



2018

Annual Value Report

HSCA
HEALTHCARE SUPPLY CHAIN ASSOCIATION
Innovators In Evidence-Based Sourcing

2018 Annual Value Report

HSCA Members, Healthcare Providers, Policymakers, and Healthcare Supply Chain Stakeholders:

The Healthcare Supply Chain Association (HSCA) represents the nation's leading healthcare group purchasing organizations (GPOs), the sourcing and purchasing partners to virtually all of America's 7,000+ hospitals, as well as the vast majority of the 68,000+ long-term care facilities, surgery centers, clinics, and other healthcare providers. We help our healthcare provider partners significantly improve supply chain efficiency and negotiate competitive prices on products and services, helping to lower costs for patients, hospitals, payers, Medicare and Medicaid, and taxpayers. GPOs deliver critical cost savings that allow healthcare providers to focus on their core mission: providing first-class patient care.

This is the second HSCA Annual Report on the value that GPOs bring to the healthcare system and it confirms what hospitals, healthcare providers, suppliers, and policymakers see every day: GPOs reduce healthcare costs; increase competition; drive transparency, visibility, and predictability; propel improvements to healthcare processes and systems; and, add value to suppliers.

GPOs are critical cost-savings engines for healthcare providers. HSCA member companies are projected to save the healthcare system \$392.2 billion to \$864.4 billion over a ten-year period from 2013-2022 and are saving their customers from 10% to 18% across most expense categories.

While cost-savings and delivering the best products at the best value remain central to the GPO core mission, hospitals and healthcare providers are increasingly relying on GPOs for a broad range of services integral to cost-effective patient outcomes. GPOs are expanding their offerings to meet evolving hospital and provider needs, including data analysis and benchmarking, market research, innovative technology integration, infection control, electronic product tracing, and the development and facilitation of communities of knowledge among healthcare providers and supply chain experts to share best practices. GPOs are on the front lines of many of the most significant challenges and trends facing hospitals and healthcare providers, including the shift to value-based purchasing, emergency preparedness, disaster response, drug utilization, and energy management.

HSCA and its GPO members are zealous policy advocates on behalf of their provider members and patients across the country. Our approach is anchored in a commitment to common-sense policy solutions that lower costs and increase competition and innovation in the healthcare marketplace. We are working with key stakeholders to help combat ongoing prescription drug shortages, to mitigate the high cost of pharmaceuticals, including price spikes for generic drugs, and to increase safe and affordable access to life-saving treatments through biosimilar drugs.

As we look ahead to 2018 and beyond, HSCA and its members remain committed to helping hospitals and healthcare providers deliver the most effective and affordable care possible to the patients they serve.

Sincerely,



Todd Ebert, R.Ph., President and CEO

In This Year's Report

Executive Summary	4
Introduction	5
GPOs: Generating Savings, Driving Competition	6
GPOs At-A-Glance: 2017	6
GPO Competition and Savings Impact Confirmed by Former FTC Chair Jon Leibowitz	6
The GPO Universe is Broad and Diverse	7
Profiles in Savings	7
Healthcare Trends and GPO Responses.....	7
Conclusion.....	8
Appendix 1: Profiles in Savings Case Studies	9
Case Study: Moving from Cost Center to Service Line.....	9
Case Study: Data Analytics Pinpoints Available Cost Savings	10
Case Study: Working with Providers to Maximize Contrast Media Savings.....	11
Case Study: Standardization and Cost-Reduction Requirements Lead to Self-Manufacturing	11
Case Study: Anatomic Pathology Lab Testing Services	12
Case Study: Supply Chain Culture Change for Growing Hospital	13
Case study: Preventing Central Line-Associated Bloodstream Infections (CLABSI)	14
Appendix 2: Healthcare Trends and GPO Responses: Examples	16
Emergency Preparedness	16
Cybersecurity	19
Managing Drug Utilization.....	23
Value-Based Payment Models	25
Decreasing Healthcare Associated Infections	25
Appendix 3: Markets Served.....	27
Appendix 4: Geographic Reach of GPOs	28
Appendix 5: Services Provided by HSCA Member GPOs	29
Appendix 6: Contracting Categories of HSCA Member GPOs	30
Appendix 7: Healthcare Group Purchasing Industry Initiative	31
Appendix 8: The GPO Safe Harbor	32
Appendix 9: Recommendations for Medical Device Cybersecurity Terms and Conditions.....	33
Endnotes.....	35

