transparency.

The RMM and Playbook can be downloaded from the SMI website, www.smisupplychain.com/tools. ■

# Testing in a pandemic: How health systems can prepare for this respiratory season

## Improving access, coordination & preparation for better lab testing

**The onset of the COVID-19 pandemic has created a feeling of uncertainty in both the general public and the medical community.** While we can't predict what's in store for the upcoming respiratory season, COVID-19 will remain a challenge in tandem with other seasonal illnesses.

Are you prepared to respond with the correct diagnostic testing equipment and services?

### What we've learned during COVID-19

Without question, COVID-19 testing demands have outweighed the supply. Manufacturers, suppliers and distributors were under enormous pressure to keep up with demand as new COVID-19 variants caused a surge in cases across the globe. From shortages of raw materials and staffing, transportation delays and other global disruptions, we don't anticipate the high demands to end anytime soon.

Through advanced planning efforts and strong supplier relationships, many health systems were able to successfully navigate the testing landscape with little disruption to patient care. The most successful augmented their lab and point-of-care (POC) testing capabilities with flexible lab management plans and seamless shifts to alternate testing platforms.

"The number one lesson learned is that labs must be proactive instead of reactive to get what they need," said Aaron Hurst, laboratory supervisor, Newton Medical Center (NMC).

"Just-in-time (JIT) inventory during a pandemic is not effective and with the help of our distributors and supplier partners, we have learned to adjust and proactively prepare with multiple testing platforms to diversify our testing options." If NMC faced allocation issues or shortages for reagents or testing platforms, Aaron's lab was better prepared with the necessary supplies.

McKesson Medical-Surgical works with health systems across the U.S. to provide customized point-of-care lab solutions and services to provide patients with accurate and rapid diagnoses through a variety of testing modalities.

Here are five key considerations to think about when planning for your respiratory testing needs.

### 1 Set goals

Developing a holistic approach to support respiratory testing is critical. While there may be many unknowns leading into flu season, health systems can determine the correct strategy and goals to better meet their patient's needs. Other testing goal considerations could include evaluating effectiveness, accuracy, availability, clinician comfortability, costs and reimbursements models. The first step is to assess these factors and develop a lab management plan.

In many cases, health systems are looking for consistency across their network of facilities. They want to ensure their testing platforms, protocols and requirements are easily understood and trusted by their staff and more importantly – their patients. There's no one-size-fits-all approach, different care sites will likely have different testing requirements. Health systems should work with their distribution partners to gain a better understanding of what testing options are available and formulate the appropriate procurement and lab management plan in alignment with their goals.

### 2 Assess your assets

Health systems should consider the total respiratory landscape when assessing assets. With new COVID-19 variants affecting the course of the pandemic, manufacturers have shifted much of their focus to supporting at-home and point-of-care COVID testing applications. While important to meet this demand, health systems should consider and assess POC testing requirements across their network and determine whether it's diversified enough to handle the change in demand.

Make sure you have what you need to perform safe testing on-site for flu, strep, RSV and other respiratory illnesses. Your distribution partner should provide lab solutions that include proactive preparation, market insights and supply chain intel that keeps health systems well-informed on how best to plan and navigate the upcoming flu season.

### 3 Diversify your testing options

In an ideal world, providers could rely on the manufacturer to have their primary mode of POC testing available and ready for order. Whether on allocation, lost-in-transit or simply a low inventory, testing platforms and modalities can be challenging to procure. Health systems should consider diversifying their respiratory testing options to avoid disruption or delays in patient care.

Working with your distributor should give you access to information and a better understanding of the variety of respiratory testing modalities available and their capabilities.

"When availability is tight, we can introduce alternative testing options that can help meet the needs of your patients and your testing goals," said John Harris, vice president for strategic accounts, laboratory, McKesson Medical-Surgical.

"At McKesson, we do a thorough job of vetting lab technologies to ensure products are effective, reliable and that the manufacturer has the scalability to support the needs of our customers," said Harris. "We're very strategic and intentional on which suppliers we choose to partner with."

There are two primary groups of respiratory POC testing options:

**1. Antigen tests**

Visually-read tests (more subjective)
Machine-read tests (more objective)

**2. Molecular tests**

Polymerase chain reaction (PCR)
Nucleic acid amplification (NAAT)

### 4 Engage the appropriate stakeholders & collaborate with your distributor

Working with your distributor to develop a lab management plan to transition to an alternative testing modality is no easy task and can't happen in one moment. Assembling multidisciplinary teams to set goals, assess the assets and evaluate testing alternatives is critical. This includes collaboration with the supply chain, clinicians, quality, value analysis, infection prevention, POC facility leadership and other team members who will be performing the tests and interpreting results.

In collaboration with your distribution partner, health systems can work with these stakeholders to validate tests, compare them against their current instrumentation and establish the policies, protocols, education and training necessary to quickly shift to alternative testing when the need arises.

### 5 Partner with your distributor on implementation

It's important to proactively prepare each POC site on how to navigate the testing modalities – efficiently and effectively. Because each type of respiratory test – molecular, antigen, visually read and/or machine read – has its own specific equipment and processes, it's important to begin staff training and education early. Consider working with your distributor to assist with this education and implementation process.

"McKesson has a specialized lab implementation team that coordinates instrument delivery, onboarding and training with customers," said Harris.

"We also recognize that change is difficult. That is why we put such a large focus on ensuring that new technology changes receive a lot of attention and support. A successful rollout ensures a successful adoption, happier staff and may support overall patient care."

## Conclusion

Managing the new normal with diagnostic testing requires detailed coordination, collaboration and a willingness to be flexible and adaptable to change.

"Over the past two years, the health systems that have been most successful are the ones who have a strong cadence of communication with this McKesson team," said Harris.

"Through trusted relationships, proactive communication and planning we can get ahead of potential roadblocks and ensure that the health systems have the most up-to-date information so they are able to make the best decisions for their organization."

Harris encourages health systems to maintain constant communication with their distribution partners, not just during the respiratory season but year-round, to keep a pulse on emerging market trends, lab solutions, global events and shifts in the testing manufacturer landscape. ■

BY DANIEL BEAIRD

# A Nursing Shortage and Frayed Workforce

Educational opportunities, technology and policies aim to lift the burden.

**This spring, the Texas Workforce Commission (TWC) voted to suspend mul-**tiple program rules that only allowed private sector apprenticeships and limited Skilled Development Fund grants to private industry, citing public necessity with a critical shortage of healthcare workers. This provided funds to train apprentices and other employees in public sector healthcare occupations previously exempted from participation.

Along with the rest of the country, Texas faces a critical shortage of registered nurses (RNs). The TWC approved the Statewide Healthcare Registered Apprenticeship Initiative earlier this year, establishing short-term pathways to entry for healthcare professions. This expedites the application processes, working directly with private and public healthcare employers and coordinating across multiple workforce areas.

"Addressing the growing shortage of nurses in Texas continues to be a main focal point," TWC Commissioner Representing Labor Julian Alvarez said in a statement. "Lifting the restrictions permits training funds to be used for public sector healthcare employers, many who serve smaller communities and rural Texas."

The Skills Development Fund is Texas' premier workforce training program to help businesses upskill their new or incumbent workforce and apprentices in healthcare occupations employed by public sector healthcare employers may now be included within the Fiscal Year 2023 Apprenticeship Training Program.

"This action helps both the public and private sectors by ensuring trained healthcare workers are available to our state's workforce," added Aaron Demerson, TWC Commissioner Representing Employers.

Nurses are the largest staffing group in healthcare and the U.S. is in the midst of a critical nursing shortage. According to a TWC Labor Market analysis, there is a current gap of approximately 20,000 RNs in Texas. But demand for all healthcare occupations is expected to grow at a much faster rate than all occupations combined.

Diligent Robotics, Moxi robot.

The most recent projections indicate employment in healthcare occupations will grow by almost 20% by 2028 in Texas and this growth will account for more than 10% of the overall growth in the state.

## Nursing growth before the pandemic

In the years before COVID-19, the number of new nursing licenses continued to grow at around 4% per year, according to McKinsey. But the pandemic altered many nursing career plans. Nurses have consistently reported planning to leave the workforce at higher rates compared to the past decade. In a McKinsey survey, 29% of responding RNs in the U.S. indicated they were likely to leave their current role in direct patient care, with many respondents noting their intent to leave the workforce entirely.[1]

According to the survey, the strongest drivers of intent to leave included insufficient staffing levels, seeking higher pay, not feeling listened to or supported at work, and the emotional toll of the job.

"COVID's impact on hospitals has revealed the complexities of clinical caregivers' roles and what kind of support is

required for them to bring their best selves to work and provide the best possible care for their patients," said Eric Burch, MBA, RN, FACHE, executive principal, consulting, Vizient.

McKinsey estimates the U.S. may have a gap of between 200,000 to 450,000 nurses available for direct patient care, equating to a 10% to 20% gap[2] and says the U.S. needs to more than double the number of new graduates entering and staying in the nursing workforce every year for the next three years to meet this demand. The RN supply and demand were calculated by applying trends to the 2019 baseline of RNs in the U.S. from the Bureau of Labor Statistics and the healthcare demand in days or visits from multiple sources.

For every 1% expansion of capacity, created through changes in care delivery models, technology-enabled productivity tools, or alternative sites of care settings for patients, the number of nurses needed would decrease by about 25,000. But for every 1% of nurses that leave direct patient care, the shortage worsens by about 30,000 nurses.

## Technology alleviates staff

Technology, like delivery care robots, is being used to alleviate nursing staff. Shannon Medical Center in San Angelo, Texas, has implemented Moxi Robots within its nursing units. The purpose is to help staff with non-patient-facing tasks like distributing PPE, delivering medications and lab samples, and getting items from central supply.

The founders of Moxi, Diligent Robotics based in Austin, Texas, shadowed nurses at three Texas hospitals and estimated that healthcare staff spent up to 30% of their time looking for supplies. Moxi was named one of *Time Magazine's 100 Best Inventions in 2019*.[3]

The robot is capable of completing duties independently without being asked with an arm to reach, a gripper to pick up objects and a mobile base to move. It frees up time for nurses to do their most important task – face-to-face patient interaction.