Executive Summary

The Healthcare Supply Chain Association (HSCA) represents the nation's leading healthcare group purchasing organizations (GPOs), which are critical cost-savings partners to America's hospitals, nursing homes, nursing home pharmacies, clinics, assisted living facilities, infusion pharmacies, home healthcare providers, surgery centers, and other healthcare providers. GPO functions are increasingly multifaceted and are focused on reducing healthcare costs, increasing competition, driving transparency, and creating visibility and better predictability, as well as propelling healthcare processes and system transformation to achieve cost-effective, better patient outcomes. This is the second HSCA Annual Report on the value GPOs bring to the healthcare system.

The year 2017 was a very challenging year in healthcare, particularly for the healthcare providers who are members and customers of HSCA GPOs and the patients they serve. Dramatic increases in the prices of some brand pharmaceuticals and shortages and price spikes for generic drugs, particularly sterile injectables, threatened patient care for some of the most vulnerable patients. Federal healthcare cost-cutting hit many acute care providers hard. Congressional efforts to repeal and replace or revise the Patient Protection and Affordable Care Act (ACA) created significant uncertainty for patients who rely on the individual health insurance market and their providers. Several natural disasters of historic magnitude strained our emergency healthcare resources almost to the breaking point. Finally, escalating challenges to healthcare cybersecurity required innovative responses. The year also brought exciting and critical advances in biosimilar therapies and promising innovation in healthcare delivery systems. HSCA member GPOs were leaders in preparing for and responding to the challenges and opportunities of 2017. This HSCA Annual Report briefly describes those efforts.

GPOs reduce healthcare costs

- GPOs deliver billions in savings annually to healthcare providers, Medicare and Medicaid, patients, and taxpayers by creating efficiencies and implementing best practices. They help providers find the best value proposition for their needs.
- GPOs are projected to save the healthcare system \$392.2 billion to \$864.4 billion over a ten-year period, from 2013 to 2022.

GPOs promote competition

- GPOs and the healthcare organizations they serve operate in a voluntary environment.
- Most hospitals, for example, work with an average of two to four GPOs, and are free not to use GPO services at all.
- The flexibility to use/not use GPOs drives competition, innovation, and lower costs not only within the GPO sector but in the healthcare system at large.

GPOs are transparent

- Given their role in negotiating contracts between providers and vendors, GPOs have a direct line of sight across an immense span of healthcare products and services, including quality and price.
- GPOs provide efficiencies, predictability and context to purchasing and supply decisions.
- GPOs work with entities across the supply chain, including hospitals, nursing homes, clinics, and home health agencies, as well as a myriad of medical supply and service vendors, bringing visibility into pricing and value information to their clients.

GPOs support new and innovative technologies

- GPOs actively work with their members to identify, evaluate, and contract for new and innovative healthcare technologies.
- By developing and sharing best practices, GPOs replicate and share success with all customers, creating “Communities of Knowledge.”

GPOs add value to suppliers

- GPOs provide tremendous value to suppliers as a part of the sales process.
- GPOs help develop and build supplier and customer relations and lower the cost of sales through greater efficiencies. They also enhance supplier credibility by providing data and information, growth opportunities, education and collaboration, including national meetings.
- Unlike other healthcare sectors with specific or niche points of service, GPOs participate in the entire healthcare supply chain, including products, services, data, and quality.

GPOs: Generating Savings, Driving Competition

No matter what transformation is happening in the healthcare system, from policy changes to mega-mergers, it is still the case that healthcare spending keeps going up. Even with a turbulent 2017 for healthcare, GPOs dependably delivered savings to their member hospitals, ambulatory surgery centers, clinics, and numerous other organizations.

HSCA member companies are saving their customers from 10% to more than 18% across most expense categories. GPOs are estimated to save the healthcare system \$392.2 billion to \$864.4 billion over a ten-year period, from 2013 to 2022.

GPOs' line of sight across the healthcare system means they are unparalleled in their ability to help their customers anticipate and respond to rapid changes. Whether it's emergency preparedness, managing drug utilization, responding to ongoing health system and hospital consolidation, assisting clients who participate in value-based payment models, or decreasing healthcare associated infections, GPOs are zeroed in on helping their members better serve patients and save money at the same time.