Eric Burch

Innovating care delivery models reduces burden on nurses and maximizes their time and energy. Providers can prioritize these models to improve patient engagement and outcomes. Staff can also be cross-trained in low-volume areas to help in high-volume areas.

Remote monitoring programs leverage video and voice technology to help nurses manage a patient load. They provide an extra layer of staffing support, along with EMRs, telemetry and other remote monitoring systems. The virtual nurse provides 24-hour virtual assistance to the bedside RN. It can answer call lights, monitor IV sites and call other members of the care team.

## Critical staffing efforts by providers

Expenses have been challenging during the pandemic and they will not decrease anytime soon. Labor costs generally account for more than half of a health system's operating costs. Increased competition for staff has driven this up even more and there are critical efforts that providers need to sustain. Vizient advises its members to:

- Secure an indispensable partner in the contingent staffing market.
- Focus on retention and staff reinforcement, making sure they are valued.
- Seek out an external source for peer benchmarking and insights.
- Ensure to manage productivity, utilization and staff needs, and rapidly communicate across the organization.

The U.S. has a larger population over the age of 65 than ever before in its history. As the demand for nursing and healthcare staff grows to meet the demand of older patients, the profession is also facing a retirement drain of its own. Many people retired when COVID-19 hit or were given an early retirement package, and nearly half of all RNs today are over the age of 50.[4] One study predicted that over 1 million RNs will retire from the workforce before 2030.[5]

These frontline workforce shortages can lead to nurse burnout. Flexible education options, like online programs, can be crucial to recruiting and retention. Advances in nursing education, in the workplace and at a policy level, along with the help of technology, will be the foundation for growing the skilled nursing population. ■

[1] Surveyed nurses consider leaving direct patient care at elevated rates
[2] Assessing the lingering impact of COVID-19 on the nursing workforce
[3] Helping Hospitals: Diligent Robotics Moxi
[4] National Sample Survey of Registered Nurses
[5] Will the RN Workforce Weather the Retirement of the Baby Boomers?

BY DANIEL BEAIRD

# A Centralized Supply Chain

Multitiered analytics tool helps Johns Hopkins maintain its supplier resiliency.

**Historically, Johns Hopkins Health** System has had a fragmented supply chain reporting structure. And a few of its hospitals today have legacy structures in place for ORs and Cath labs with their own supply chains.

This can create varying degrees of sophistication using an ERP system and leveraging analytics and inventory management strategies. But transition is underway to a central reporting structure to manage supplies and mitigate disruptions.

"We have a broader strategy to integrate our supply chain across our health system, so it isn't autonomous at each hospital," said Burton Fuller, vice president and chief supply chain officer of Johns Hopkins Health System. "We're modifying the process as we go through this integration effort. But the pandemic has made the conversations easy."

## State-of-the-art CSC

Johns Hopkins opened its state-of-the-art, 165,000-square-foot Consolidated Service Center (CSC) in June 2018 as part of its Enterprise Supply Chain Strategic Plan, supporting five hospitals in Maryland and the District of Columbia by May 2020. It also supports Johns Hopkins surgery centers and most of its 45 clinics.

"The CSC was a physical point of orientation that brought our hospitals together during the pandemic. We were able to use that space to manage our own allocation process for our hospitals," Fuller said.

It continues to provide space needed for Johns Hopkins to advance inventory positions on critical supplies that have been disrupted due to global supply chain challenges. Its supply chain team has identified close to 1,000 product substitutions and increased inventory levels to seven to nine weeks. This has mitigated the risk of stockouts due to port congestions and other logistical challenges, including labor shortages, during the past year.

"We have a clinically integrated process for evaluating product substitutions," said Allen Passerallo, senior director of sourcing for Johns Hopkins Health System. "Our internal processes identify substitutions and procure enough product so our clinicians can take care of our patients."

Johns Hopkins used its supply planning and demand planning to full effect during the early stages of the pandemic when shortages affected PPE before expanding into other categories.


Allen Passerallo


Burton Fuller


Robert Jones

"That was relatively new for our organization, but we were able to leverage that structure by having people focused on the inbound levels in relation to demand, while modifying our inventory management practices in real time," said Robert Jones senior director of logistics and distribution. The health system used these analytics to track any PPE shortages, risks and exposures. Then, used them to identify contract manufacturers to purchase from directly overseas.

Information from its CSC allowed Johns Hopkins to acquire up to six months' worth of product. "No hospital had to convert their exam glove usage more than one time," Fuller said. "We would convert them to one brand, allow them to use it for six months to nine months, run through the inventory and then convert back to our preferred glove."

Categories that have been adversely impacted by recent global dynamics, like suction canisters and infant formula, have been managed from the CSC under the vendor's allocation process. Aggregating the allocation for the enterprise at the CSC allows for Supply Chain to release product based on demand and not by a single hospitals desire to create its own safety stock. It in essence becomes a shared safety stock.

## Pandemic learning

He says they learned early in the pandemic that accurate and detailed analytics can provide insights into how much is needed, when it is needed, and who within the Johns Hopkins health system has it. Fuller reports into a physician executive which is critical to ensuring and maintaining alignment clinically and operationally when navigating the challenges and change. Having alignment with Johns Hopkins' leadership allows the supply chain team to rapidly communicate concerns and challenges.

"The number of substitutions we have to consider every day is much more than it was three years ago," Passerallo said. "We have a daily backorder substitution meeting involving various divisions within supply chain. We review products and we're fortunate to have some registered nurses on our value analysis team that assist the organization in identifying product substitutions. We make sure alternative products considered meet the clinical threshold."

Value analysis and sourcing processes maintain a clinically approved substitution database. Strategic sourcing initiatives leverage clinical input through the value analysis process and allow the sourcing team to collect detailed product attributions assisting in identifying products that are clinically acceptable and preapproved as a substitute. Product attributes include size, material composition, and sterility, as well as specific attributes such as thread size and spacing of a spine implant screw.

Supply Chain partnered with the Enterprise Business Solutions team at Johns Hopkins in launching a web-based desktop and mobile app based on its ERP system, allowing end users to see products stocked out, substitutions with images and ordering information. This will allow the identification of critical product information like IFUs, dispersion plans and allocation allotments.

"The value analysis team works in partnership with clinicians for any ongoing education and training needed prior to the distribution of a substitution product," Passerallo said.

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1. Tosini W, Ciotti C, Goyer F, Lolom I, L'Heriteau F, Abiteboul D, et al. Needlestick Injury Rates According to Different Types of Safety-Engineered Devices: Results of a French Multicenter Study. Infect Control Hosp Epidemiol. 2010 Apr;31(4):402-7
2. Data on file

## Deloitte's CentralSight™ Supply Chain Analytics Tool

Johns Hopkins uses Deloitte's 12-tiered CentralSight™ supply chain analytics tool. It helps visualize a manufacturers relationship and reliance on various suppliers, their its geographic location and the role a supplier plays in the production of a finished good.

It tackles the ability to visualize a specialized supplier ecosystem to identify risks critical to cost, schedule, performance, security and resiliency by uncovering multitiered, geographically disaggregated supplier networks in hours and days. This is accomplished through machine learning, social media exploitation, deep web diligence and curated subscription proprietary diligence databases.

"We use it to identify various tier levels of manufacturing and to be proactive against disruptions," Passerallo said. "For example, we were notified of disruptions due to the Russia-Ukraine war and it guided us to advance our inventory positions in some categories on products because certain types of metal had a large portion of raw materials generating from the Russia-Ukraine market."

That's why Johns Hopkins extended its inventory position on select categories to 7-9 weeks. According to Passerallo, that kind of information is invaluable.

"They identified the various tier levels of suppliers for the final goods and production," he said. "An example is suction canisters. A supplier brought forward and opportunity for Johns Hopkins to switch to them for our suction canisters. Utilizing CentralSight, we could see that their manufacturing process was reliant on a single tier 2 supplier. Our current supplier was more diversified in their manufacturer process with multiple tier 2 and tier 3 suppliers in 3 different countries. This diversification provided us with a comfort level that the potential for disruption was less with our incumbent supplier as opposed to switching to a supplier that was not diversified in their manufacturing process. So, you hedge and say if something was to happen in one of those manufacturing plants or cities, we're better off with our incumbent supplier."

## Advanced notice on raw materials

Passerallo says that while there's discussion about sourcing domestically, a lot of raw materials come from overseas and Deloitte's CentralSight™ allows Johns Hopkins to have the data to make smarter decisions when coming to contract.

"We wouldn't have known that propofol, for example, was identified as a potential risk area due to the Russia-Ukraine war if not for this supplier resiliency tool," he added. "If we would have switched from our primary supplier to another supplier who shares the same tier 2 supplier in Russia, we may have been in the same position of having the challenge of procuring propofol."

Getting 24 to 48 hours advance notice can be the difference between buying product versus going on allocation and running the risk of not being able to treat patients or sourcing an alternative product.

"This is a service that enables us to get data from multiple means," Passerallo said. "It helps us assess potential risk, gives us advance lead time and mitigates some challenges in getting product. It makes us a smarter supply chain at the end of the day."

It has also helped Johns Hopkins integrate and standardize more than 30 product categories. "We standardized endo mechanical-surgical products over a year ago, and we have seen the manufacturer diversify into more countries and different ports of operations to mitigate their risk. I think that's really important," Passerallo said. "It helps us assess opportunities to partner with the right supplier." ■

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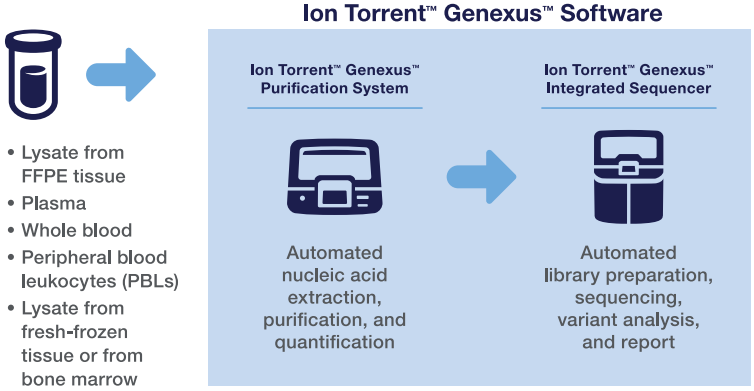


Figure 1. Specimen-to-report NGS automation in as little as a single day.

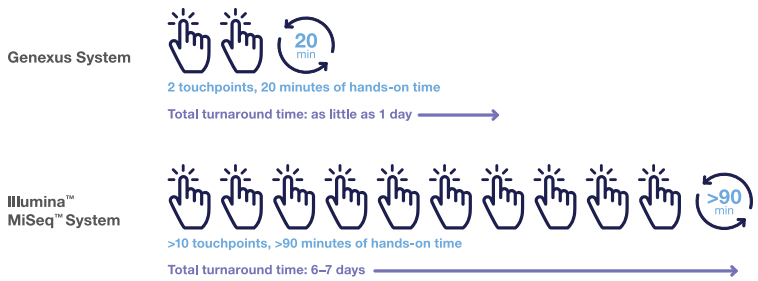


Figure 2. Minimal user hands-on and turnaround times on the Genexus System.

## Deliver answers faster

Other NGS technologies, as well as the traditional way of outsourcing samples, can take weeks to get results, which can delay answers. With the Genexus System, you can go from a biological specimen to a report in as little as one day (including sample preprocessing). This allows you to provide NGS results at the same time as other single-gene analysis methods such as immunohistochemistry.

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Both instruments come with prefilled reagents and instrument protocols. Plus, the onboard vision system identifies consumable placement and minimizes errors through automated barcode scanning.

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Samples are often processed in batches to keep costs down, which slows turnaround time and affects consistency. With the Ion Torrent™ GX5™ Chip and Genexus™ Coupler, you can process 1–4 samples cost-effectively during a single sequencing run. The GX5 Chip also can multiplex up to 32 single-pool libraries per run. ■

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### Highlights

- **Unprecedented specimen-to-report automation and ease of use** —just 20 minutes of hands-on time, two user touchpoints, and results in as little as a single day*
- **Minimize user processing errors** while helping to increase reproducibility of results
- **Ability to analyze samples cost-effectively,** reducing your need for batching and empowering you to deliver results faster than ever

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# Creating Happy and Healthy Environments for Healthcare Workers

Supply chain leaders discuss how IDNs are creating happier, healthier and safer workplace environments.

**Within the last few years, healthcare workers have been through a lot.** While it was already a difficult profession, COVID-19 pulled back the curtains on the frailties of the American healthcare supply chain, leaving many healthcare workers without the proper PPE in the initial days of the pandemic to protect themselves or the supplies to take care of their patients.

If that weren't enough, staffing shortages have stretched healthcare workers beyond their breaking point, creating hazardous working environments in an already difficult profession. The peaks and troughs of COVID waves add to a mounting pressure, causing more healthcare workers to leave the industry than ever before. While COVID isn't quite the same challenge as it was a couple of years ago, it's still lurking around the edges. Is there anything that can be done to remedy this situation?

"The last two years have created stress shift overload and burnout among our nation's healthcare workers, and we wanted to learn strategies that supply chain leaders used in several IDNs to reduce burnout and create a more enjoyable and safer workplace environment," said John Pritchard, publisher, *The Journal of Healthcare Contracting*.

In a recent webinar hosted by Medical Technology Industries (MTI), *JHC's* Pritchard discussed how IDNs are creating a happier, healthier and safer workplace environment with guests:

- Cheryl Saxby, assistant vice president of specialty sourcing and caregiver engagement at St. Joseph Hospital
- Clinton Hazziez, vice president, supply chain and strategic sourcing at Baylor Scott & White

- John Horne, chief strategic sourcing officer at Bon Secours Mercy Health
- Ed Hisscock, senior vice president, supply chain at Trinity Health

## Navigating the early days of the pandemic

No one had seen anything like this before. "Unprecedented times" was an apt, if overused, description of the chaos of the early days of the pandemic. While that chaos was not limited to a single industry, healthcare faced a unique set of challenges.

Caregivers were hit hard and quickly by an onslaught of sick patients, coupled with a frustrating concoction of staff and supply shortages that made an already difficult line of work that much harder. Burnout quickly became a serious issue, as healthcare workers had to overcompensate for these shortages with overtime and upskilling in an environment that put them directly in contact with multitudes of sick patients.

In the early days, people lined up on the streets in major cities during hospital shift changes, cheering for their local healthcare heroes. Apparel brands and other businesses offered discounts for healthcare workers, in a period of unity and support for those who have worked the frontlines of the industry for years. Integrated delivery networks (IDNs) were also looking for ways to ease the stress and burden of the early COVID days.

"One of the strategies we've pushed forward is a colleague care team. We've selected some people and they come from all different walks of life. There are some change management experts, there are some folks that are from our HR team with various levels of expertise," said Hisscock. "Basically, what we're doing is we are taking colleagues offline. Their full-time role is to interview other colleagues on what's going on, how they are feeling."

Hisscock says that it may seem a little "touchy feely", but the data they have collected from these interactions is invaluable, allowing Trinity Health to make the necessary tweaks to avoid further caregiver burnout in the future.

Horne, of Bon Secours Health, said "We developed new recognition tools to recognize excellent care and provision of excellent services. We developed spot bonuses where directors or department heads could provide spot bonuses for employees that were going above and beyond." Bon Secours Health also implemented time-off opportunities for their employees, mass shipments of branded t-shirts or facemasks, and even a "no-meeting-Friday" once a month.

**The windows of opportunity were so rare, closing as quickly as they had opened. Armed with that intelligence, Hazziez and his team were able to take advantage of those opportunities, mitigating some of the disruptions for Baylor Scott & White.**

Baylor Scott & White's Clinton Hazziez stressed the importance of communication and leading with compassion. He said, "I think that IDN executives understood the importance of at least acknowledging the challenges that we were up against on the frontline. It was very important that there was an awareness and acknowledgment of the effort and sacrifice. From the top down, it was a conversation about being a compassionate leader and putting the people first."

## Overcoming supply disruptions

One of the first – and still present – challenges of the pandemic was the disruption to the supply chain. While grocery stores couldn't keep shelves stocked as consumers "panic purchased" seemingly innocuous items, hospitals faced a steeper challenge of stocking necessary PPE equipment and supplies to provide patient care.

"This was a big deal because people were stressed out about the supply chain shortages," said Cheryl Saxby of St. Joseph's Hospital. "We had a nursing team collaboration that we pulled together to review the substituted back-order items. We reviewed those items, inspecting them to ensure they were up to standards before bringing them into our facility."

Saxby's team also included clinical people to ensure that the incoming products met the clinical standards they needed. "We also worked with some suppliers on allocations and

identifying needs. Everyone was pushing and pulling, trying to get everything that they could get their hands on during that time, so we did pull some major suppliers together to work on that."

St. Joseph's also implemented a "stoplight tool" that notified all supply chain and frontline employees and the executives on what stock was running low, what they needed to do about it, and how they could reduce waste throughout the organization.

At Baylor Scott & White, Hazziez and his team learned that the clinical requirements needed to be aligned with the product specifications so that they could more rapidly and efficiently source and procure the goods.

He said, "I think we learned the importance of understanding clinical requirements and being able to establish those in a very matter-of-fact way, promoting more of a rapid sourcing environment. If we knew what the clinical requirements were, sourcing teams could go out and find those product specs that met those needs."

The windows of opportunity were so rare, closing as quickly as they had opened. Armed with that intelligence, Hazziez and his team were able to take advantage of those opportunities, mitigating some of the disruptions for Baylor Scott & White.

Knowing that the supply chain issues haven't gone away, Hazziez is still stressing this mentality to his team, saying, "We have to be more disciplined about building more redundancy in our supply chain because things are flaring up on the manufacturing side, on the sourcing side, and on the logistics side. We have to bake in these redundancies so that our supply chain stays resilient."

## Forging a path ahead

Despite the challenges in the last couple of years, as well as the continued supply disruptions, how are IDNs faring in making the care setting a little happier, smoother, and less stressful?

For Bons Secours Health, Horne says that it started with creating efficiencies in the distribution of the supplies they needed. By leveraging and collaborating with their prime med/surg distributor, they were able to hold pieces of 3PL inventory. "We could load our 3PL products on the rails and the trucks of the distributor and have that product delivered seamlessly like everything else."

He continued, "It required far less stockpiling at the local level, and it created efficiencies in the distribution of that product." They used a similar strategy to store COVID vaccines at the necessary temperature – for instance, Pfizer's vaccine has to be refrigerated to an extremely cold temperature – working with their gas suppliers to get daily deliveries of dry ice in massive containers. Through this collaboration, they were able to keep the Pfizer vaccine cold and viable, creating a smoother delivery of vaccines to Bons Secours Health's 60,000+ employees.

At Trinity Health, Hisscock and his leadership team had an opportunity to get in on the action for themselves. With support staff at the hospitals dwindling, Trinity was filling those shifts with members of leadership from the corporate office and the ministries.

Hisscock, speaking on this unique opportunity, said, "What that did was put us directly in service to the caregivers. It created a lot of opportunities for us to do what you do in rounding: listen, respond, and just demonstrate that you care." He described that initiative as a powerful way for those in positions of leadership to get out of their comfort zones – corporate offices, cubicles, home offices etc. – and work with the frontline. He said, "They came back with a lot more compassion and recognition of just what these folks were going through."

Saxby and her team took the opportunity to recognize and celebrate the hard work of the caregivers during this time. Every quarter, they hosted a Caregiver Connect session, where her team would sit down with the caregivers and discuss how they were doing and what St. Joseph's could do to help.

"For the National Healthcare Supply Chain Week, we made that a bigger deal than we usually do. We wanted to make sure that caregivers have time to take breaks. We hosted games, gave out gifts, happy hours, and meals together where we could. Having those things was really helpful to take some of that stress out of their life during this time," Saxby said.

Even with all the chaos happening during any given day, Hazziez understood that even the little things mattered to caregivers during this time period. "The simple things like 'Can you guys keep up with the mask extenders?' Because it made it more comfortable for nurses to wear the masks for extended hours." He and his team developed utilization models that allocated certain products because clinicians needed them.