GPOs At-A-Glance: 2017

Total healthcare system savings	From \$392.2 to \$864.4 billion over ten years
Total self-reported sales volume	Approximately \$210 billion per year
Total number of acute care facilities	7,000+
Total number of non-acute care facilities	68,000+
Number of suppliers	From 600 to 1,500 per GPO member
Number of contracts	From 1,500 to 3,350 per GPO member
Number of SKUs handled	From 500,000 to 1.5 million per GPO member

GPO Competition and Savings Impact Confirmed by Former FTC Chair Jon Leibowitz

One of the most well-known benefits GPOs provide to healthcare organizations is lower prices through volume-based discounts. Jon Leibowitz, former Chairman of the Federal Trade Commission (FTC) and partner at Davis Polk; Dan O'Brien, former FTC Senior Economic Policy Adviser and partner at Bates White; and Russell Anello, an associate at Davis Polk, published a comprehensive legal and economic analysis of the role, funding model, and impact of healthcare GPOs in 2017.

Leibowitz, O'Brien, and Anello used empirical evidence and economic analysis to show that GPOs improve efficiency and reduce supply chain costs. "GPOs save money for healthcare providers and patients," explained the authors, by negotiating contracts between supply and service vendors and healthcare providers, including hospitals. GPOs can lower transaction costs and negotiate lower prices; indeed, surveys show that GPOs bring cost savings of 10 to 18%, compared to costs the providers would have incurred if they had negotiated on their own, the authors say.

Additionally, "GPOs appear to operate in a vigorously competitive procurement market." The medical procurement market is "highly competitive," the article finds. For example, providers can choose from multiple GPOs and often use multiple GPOs simultaneously. In addition, providers often own and control their own GPOs and are able to obtain supplies directly from vendors. The study also found, "The current GPO funding model is consistent with competition and costs savings."

GPOs improve efficiency and reduce costs in the U.S. healthcare system by negotiating prices for drugs, devices, and other medical products and services on behalf of healthcare

providers, including hospitals, ambulatory care facilities, physician practices, nursing homes, and home health agencies.

The GPO Universe is Broad and Diverse

GPOs are the sourcing and purchasing partners to virtually all of America's 7,000+ acute care providers. Hospitals across the United States use an average of two to four GPOs per facility. A growing portion of the long-term care, ambulatory care, home care, and physician practice markets are also using group purchasing to help lower costs and improve efficiency.

How do GPOs reduce costs, increase competition in the marketplace, and help ensure that healthcare providers have access to the best products and services? GPOs focus on identifying diverse suppliers with innovative products and then help bring those products to market. HSCA members are provider-driven, and as such, are focused on assisting providers in effectively managing their entire non-labor spend with products, services, and technologies. Because of the breadth of services provided and contract categories offered, GPOs have a unique view across the entire healthcare system, and thus, a significant ability to change healthcare moving forward, especially when it comes to reducing costs and driving innovation.

Self-reported data from HSCA's 16 members indicates a total purchasing volume of over \$210 billion per year. This aggregate volume continues to grow due to increased confidence in GPOs and the value provided by GPOs, and is a strong indicator of the member GPOs' ability to negotiate better rates and terms on behalf of all its members, and of their overall influence in the marketplace.

Profiles in Savings

According to a 2014 study, GPOs could save the healthcare system over \$864 billion over a ten-year period. Serving over 7,000 acute care facilities, over 68,000 non-acute care facilities with a sales volume of \$210 billion annually, there is an abundance of examples of GPO cost saving achievements. This year's Annual Report includes multiple Profiles in Savings in the form of case studies and examples. See the Appendix to read more.

Healthcare Trends and GPO Responses

The healthcare industry is complicated, fast-moving, and dependent on a wide range of external dynamics. Of note in 2017, multiple trends were at play in the industry, including: emergency preparedness, cybersecurity, managing drug utilization, responding to hospital and health system consolidation, assisting clients who participate in value-based payment models, and decreasing healthcare associated infections (HAI) to better serve patients.