Finding those small gestures went a long way to making life easier for caregivers. Hazziez said, "It was just the little things to make sure that were being attentive to the needs of the folks on the frontline." ■

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Top 5 Non-Acute Supply Chain Leaders: Part 1

# Successful Non-Acute Supply Chain Integration

## St. Elizabeth Physicians supports its non-acute sites by partnering with key suppliers and distributors

**The role of non-acute supply chain leaders has changed and expanded during the pandemic.** As demand for quality products increased and supply chains became strained, supply chain leaders were pushed into a central business role in the organization, putting more focus on supplier and distributor relationships. Now that health care is starting to resemble some level of normalcy, Health Systems continue to consolidate through acquisition, expand their non-acute networks and become more diverse in their offerings, and therefore their needs.

The integration of new facilities always presents the challenge of how to standardize materials management and purchasing systems. But St. Elizabeth Physicians in the Greater Cincinnati region is a prime example of what successfully integrating a non-acute supply chain can bring to a health system.

St. Elizabeth is the multispecialty physician organization of St. Elizabeth Healthcare. Its supplier management program measures key metrics such as performance, savings and quality improvement goals, and its expectations in these have risen during the pandemic.

"We've set up our health system for success by researching and anticipating shifts in the supplier market, and developing action plans based on predicted market changes," said Thomas Mullins, purchasing manager of St. Elizabeth Physicians. "My role has continued to expand for our non-acute sites, developing strategies to achieve sustainable relationships with our suppliers and ensuring achievement of our organizational goals through strategic development planning."

St. Elizabeth Physicians has found that partnering with McKesson on distribution has been very rewarding too, according to Mullins.

"They're the subject matter experts," he said. "They've developed strategies to ensure the criteria they provide meets all the key stakeholders' objectives and business requirements for St. Elizabeth Physicians. They've provided their guidance throughout training, coaching and implementation of best practices seen in their field."

During the past 12 months, McKesson has supported St. Elizabeth Physicians in its efforts to drive inventory management, reduce costs and standardize products through formulary integration. McKesson has also worked with St. Elizabeth Physicians' temporary warehouse location at its corporate headquarters to transfer all allocations and ensure quantities were appropriately distributed amongst its practices and clinics. This has allowed St. Elizabeth Physicians' care sites to have sufficient supply throughout the pandemic.

Mullins says that partnering with McKesson has led to innovative ways to improve productivity and efficiency within its departments.

"The key is understanding where things can be standardized and networking within your internal departments to understand who you need to work with, what products need to change and where price points need to be," Mullins said. "The number one thing is quality and making sure we deliver the best care possible to our patients."

He says trying to provide that care with a standardized approach to its practices is the goal for St. Elizabeth Physicians and that McKesson has offered the data integrity to help achieve it.

"Non-acute supply chain integration allows us to improve our spend management and assure our supply," Mullins concluded. "This allows us to deliver uninterrupted, high-quality care to our patients."

St. Elizabeth Physicians has more than 700 providers and over 2,200 non-provider associates delivering care in 169 physician offices in Northern Kentucky, Southwest Ohio and Southeast Indiana.


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BY DANIEL BEAIRD

# Hospital-Based ASC Ownership

Consumer-driven trends, value-based strategies and better physician relationships encourage transition to ASCs.

**The healthcare sector has significantly consolidated in recent years. Large health** systems have acquired smaller hospitals and the remaining hospitals have amassed existing outpatient facilities like urgent care, imaging locations and independent physician practices as outpatient care has become more popular. This has limited inpatient days and lowered hospital revenues, all while the healthcare sector tackles higher overhead and labor costs.

The preference for outpatient care is set to continue. Healthcare staffs are encouraged to expand their abilities for a variety of alternative care sites and reimbursement models are being restructured to meet the shift toward outpatient services.

## Site-neutral payments

CMS implemented the Outpatient Prospective Patient System (OPPS) rule in 2019, extending a site-neutral payment policy to off-campus provider-based departments (PBDs). It reduced off-campus PBD payments to 70% of the full OPPS rate.

The OPPS rule was ruled to be invalid by a federal judge that same year, but the U.S. District Court of Appeals for the D.C. Circuit overturned the court's ruling in 2020. The American Hospital Association (AHA) and the Association of American Medical Colleges (AAMC) are opponents of the site-neutral payment policy, but the U.S. Supreme Court declined to hear AHA's appeal of the U.S. District Court of Appeals decision in 2021.

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Melinda Hatton, general counsel for the AHA, said in a statement at the time, "America's hospitals and health systems are disappointed in this decision because it will cause serious harm to their ability to provide care for patients. It fails to account for the fundamental differences between hospital outpatient departments and other sites of care. Hospitals are open 24/7, held to higher regulatory standards and are often the only point of access for patients with the most severe chronic conditions, all of whom receive treatment regardless of ability to pay."

But the Medicare Payment Advisory Commission (MedPAC) said the biggest driver for physician and hospital consolidation was that Medicare paid hospital-based clinics a higher price for the same services than it did physicians' offices, and if CMS adopted site-neutral payments between hospital and physician offices, it would reduce the incentive for those mergers.

CMS has stated that it would have saved an estimated $800 million in payments to outpatient departments during 2020 under the 2019 rule. The rule aims to remove payment disparities between clinics affiliated with hospitals that receive more Medicare reimbursement than physicians' offices providing the same services. CMS began reprocessing claims for outpatient clinic visit services at excepted off-campus PBDs in 2021 so that they were paid the same rate as non-excepted off-campus PBDs for those services under the physician fee schedule. It affected certain claims with dates of service between Jan. 1-Dec. 31, 2019.[1]

In *American Hospital Association v. Becerra* (2022), the AHA and several hospital associations and hospitals sued HHS, alleging that it exceeded its statutory authority in the rule reducing reimbursement rates for certain hospitals, specifically 340B hospitals and Medicare Part B insured patients. In June 2022, the U.S. Supreme Court unanimously ruled that the statute does not give HHS the authority or the discretion to vary the reimbursement rates for 340B hospitals.

**"It comes as no surprise to see that hospital systems are pursuing a variety of ASC initiatives, often in partnership with physicians, that will allow them to broaden their surgery center and outpatient portfolios. As surgical care continues its migration out of the inpatient setting, hospital systems are recognizing the need for at least one ASC, and increasingly multiple centers, in their portfolios."**

**— Joan Dentler, founder and president of Avanza**

## ASCs become must-haves for hospitals

The movement toward value-based care, growing competition for physicians and surgical cases, and the ongoing shift of non-urgent surgical procedures into the outpatient setting have all had an effect on hospitals investing in ASCs. According to a national survey conducted by Avanza Healthcare Strategies of senior executives and clinical leaders at hospitals and health systems across the country, more than six in 10 hospitals and health systems intend to increase their investments in ASCs.

Hospitals are becoming less reliant on third-party management vendors for their ASCs and more willing to partner and share ownership with physicians in joint venture ASCs. Half of the respondents in Avanza's survey indicated current ownership of multiple ASCs in their portfolios.

"It comes as no surprise to see that hospital systems are pursuing a variety of ASC initiatives, often in partnership with physicians, that will allow them to broaden their surgery center and outpatient portfolios," said Joan Dentler, founder and president of Avanza. "As surgical care continues its migration out of the inpatient setting, hospital systems are recognizing the need for at least one ASC, and increasingly multiple centers, in their portfolios."

The maturity of the ASC industry is cited as a reason for more growth in the category. Dentler says that management services were often a necessity to running a viable surgery center in the early days of ASCs. But the proliferation of support services and technologies for the industry and the growth of professionals with ASC experience has neutralized the need to give up valuable equity and enter expensive management agreements for ASC success.


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1. Accula SARS-CoV-2 Test Instructions For Use. Thermo Fisher Scientific. Accessed on 6/10/22. https://www.thermofisher.com/document-connect/document-connect.html?url=https%3A%2F%2Fassets.thermofisher.com%2FTFS-Assets%2FCCG%2FInstructions%2FLBL-60061-Accula-SARS-CoV-2-IFU-03FEB2021.pdf

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More than 80% of hospital systems surveyed by Avanza have one or more of their ASCs as joint ventures with physicians, and more than half are allowing employed physicians to invest in their ASCs. Third-party management and partnerships continue to decline.[3]

Not only have consumer-driven and payer-driven trends from the past several years solidified the need for ASCs, but the COVID-19 pandemic also stiffened the competitive positions of ASCs as the preferred setting for high-quality, low-cost surgical care.

## Hospitals more likely to share ownership in ASCs

According to the Avanza survey, from 2020 to 2021, the percentage of ASCs with 100% hospital and health system ownership declined from 25% to 12%. Yet majority ownership by hospitals and health systems in ASCs increased from 54% to 58% during that same period.

The takeaways included hospitals and health systems potentially being more amenable to sharing ownership with physicians since physician financial investment in the ASC may serve to motivate physicians to be more cost-conscious, helping drive profitability. Also, physicians are interested in joint ventures as minority owners due to contracts that can be leveraged with payers and GPOs that are accessible only if the hospital is the majority owner.

Hospitals, on the other hand, are owning or affiliating with ASCs due to four primary reasons:

- Responding to consumer-driven trends.
- Preventing physicians from taking cases outside the hospital and health system.
- Supporting a value-based strategy.
- Enhancing physician relationships.

And 63% of hospitals surveyed planned to increase ASC investments or affiliations. At the same time, third-party management is declining. In 2019, 23% of hospitals and health systems with ASCs had a third-party manager. That declined to 15% in 2021. The survey also found the percentage of hospitals and health systems with ASCs that permit third-party equity partners has declined from 44% in 2018 to 27% in 2021.

## HOPDs converting to ASCs

One of the fastest growing areas of freestanding ASC development is hospital-based outpatient departments (HOPDs) conversions. These departments acted like freestanding ASCs but operated as arms of the hospital, collecting hospital reimbursement.

Medicare per-payment procedures were significantly higher for HOPDs than payments to ASCs,[4] and the reduction in revenue for hospitals when converting HOPDs to ASCs has come with consternation, but it's a step toward value-based care. According to Avanza, in 2021, 53% of hospitals and health systems with HOPDs that mimic ASCs were considering converting one or more of their HOPDs to ASCs.

Shifting outpatient procedures to ASCs reduces spending for commercially insured individuals by almost 60% and saves consumers close to $700 per procedure.[5] Over 6 million routine outpatient procedures are performed in HOPDs, but only 10% of those procedures are for complex patients like those with morbid obesity or those suffering from end stage renal disease, and 35% of those procedures are for patients who do not have an ASC close to their residences.

The ASC market size in the U.S. is estimated to reach almost $60 billion by 2028,[6] up from $34 billion in 2020 and $36 billion in 2021. ■

[1] CMS: Outpatient Clinic Visit Services at Excepted Off-Campus Provider-Based Departments: Payment Update
[2] American Hospital Association v. Becerra (2022)
[3] Avanza Intelligence: 2021-2022 Hospital Leadership – ASC Survey
[4] RAND Corp.: Prices Paid to Hospitals by Private Health Plans
[5] UnitedHealth Group: Shifting Common Outpatient Procedures to ASCs Can Save Consumers More than $680 per Procedure
[6] Fortune Business Insights: US Ambulatory Surgical Centers Market Size [2022-2028]


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# Inflation and Purchased Services

Why inflationary challenges have been particularly challenging in purchased services categories.

**Stronger consumer demand coupled with global supply chain and workforce** challenges are driving inflation across every sector of the U.S. economy, including healthcare, said Mickey Meehan, chief operating officer, Conductiv® and Chaun Powell, group vice president, Remitra™. And while the U.S. has been seeing and living with higher costs from the gas pump to the grocery store, there has been less discussion about inflation in the services sector.

Part of the reason for that may be due to the complexities and variabilities of purchased services and the invoicing of those services. For example, at one large IDN, the chief supply chain officer shared with Meehan and Powell that departments and hospitals nationally lack the sophistication to accurately predict the expense of a service based on complexities of the contracts, which can be 70 pages long and filled with holiday, weekend and surge pricing models. "Add to that inflationary up-charging, and it becomes increasingly apparent that technology-based solutions are more critical today than ever before," they said.

This time last year, services inflation sat at 3%. This year in the U.S., services inflation has increased – albeit slightly – from 6.22% in June to 6.25% in July, and its share of overall inflation also increased, Meehan and Powell noted.

Today, hospital expenses continue to climb while margins shrink – the median change in margin declined 49.3% from June 2021. "This makes inflation particularly challenging to tackle in healthcare," they said. "Broader economy-wide inflation has serious implications for providers that must absorb added costs out of existing budgets, which are already strained as a result of lost elective procedure revenue, and record-high outlays to attract and retain labor."

What's more, as expenses are rising, hospital payments aren't keeping pace. CMS has adjusted the IPPS payment rate upward 4.3%, but the truth remains the update falls woefully short of reflecting the rising labor costs that hospitals have experienced since the onset of the pandemic, Meehan and Powell said. "This

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1 Giersbergen, M.Y., Alcan, A.O., Kaymakçı, Ş., Özşaker, E., & Dirimeşe, E. (2019). Investigation of surgical smoke symptoms and preventive measures in Turkish operating rooms.
2 Pierce JS, Lacey SE, Lippert JF, Lopez R, Franke JE. Laser-generated air contaminants from medical laser applications: a state-of-the-science review of exposure characterization, health effects, and control. J Occup Environ Hyg. 2011;8(7):447-466

inadequate payment bump will only exacerbate the intense financial pressures on hospitals."

The following are more insights on which services sectors have been hardest hit, and some possible solutions for supply chain teams to implement.

## Categories that have seen the largest cost increase

When comparing third-party services to products, the total cost of the service is heavily influenced by the cost of labor, Meehan and Powell said. "In the current environment of competition for all labor types, organizations are factoring in higher wages to help attract and retain talent on top of higher prices for their business, such as fuel costs."

Based on these factors, some services categories in healthcare experiencing cost increases include:

- Staffing
- Construction
- Waste Management
- Blood Products
- Courier Services
- Food Services
- Environmental Services
- Third-Party Logistics

## It's not just purchased services

Labor costs are having an impact on other parts of the healthcare supply chain as well, Meehan and Powell said. "This is especially true in accounts payable (AP), where manual-based financial processes have led to wasted time and money for both providers and suppliers. In fact, nearly $40 billion in healthcare waste and inefficiencies is tied to invoicing errors alone."

## A place to cut waste

One big opportunity to cut down on waste and create efficiencies is AP automation, they said. "With AP automation, providers can not only gain opportunities to strategically redeploy their labor force, but also gain better control over cash flow and the ability to unlock working capital for investing in future growth opportunities."

## The importance of a healthy market

Purchased services can account for up to 36% of hospitals' annual indirect operating expenses. "Enterprise-wide success is increasingly reliant on purchased services and a healthy market can help generate operational efficiencies and improved outcomes for providers, including significant cost savings," Meehan and Powell said.

This also extends to supply chain back-office operations, which is an area often overlooked by healthcare leaders as a significant opportunity to save on costs. "We estimate that as many as 70% of all invoices in healthcare are paper-based, and 68% of all healthcare purchasing is still done manually via paper checks. Across the healthcare industry, these transactions can add as much as $18 billion to $22 billion in unnecessary annual expenses." AP automation can solve this by taking paper out of the equation and replacing it with a data- and technology-driven workflow.

## Best practices to drive savings

"As the healthcare industry continues to transition into post-pandemic reality, finding new ways to increase efficiencies and reduce costs in purchased services – and in supply chain operations overall – is paramount," Meehan and Powell said. They shared several ways healthcare providers can tackle the rising costs of services and drive savings:

"Leveraging the aggregate purchasing power of a GPO and contracts with firm, fixed pricing can help keep inflation at bay and reduce risk. Hospitals and health systems we've worked with have saved as much as 31% (weighted average) across purchased services categories during the pandemic and through a combination of GPO/local services-specific contracts."

"Investing locally and building more strategic, collaborative relationships with diverse suppliers to drive competitive pricing and terms."

"Using technology to tap into analytics, benchmarks and powerful insights to source competitive contracts and measure purchased services usage and spend. Technology can enable providers to automate RFPs, to compare prices, and to manage service targets – a strong means to counter inflation."

"Looking beyond purchased services, technology can be used to analyze total supply spend, transform AP processes and find savings opportunities all in one place. By moving to an automated purchasing and payment solution, one health system we work with was able to recognize more than $1.8 million in savings in fewer than three years. Another was able to recoup $7 million in overpayments due to invoicing errors." ■

# Diagnostic Testing Essentials for Improving Value

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# HealthTrust University

HealthTrust Performance Group honors members for excellence, sustainability and innovation as organization members gather.


**Six HealthTrust member organizations were honored recently for supply** chain excellence, sustainability and innovation benefitting their patients, communities and stakeholders. Recipients of the annual Member Recognition Awards – the most prestigious honors presented by HealthTrust Performance Group – were announced at the HealthTrust University conference in Nashville, held in July. David Osborn, Ph.D., senior vice president of strategic accounts and advisory services presented awards to the following health systems and their representatives.

Operational Excellence – Community Health Systems, Franklin, Tenn., for implementing more than 100 supply chain initiatives which yielded significant savings.

- Susan Schrupp, senior vice president and chief purchasing officer
- Gina Nieszczur, senior director, imaging services
- Jamie Smigel, director, category analytics
- Joanna Morton, RN, BSN, director, clinical resources
- Scott Wood, director, supply chain management

Clinical Excellence – Lehigh Valley Health Network, Allentown, Pa., for leveraging analytics and value analysis for perioperative services to improve efficiency and lower costs while enhancing patient care.

- Janelle Alfano, director, perioperative business services
- Allison Hontz, administrator, strategic sourcing
- Keith Carl, manager, network value analysis
- Tamara Gates, contract and product manager
- Alexandre Warman, administrator, perioperative business services

Social Stewardship – Beth Israel Deaconess Medical Center, Boston, Mass., for sustainability initiatives reducing greenhouse gas emissions and energy consumption, and diversion of non-hazardous waste through reuse, reprocessing and recycling.

- Avery Palardy, sustainability program manager

Pharmacy Excellence – Atlantic Health System, Morristown Medical Center, Morristown, N.J., for its megasite vaccination program serving thousands of New Jersey residents per day with no wasted doses or medication errors.

- Timothy Lise, PharmD, BCPS, executive director, pharmacy services
- Kunal Shah, assistant manager, pharmacy
- Mark Harris, manager, pharmacy
- Michele Sienkiewicz, manager, pharmacy services

- Doug Bloomstein, manager, pharmacy services
- Judy Redmond, assistant manager, pharmacy
- Esther King, assistant manager, pharmacy

Innovation – Hackensack Meridian Health, Edison, N.J., for automating supply chain tasks resulting in time savings and improved efficiencies to the inventory system and item master.

- Geffry Lafortune, customer service supervisor
- Laura Catalini, pricing and data integrity supervisor

Outstanding Member – Methodist Le Bonheur Healthcare, Memphis, Tenn., for contract adoption initiatives leading to cost savings and improved patient outcomes.

- Chris Hilty, manager, pharmacy supply chain
- Christopher Bell, director, supply chain management
- Clark Story, project manager, supply chain management
- Gregory Mathis, manager, supply chain management
- Jeremy Cook, senior director, supply chain management
- Larry Fogarty, vice president, supply chain
- Rusty Parker, senior director, supply chain management
- Steve Colclasure, supervisor, supply chain

## Boldy Forward

With the theme, "Boldly Forward, The Future of a World Disrupted," HealthTrust's invitation-only conference featured notable discussions from experts across the healthcare continuum and fostered an atmosphere of collaboration to propel supply chain stability and excellence forward in an environment of global disruption.

More than 3,700 attendees, including exhibitors, sponsors and affiliates participated in the conference. HTU'22 featured expert insights and best-practice sharing in support of supplier diversity, staffing shortages and supply chain innovation. Members selected from among dozens of educational sessions focused on professional and personal development. Many classes offered Continuing Education credits in disciplines such as nursing, supply chain and pharmacy. The event also created an environment for sharing innovative best practices and networking, as well as entertainment and an evening at Topgolf.