With this environment in mind, Dr. Charles Hart, a retired physician and the former CEO of South Dakota-based Regional Health, had some straightforward advice to healthcare executives:

"As hospitals face near total uncertainty over what will happen to the Affordable Care Act, and with Medicaid expansion, Medicare reimbursement, and a range of other challenging issues, hospital executives are assessing their vulnerabilities and trying to figure out how to best prepare for all contingencies. One of their first calls should be to their GPO."

For more information on these healthcare trends, including specific examples of GPO efforts and successes, please see the Appendix. The Appendix also provides information on other areas of GPO expertise, including:

- Profiles in Savings: Case Studies
- Markets Served
- Geographic Reach of GPOs
- Services Provided by HSCA Member GPOs
- Contracting Categories of HSCA Member GPOs
- Healthcare Group Purchasing Industry Initiative (HGPII)
- The GPO Safe Harbor

Conclusion

For more than a century, GPOs have helped hospitals, nursing homes, and healthcare providers to better serve their patients by lowering costs, identifying best practices, and improving supply chain efficiency.

Today's GPOs:

1. Reduce healthcare costs
2. Promote competition
3. Are transparent
4. Support new and innovative technologies
5. Add value to suppliers

Appendix 1: Profiles in Savings Case Studies

Case Study: Moving from Cost Center to Service Line

A hospital's dedicated GPO team proactively completed an analysis of the hospital's cardiac rhythm management (CRM) purchasing and utilization patterns. The analysis identified an opportunity for significant savings.

The GPO team informed hospital leaders that their legacy pricing and contracting model was not yielding best-in-class pricing. The analysis showed how relevant their pricing was in the market, as well as how their pricing, utilization patterns, and contracting strategy compared to other organizations. The GPO also sought out physicians' perspectives on CRM to help educate the hospital leadership about how they could best align their physicians and supply chain to address both business and clinical needs.

The GPO used market trends, reimbursement statistics, and benchmarks from within the GPO's membership to support the case for change. Together, the GPO and hospital business leads agreed to targeted objectives that would form an organization-wide strategy for transforming CRM from a cost center into a profitable service line.

Based on the hospital's CRM-related goals, the GPO worked with the hospital decision makers to determine which CRM strategy would be most appropriate — in this case, an "All Play" or "Committed" contracting strategy. The business leads from both teams also partnered to develop other key components, including:

1. The business/clinical key stakeholders
2. The hospital's expectations of the CRM suppliers
3. A playbook to support supplier negotiations

The hospital initially chose an All Play contracting model. However, one of its smaller suppliers declined to participate. The hospital's clinical stakeholders agreed that they were comfortable with this supplier being eliminated, and the hospital offered that volume/market share to the other manufacturers. This allowed for further supplier negotiation.

Case Study: Moving from Cost Center to Service Line

A hospital's dedicated GPO team proactively completed an analysis of the hospital's CRM purchasing and utilization patterns.

The GPO developed an organization-wide strategy for transforming CRM from a cost center into a profitable service line.

The result was over \$3 million in annualized savings and a sustainable process for measuring CRM utilization patterns and pricing.

The GPO conducted financial analyses of the supplier responses, summarized initial findings, and worked with the member to prepare for the re-negotiation process to realize additional savings. Once it was determined that the hospital's goals (including better-than-average pricing, price reductions and rebates, and more beneficial supplier arrangements) had been achieved, the contracts were finalized. The engagement resulted in more than \$3 million in annualized savings.

This member now has a sustainable process in place for measuring CRM utilization patterns and pricing. This process includes ongoing contract management support from the GPO to evaluate vendor performance per the terms of the new contracts.

Case Study: Data Analytics Pinpoints Available Cost Savings

Product costs, such as those for medical/surgical supplies, represent the largest component of hospital operating costs aside from labor expenses. When hospitals take steps to address such costs on their own, the process can be lengthy and labor-intensive; some hospitals may spend months gathering information to negotiate a single pricing amendment.

Case Study: Data Analytics Pinpoints Available Cost Savings



A GPO worked with a regional medical center to provide data on medical/surgical product costs paid by hundreds of other facilities nationwide.



Only two days post-implementation, the hospital saved \$100,000 on one product, and later saved \$211,000 in a contract negotiation for cardiovascular implants.



The facility was targeting \$3 million in overall cost avoidance in a one-year period.