In his remarks, HealthTrust president and CEO Ed Jones shared the results of a HealthTrust member survey assessing the magnitude of disruption that healthcare professionals have experienced in both their personal and professional lives. Notable findings from the survey included:

- **96%** of respondents said that their world has been significantly disrupted over the past two years.
- **99%** indicated that they think about supply chain in a much different way today than they did three years ago.
- **84%** are more resourceful about solving issues and challenges since the onset of the pandemic.
- **75%** have made changes to their personal lives as a result of the pandemic.

"As healthcare providers, we face ever-evolving challenges from global supply chain disruptions and labor shortages that are threatening the financial viability of hospitals and their ability to serve patients and communities," said Jones. "Despite these obstacles – many of which are beyond our control – I am confident the collective wisdom and alignment of our members coupled with collaboration with other strategic partners can solve for many of the pressing issues that we face today or tomorrow."

The 25th annual HealthTrust University will be July 17-19, 2023, at Mandalay Bay in Las Vegas. ■

# A Key Partner

GPOs are adding value where it matters most in healthcare – to the lives of healthcare workers.

**The American Hospital Association wrote to the House Energy and Commerce Committee in** March to express their concern about the healthcare workforce shortage in hospitals, calling it a "national emergency." In their statement, AHA projected that the shortage of nurses will reach 1.1 million by the end of 2022 and that the U.S. will face a shortage of up to 124,000 physicians by 2033 and 3.2 million lower-wage healthcare workers by 2027.

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

Indeed, healthcare workers continue to endure the physical and emotional toll of caring for sicker, more complex patients. The number of COVID-19 cases may ebb and flow over time, but the healthcare system will continue to see a rise in patient acuity well past the worst waves of the pandemic. These industry trends all contribute to burnout, stress, and retention issues across the healthcare workforce. As a key partner to virtually all of America's 7,000+ hospitals and 68,000+ non-acute care facilities, healthcare GPOs and the Healthcare Supply Chain Association (HSCA) are leading efforts to address the root causes of the healthcare workforce crisis.

## Improving supply chain workflow for nurses

In February, two-thirds of U.S. hospitals had a nurse vacancy rate of 7.5% or more. Nursing staff, specifically registered nurses (RNs), licensed practical nurses (LPNs), licensed vocational nurses (LVNs) and certified nursing assistants (CNAs), are critical staff in hospitals and nursing homes. Nurses play an important role in procuring and documenting medications and supplies, which can become increasingly difficult when faced with shortages, heavy utilization, and backorders. An industry survey showed that supply chain issues led approximately 20% of


# Significant Figures

## A Practical Guide to Unprecedented Cost Savings in Purchased Services

Purchased services, a vital part of the healthcare ecosystem and delivery of patient care continuity, make up an average of 15-25% of a hospital's operating costs. Optimizing supplier relationships, performance, and spend can safeguard a health system's operations and reduce regulatory risk. However, purchased services optimization has been largely unexplored due to its complexity and magnitude... until now.

**Order the book now:** conductiv.com/significant-figures


**"The authors' deep experience in purchased services sourcing is evident; providing proven strategies that are both high-reaching and attainable"**

**John Pritchard**
Journal of Healthcare Contracting

nurses to say they considered leaving their current role. HSCA member GPO HealthTrust has worked with industry leaders to develop a nurse-centric supply chain model that includes standardizing supply and equipment processes, streamlining procedures for gathering and tracking supplies through technology, and minimizing the impact of shortages and supply substitutions with additional supply chain personnel to support nurses and other staff. HealthTrust also works with their members to ensure a consistent supply of personal protective equipment for healthcare workers to help them stay safe on the job. One HealthTrust provider member called the PPE supply channel "the most stable part of the supply chain today" thanks to their work with HealthTrust, which allows them to access key industry insights and get ahead of potential disruptions.

## Responding to industry concerns and reimagining care delivery

According to a recent survey of more than 100 leaders representing 92 health systems across the country by HSCA member GPO Vizient, workforce retention is their most pressing challenge. To meet this challenge, Vizient member hospitals have introduced remote monitoring and tele-sitting programs to provide additional support for their existing staff. Using video and voice technology, nurses can help manage patient care by answering call lights, monitoring IV sites, and contacting other care team members when needed. This new model of care monitoring has led to higher engagement among team members, lower burnout rates, and additional training opportunities for new staff. Patients are also receiving care in a timelier manner and mortality rates have decreased due to early intervention when a patient shows signs of deterioration.

## Advocating for safety in healthcare workplaces

In June 2022, federal lawmakers introduced a bill that would increase workplace protections for healthcare workers in response to an uptick in violence and threats against them across the U.S. The bipartisan Safety from Violence for Healthcare Employees (SAVE) Act would establish legal penalties for assaulting or intimidating healthcare employees. Alongside the American Hospital Association and Federation of American Hospitals, HSCA members Children's Hospital Association and Vizient voiced support for the legislation, citing the trauma that workers suffer from when they experience physical and verbal abuse in the workplace. HSCA member GPOs recognize that the safety and well-being of healthcare workers is a priority and will continue to advocate for policies and practices that strengthen healthcare workplace protections.

**This new model of care monitoring has led to higher engagement among team members, lower burnout rates, and additional training opportunities for new staff.**

## Delivering savings that allow for employee incentives

Healthcare group purchasing organizations continue to drive savings for hospitals and other care facilities as they face financial challenges in the wake of the pandemic. The savings GPOs provide allow their member providers to allocate additional funding to retaining, recruiting, training employees, especially those with specialty certifications or expertise in high demand. A report by the San Diego Workforce partnership recommended a significant $128 million investment in training for thousands of mental health workers to bolster staffing in area hospitals and health systems. To encourage nurses to work in-state, the University of Wisconsin health system is offering nurses $100 more per hour if they work extra shifts as part of the organization's internal travel program. These incentives are made possible by healthcare stakeholders like GPOs who deliver critical savings to hospitals, surgery centers, community health clinics, ambulatory care centers, nursing homes, and more.

It's more important than ever to recognize the value of healthcare workers and ensure that they receive the resources, compensation, and support they deserve – quality patient care and safety depends on it. HSCA and its member GPOs remain committed to ensuring that providers can deliver efficient and timely care to patients. ■

# Frontiers of the HEALTHCARE SUPPLY CHAIN

A special section of The Journal of Healthcare Contracting

Contributed by

ACCESS STRATEGY PARTNERS INC

## Inside:

# Empowering Value-based Contracting Through Technology and Automation

BY JOHN STRONG AND JIM IVERS

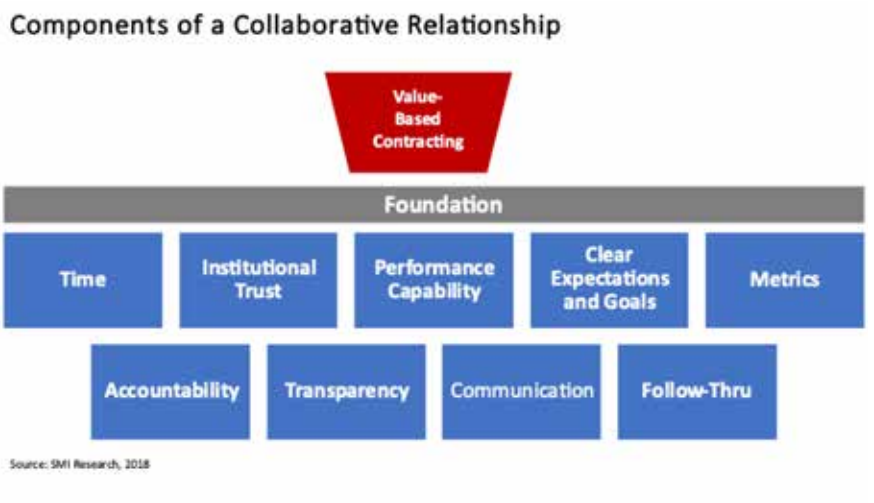
**While there continues to be significant interest in value-based contracting, technology that can accommodate the large-scale monitoring of these contracts has been slow to materialize. With Mondopoint LLC completing a successful year-long pilot of its automated platform at a major health system, it seems that both providers and suppliers can finally realize the benefits of value-based contracting.**

More than a decade ago, the United States government began pushing providers toward outcomes-based care models. Other payers followed suit, increasing the pressure for providers to explore alternatives to the fee-for-service models of the past. One area of opportunity quickly revealed itself in the purchasing decisions of medical devices. This provided an opportunity for device manufacturers / suppliers who wished to set themselves apart from the rest by demonstrating the efficacy of their products through improved patient outcomes. Together, suppliers and providers began exploring new contract models that would reflect the improved patient outcomes that payers required.

Ever since, interest in value-based contracting (VBC) programs has continued to grow. A 2018 survey of C-suite and supply chain executives found that 81% would be interested in VBC programs if they were offered by a supplier[1]. While overall progress toward VBC adoption slowed in 2020 and 2021 due to the pandemic, supply chain challenges, and product shortages, interest remains high. This is particularly the case when VBCs are coupled with technology that can transform cumbersome manual processes into automated, performance-monitoring solutions.

Mondopoint LLC., a Chicago-based startup, has completed the first year of a proof-of-concept implementation with a major New England-based health system. This proof-of-concept has successfully demonstrated that large-scale VBCs can be implemented and automated.

In collaboration with the device supplier and the provider, Mondopoint integrated its SaaS platform with the health system's existing infrastructure to automate performance tracking and rebate submission for over 5,000 patients across two product categories. As a result, the health system of seven acute care hospitals – collectively representing approximately 2,400 total beds – can effectively monitor patient outcomes while the device supplier can demonstrate the value of its medical devices. It's a win-win.




## Existing Efforts Toward VBCs

While the consensus has regarded value-based contracting as a positive step in the right direction, there have been organizational challenges in implementing. Lack of information and data has been a key concern of supply-chain professionals who have been hesitant to implement VBCs. In addition to the lack of information, aggregating existing data has also proved a challenge. Both smaller and larger health systems have expressed that manually tracking adverse events and calculating value based on specific device performance can be an immense burden.

## Trading Partner Collaboration Critical to VBC Success

For the past decade or longer, the healthcare supply chain has been visiting the need for better trading partner collaboration. It has been an elusive goal.

While there have been many definitions or prerequisites for improved collaboration, it seems that very few organizations have been successful in "true" trading partner collaboration. VBC requires this sort of collaboration, or ultimately it will fail. Often identified characteristics of these types of relationships include institutional trust, clear expectations and goals, accountability, transparency, and good communication. Perhaps there has been little traction because all of this requires time and commitment.

In the past, meaningful outcome data or ways to measure issues (such as a readmission) have been difficult to obtain and a manual process. Applying VBC to products and services is relatively straightforward if certain factors are met during the planning stage of a contract.

## Mining the Electronic Medical Records and Other Systems

By bringing trading partners together to identify mutual goals ("wins"), Mondopoint has been able to support constructing successful VBCs based on these goals. Mondopoint has then been able to mine patient data to support these VBC programs. This longitudinal data includes cohorts of patients and the criterion, such as a patient readmission within a defined number of days, that signals to both the provider and the supplier that a VBC condition has been met. This might trigger provision of a no cost replacement, a rebate, or payment for a readmission due to the adverse outcome.

### Types of value-based contracts

- Risk Share
- Outcomes Guarantee
- Gain Sharing
- VBHC Partnership

## First-Year Results

Mondopoint implemented its SaaS platform at a major New England-based health system in 2021 – monitoring outcomes on two selected products from Medtronic that guaranteed product use/outcome results to the health system. The pilot included six hospitals and eight locations.

On a daily basis, Mondopoint's SaaS platform tracks the procedure date, type, surgeon, and location for specific cohorts of patients who receive eligible devices and treatments. To date, Mondopoint is

**For the past decade or longer, the healthcare supply chain has been visiting the need for better trading partner collaboration. It has been an elusive goal.**

tracking longitudinal outcomes of over 5,000 patients, including product information such as lot, serial, and other identification.

In addition to the daily processing, Mondopoint performed a one-time retrospective report of the same data for comparison purposes.

Because the Mondopoint platform is able to connect to a variety of EMRs and other hospital IT systems, monitoring of outcomes was available from all hospitals within the system. Mondopoint successfully identified all cases where patients were readmitted for infection or recurrent AFib, two of the key elements that trigger a VBC rebate from the supplier back to the hospital.

The retrospective information is useful for supply chain activities including historical usage information and physician preferences.

## New, Innovative Technologies a Key Target

**VBC benefits provided to trading partners can include:**

### Supplier

- Increased willingness by the hospitals to trial, evaluate and use new technology to reduce infection in certain patients
- Expansion of sales at a faster rate than projected because the product performed as promised
- A context and platform for better trading partner collaboration
- Increased supplier credibility around claims made for the product

### Health System

- Provides assurances product will perform as promised – or there is remuneration for the product and in certain cases re-performing the procedure
- Allows the collection of data that can monitor product performance automatically over an extended period. This allows value analysis follow-up of results at various intervals
- Can serve as a "launching pad" for additional value analysis projects
- A context and platform for better trading partner collaboration

## Conclusion

A new value equation is emerging in patient care whereby the value of the services is related to the quality-of-care outcomes as opposed to the quantity of provider visits. This value equation can be easily translated, especially to new technologies and products.

It was predicted that value-based care (and perhaps value-based contracting) would take a back seat in 2022 because of the global pandemic and the fallout from it. In addition, supply chain disruptions, additional waves of COVID and financial challenges at the end of government support have all had their impact.[2]

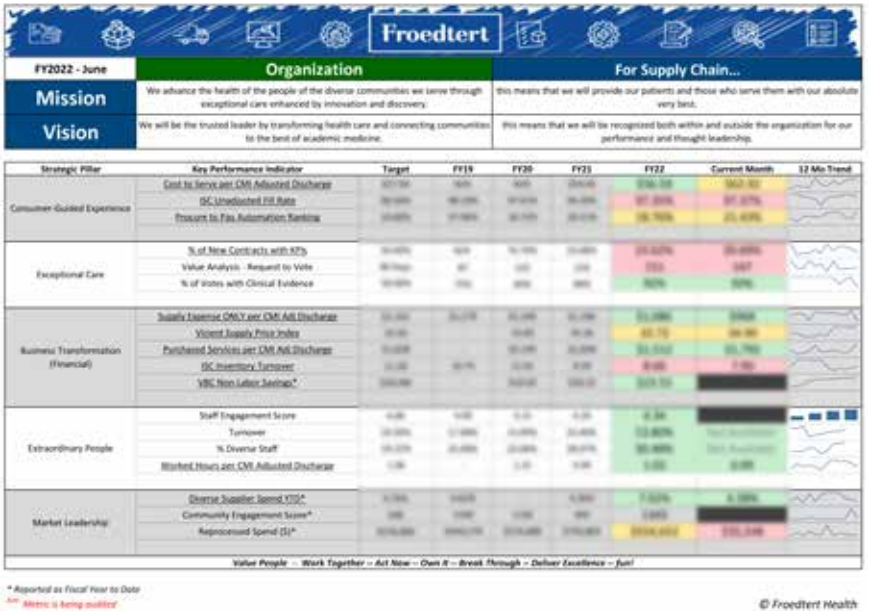
While supply chain's use of value-based contracting cannot eliminate risk, it provides a way to lower the inherent risk of changing products, to adopt new, innovative technology and to verify and monitor product claims. ■

John Strong, Co-founder and Chief Consulting Officer, Access Strategy Partners Inc

Jim Ivers, Founder and CEO of Mondopoint

[1] © 2018 by Premier, Inc. (Public domain.)
[2] Bannow, Tara, "Value based care evolution might take a back seat in 2022", Modern Healthcare, December 27, 2021; www.hcinnovationgroup.com/policy-value-based-care/article/21256189/valuebased-contracting-at-an-inflection-point

**DISCLOSURE:** John Strong is a member of the advisory board and an investor in Mondopoint.




# Measuring Our Success

## Froedtert Health's Supply Chain Scorecard

BY JACK KOCZELA

**In a moment of temporary insanity, I decided I would start running. Over several months, I proudly went from walking around the block to (relatively) comfortably finishing two miles. Because I ran in the morning, I rarely saw other runners, until one day someone blew past me like I was standing still. Horrified, I downloaded a running app and checked my mile time. It confirmed what I had seen – I was still moving little faster than a walk! What gets measured not only gets done – it gets improved.**

In 2018, Froedtert Health's Supply Chain leadership began a journey toward disciplined improvement. Through regular measurement of our performance, we would align our priorities, focus our teams and hold ourselves accountable to our customers. Froedtert Health's Supply Chain Scorecard has achieved these goals and continues to be a central part of performance measurement for our team. All Supply Chain departments ought to adopt a similar tool to celebrate their successes and align on opportunities.

### Creating the scorecard

To create the scorecard, Supply Chain senior leaders turned to many existing sources of recommended metrics. Drawing heavily on the excellent methodology laid out in *The Institute Way: Simplify Strategic Planning and Management with the Balanced Scorecard* (Rohm et. al.), we began with our Mission, Vision, Values, Strategic Plan and key business priorities. These key pillars of our organization would become the framework of the scorecard, thus ensuring that it would measure what is important to Froedtert Health as a whole, not just Supply Chain performance. The business pillars of Froedtert Health are Consumer-Guided Experience, Exceptional Care, Business Transformation, Extraordinary People and Market Leadership. Many of these areas already had internal benchmarks tied to leader pay and incentives. For example, the whole organization was already measured on staff engagement under "Extraordinary People." We knew it would be important to align to this and other strategic goals, rather than creating too many goals for leaders to chase.

We also drew on industry sources for recommended supply chain metrics, such as AHRMM, Gartner, GPOs and SMI. With these sources in mind, we identified more than 150 potential metrics to include. Clearly, this was too many for productive measurement – each had to be worthwhile! To prioritize the metrics we looked at:

1. Alignment with Froedtert Health's Mission, Vision, Values and Strategy
2. Common metrics suggested by industry organizations
3. Common requests from customers, particularly those where we had improvement opportunities

With our metrics in hand, we worked to determine targets or benchmarks. Most of our benchmarks are set using national standards. If a target did not exist from a third party, Supply Chain would at least benchmark against previous year's performance to demonstrate accountability and progress. In most cases, we chose to target top quartile or decile performance. In the end, Froedtert Health's Supply Chain Executive Advisory Council provided a final sign off on the list of metrics selected and the overall scorecard framework.

## On a monthly cadence

Now, on a monthly cadence, the Supply Chain Scorecard is shared with all Froedtert Health Supply Chain staff, the Supply Chain Executive Advisory Council, key organizational leaders – such as the CFO and hospital presidents – and the Supply Chain Strategic Partner Council. Through this transparency, Supply Chain has fostered collaboration and alignment between teams. Indeed, Supply Chain's methodologies have now worked their way into the broader success metrics of the organization. For example, in standard financial reports, "Supply Expenses" include both supply and drug/pharmaceutical expenses in a single number. Noting the difference in spend and trends between these two categories, Supply Chain broke these metrics into two separate numbers and worked closely with Finance to begin displaying them separately on organization-wide reports.

When the scorecard is published each month, an accompanying narrative draws on the detailed reports to explain the performance of a certain metric. These detailed reports are available to Supply Chain managers to guide the performance of our team. For example, the Supply Chain Procure to Pay Automation Ranking is a roll-up metric on the overall dashboard. Behind the scenes, the Supply Chain Informatics team monitors a detailed report that breaks out the individual components of P2P automation such as data management, EDI usage and exception management.

In a true demonstration that "what gets measured gets improved," Froedtert Health has seen many of the metrics on our scorecard lead to meaningful change. In 2018 when the scorecard was first created, our diverse supplier spend was inaccurately monitored with out-of-date tools. Because Diverse Supplier Spend is now on our Supply Chain Scorecard, we have doubled Diverse Supplier Spend through internal programs, partnership with our Diversity and Inclusion team and close collaboration with our key suppliers, who now report Tier 2 diverse spend on a regular basis.

Creating and operating a scorecard can help guide the conversation of your supply chain, and proactively "tell the story" of your department. When COVID-19 began impacting Froedtert Health, Supply Chain leaders were able to demonstrate the reality of the situation through our report outs. While headlines were screaming that the "supply chain is broken," the Froedtert scorecard clearly demonstrated the extent of the problem by reporting on statistics such as our lower internal Fill Rate. In addition, Supply Chain demonstrated our reaction by reporting on increased internal inventory stockpiles as a resiliency strategy in the face of unprecedented disruption.

Froedtert Health's monthly Supply Chain Scorecard is a key part of our success. The scorecard aligns the department and our internal and external partners around a clear set of goals – with clear targets – that are all important to Froedtert Health's strategic priorities. As we move forward, we continue to tweak and develop the scorecard to tell our story and propel our success. This tool draws heavily on existing sources of information and benchmarks. All Supply Chain leaders should develop a similar structure to drive their organizations forward. ■

Jack Koczela,
Director of Services,
Supply Chain,
Froedtert Health

# Supply Chain By the Numbers

## Top 4 Non-Government GPOs by Purchasing Volume[6]

| GPO | State | $ Volume |
|---|---|---|
| Vizient | TX | $113B |
| Premier, Inc. | NC | $69B |
| HealthTrust | TN | $45B |
| The Resource Group (Ascension) | MO | $8B |

## Top 5 Regional Purchasing Coalitions by Member Hospitals[5]

| RPC | State | Hospitals |
|---|---|---|
| Capstone Health Alliance | NC | 231 |
| Acurity | NY | 224 |
| Captis | MN | 207 |
| Illinois Health & Hospital Association | IL | 175 |
| Children's Hospital Association | KS | 155 |

## Hospital Expenses per Patient Day, April 2022[7]

**$3,032**
not-for-profit hospital expenses per patient day

**$2,300**
for-profit hospital expenses per patient day

**$425,000** FDA's proposed fee to medical device manufacturers for pre-market approval (PMA) in 2023, a 13% increase.[8]

**70%** of hospital administrators preferred less sales rep engagement post-COVID vs. pre-COVID.[9]

**97%** of U. S. academic medical centers are members of Vizient.[10]

**34%** is the increase in the number of medical device recalls in the second quarter, 10% higher than the first quarter. Safety concerns represented the most significant number at 48, followed by software issues at 47.[11]

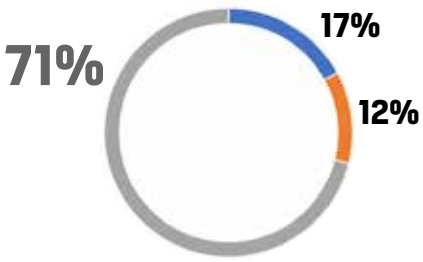
**250%**
increase in container freight costs between Asia and the U. S. west coast in January 2022 versus the prior year.[1]

**25%**
estimated growth in Ambulatory Surgery Center patients between 2019 and 2029.[2]

**706,172 gallons**
The amount of hand sanitizer that was produced by the State of New York's prison system during the pandemic that is still available for sale. That's 4,000 pallets, or so.[3]

**48 states**
have implemented value-based care or payment programs.[12]

### HEALTHCARE SUPPLY CHAIN ENVIRONMENTAL FOOTPRINT




- Emissions from Healthcare Facilities and Vehicles
- **Emissions from Healthcare Supply Chain**
- Indirect Emissions from Electricity, Steam, Heating, Cooling

Source: Healthcare Without Harm, "Climate Footprint", 2019

[1] Health Industry Distributors Association, April 2022
[2] American Hospital Association 2019 "Environmental Scan"
[3] Politico May 24, 2022
[4] "The Keckley Report" April 25, 2022
[5] Definitive Healthcare Public Domain
[6] "Healthcare Purchasing News", 2022
[7] Becker's, April 25, 2022
[8] "Market Pathways", April 2022 p.15
[9] LEK Consulting in "Med Tech Strategist", April 2022
[10] Vizient in the public domain.
[11] MedTech Dive, Published August 18, 2022.
[12] Performance Health, "What is Value Based Care? A New Era of Healthcare" October 8, 2019.

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# Providers and Distributors Can Support Domestic Manufacturing

By Elizabeth Hilla

**The COVID-19 pandemic taught us a clear lesson: The United States is overly dependent on certain** countries and certain parts of the world for the vast majority of medical supplies. That must change. If we want domestic manufacturing, we need to support it.

Challenges surrounding global manufacturing aren't going away. A variety of social, economic, and political factors have created a new set of emerging issues in global sourcing. In Malaysia, concerns have been raised about the living conditions of migrant labor working in the manufacture of medical gloves. In China, the treatment of the Uyghur minority has raised concerns about products (including medical products) manufactured in Xinajing Province. Congress recently passed the Uyghur Forced Labor Prevention Act. The new law empowers Customs officials to seize imported goods suspected of being made with forced labor.

To be better prepared for future pandemics, we need a better mix of global, nearshore and domestic manufacturing.

- **Global:** Global manufacturers have certain advantages, such as affordability and availability. Experienced distributors have long-standing relationships working with reputable manufacturers in Asia. These distributors can vet products and manage changing criteria around sourcing requirements.

- **Nearshore:** Nearshore production in Mexico and Central America creates shorter supply chains that are less vulnerable to disruption. The United States has long-standing free trade agreements with much of the Western Hemisphere, which further facilitates production and distribution.

- **Onshore:** The United States must be prepared to ramp up domestic production and improve global sourcing.

## Manufacturing is like any other business – if you want it to be there when you need it, you have to patronize it.

Federal purchases and multi-year contracts would enhance the long-term commercial viability of domestic manufacturing. This keeps production lines warm, so manufacturers don't go idle and provider shelves don't go empty.

The federal government is taking steps to incentivize domestic manufacturing. The Centers for Medicare and Medicaid Services (CMS) are considering a regulation to increase Medicare payment adjustments for hospitals that purchase domestically manufactured surgical N95 respirators. This is an important step in creating commercial market support to sustain domestic production.

Manufacturing is like any other business – if you want it to be there when you need it, you have to patronize it. That means making domestic sources an ongoing part of your purchasing. Stockpiling a bunch of product from overseas isn't a long-term answer. In fact, such stockpiles can be counterproductive – large one-time bulk buys can reduce regular ongoing purchases and thus make it harder for domestic manufacturers to stay in business. Stockpiled product may expire before it's needed. And if the stockpile includes unfamiliar brands, they may not suit clinician's needs.

For providers, diversified sourcing is critical for future preparedness and supply chain resiliency. The good news is that providers don't have to be in the product business if they don't want to. Your distributor partner can help you evaluate your current product mix and achieve your sourcing goals. ■

## CVS Health to acquire Signify Health

CVS Health and Signify Health have entered into a definitive agreement under which CVS Health will acquire Signify Health for approximately $8 billion.

Signify Health is a leader in Health Risk Assessments, value-based care and provider enablement. With a network of more than 10,000 clinicians across all 50 states and a nationwide value-based provider network, combined with its proprietary analytics and technology platforms, Signify Health is improving patient engagement, patient outcomes and care coordination for stakeholders across the health care system. Signify Health's clinicians and providers can have an even greater impact by engaging with CVS Health's unique collection of assets and connecting patients to care how and when they need it.

"Signify Health will play a critical role in advancing our health care services strategy and gives us a platform to accelerate our growth in value-based care," said CVS Health President and CEO, Karen S. Lynch. "This acquisition will enhance our connection to consumers in the home and enables providers to better address patient needs as we execute our vision to redefine the health care experience. In addition, this combination will strengthen our ability to expand and develop new product offerings in a multi-payor approach."

Signify Health's network of clinicians physicians, nurse practitioners and physician assistants utilize home-based visits to identify a patient's clinical and social needs, and then connect them to appropriate follow-up care and community-based resources in order for the patient to have a more connected, effective care experience. In 2022, Signify Health's clinicians expect to connect with nearly 2.5 million unique members in the home, both in-person and virtually, and on average they spend 2.5 times longer with a patient in the home than providers spend in the average primary care office visit.

## Trinity Health completes acquisition of MercyOne Health System

Trinity Health, one of the largest not-for-profit Catholic health systems, announced the agreement to acquire MercyOne is completed and MercyOne is now a full member of Trinity Health, based in Livonia, Michigan. The news follows an April announcement that Trinity Health signed an agreement with CommonSpirit Health to acquire all facilities and assets of Iowa-based MercyOne, including Home Care, Hospice, and Infusion locations.

"For close to 25 years, we have served Iowa communities. With MercyOne now fully part of Trinity Health, we are a stronger and more unified system that will strengthen MercyOne's ability to serve our patients, colleagues, and communities," said Mike Slubowski, president and chief executive officer of Trinity Health. "Health care providers across the country continue to face unprecedented challenges brought on by the COVID-pandemic, but together, we are stronger. With our shared history and Catholic mission, we look forward to continuing a legacy of high-quality care for generations to come."

The completion of the acquisition is a highly anticipated milestone that marks a shared commitment to ensuring access to health care across Iowa. Operating as a part of Trinity Health, MercyOne will retain its name and brand while enhancing more integrated and unified care in the communities it serves.

## Mount Sinai researchers awarded $2.4M grant from CDC to support aging 9/11 rescue and recovery workers

As the first responders to the attacks of September 11, 2001, grow older, Mount Sinai's nationally lauded experts in aging have received a $2.4 million grant from the Centers for Disease Control and Prevention (CDC) to study how best to care for them into old age.

"Because World Trade Center responders were exposed to high levels of toxicants and intense psychological trauma – hazards that can accelerate the aging process – during the emergency response and cleanup following the 2001 disaster, they are likely at increased risk for premature aging and associated age-related syndromes, such as functional decline and fall risk," says Fred Ko, MD, lead Principal Investigator and Associate Professor of Geriatrics and Palliative Medicine at the Icahn School of Medicine at Mount Sinai.

The median age of these first responders is now 59, and by 2030, the majority of them will be 65 or over and at risk for aging-related conditions and consequences of the terrorist attacks.

Mount Sinai has long been a leader in caring for this population through its World Trade Center (WTC) Health Program Clinical Center of Excellence, part of the Selikoff Centers for Occupational Health at Mount Sinai, which was established by the James Zadroga 9/11 Health and Compensation Act of 2010. The Mount Sinai Hospital is also ranked No. 1 in the nation in geriatrics by U.S. News & World Report.

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