One GPO tackled the issue by offering a tool that utilizes medical surgical product pricing data from more than 400 hospitals from across the country. The hospital gained access to actual medical surgical product prices paid by peer hospitals with first-hand market-share and dollar volume comparison. The facility was able to analyze spending by category to determine the exact cost savings available in comparison to what other similar hospitals were paying.

The GPO balanced the facility's negotiating power with suppliers and significantly reduced the time to renegotiate pricing agreements. As a result, the facility realized about \$300,000 in cost reductions in less than three months of implementing the GPO's tool: \$100,000 in price reductions on one product (within only two days of implementation), as well as \$211,000 on a contract negotiation for cardiovascular implants. Overall, working with this GPO, the facility expected over \$3 million in annual cost avoidance.

Case Study: Working with Providers to Maximize Contrast Media Savings

The nurse manager for electrophysiology, catheterization lab, and interventional radiology at a hospital integrated delivery network noticed that contrast media use was significantly over budget. He contacted the interventional value analysis team for help. The data team found that use of one dye product, Visipaque, was rising at a rapid rate, while that of another dye product, Omnipaque, was declining to almost nothing.

Interventional value analysis team discussions revealed that nursing staff were using Visipaque for almost all cases because they did not want to change the power injector to use the Omnipaque. Visipaque is three times as expensive as Omnipaque.

Case Study: Working with Providers to Maximize Contras Media Savings

At one hospital, nurses were using a much more expensive contrast media than was necessary.

The value analysis team, led by the GPO and a sister consulting firm and in collaboration with radiologists and physicians, created a procedure for contrast media use, educated the nursing and physician staff, and are holding staff accountable.

Following research, it was agreed by the physicians (including radiologist and interventional cardiologist champions) that Omnipaque could and should be used for most cases, with few exceptions.

The value analysis team, led by the GPO and a sister consulting firm – in collaboration with radiologists and physicians – created a policy and procedure for contrast media use, educated the nursing and physician staff, and are holding them accountable.

Case Study: Standardization and Cost-Reduction Requirements Lead to Self-Manufacturing

A large 20-hospital system suspected that it was incurring significant avoidable costs by allowing each of its hospitals to manage its own unique program for custom procedure trays (CPTs). The system lacked a common methodology for effective CPT use; thus, there was wide variation across the system as to the number of packs used and management of components within the packs.

Case Study: Standardization and Cost-Reduction Requirements Lead to Self-Manufacturing

A GPO evaluated a large hospital system's use of custom procedure trays (CPTs) and found significant levels of wasted components and unnecessarily high costs.

The GPO helped the hospital system create its own self-manufacturing approach to CPTs, which involved building new facilities, creating a new transparent pricing model and working closely with senior hospital leadership.

As a result, the hospital system achieved 10% annual savings, for a total savings of \$10 million since the program was launched.

The hospital system commissioned its supply chain organization, a provider-owned GPO, to conduct a Six Sigma project at one of its ambulatory surgery centers (ASCs). Excess components found in CPTs used at this ASC were collected over a four-day period and analyzed. The findings revealed the need for a major overhaul; an average of six items per pack, at an average cost of \$30.71, were never used and were thrown away.

Given the study findings, the GPO evaluated several options: the hospital system could remain with its current CPT vendor, with more stringent controls; convert to another CPT vendor; or build and operate its own manufacturing operation. The GPO helped the hospital

system evaluate all three options based on clinical, financial, and operational criteria.

Based on this evaluation, the hospital system chose to build and operate its own CPT manufacturing operation, via the GPO.

The self-manufacturing decision was based on six factors:

1. Self-control: The hospital system decided that it had to be in control of the design and management of the CPT program.
2. Clinical alignment: The hospital system believed it could align incentives with clinicians by self-manufacturing CPTs.
3. In-sourcing experience: The hospital system already had strong operational infrastructure in place through the GPO and had experience in-sourcing operations. The GPO also had a consulting group staffed by clinicians who had credibility with users and who could manage the CPT conversion.
4. Leadership talent: The GPO already had significant CPT talent, knowledge and experience based on working on the vendor side.
5. Transparent pricing model: The hospital system needed a new pricing model that could provide complete pricing transparency, allow end users to easily model pack price changes based on CPT component changes and eliminate the traditional margin management problems of the CPT industry. The model allows end users to play “what if” scenarios by moving components in and out of the pack.
6. Senior leadership support: The GPO was able to gain broad support for this initiative by working closely with the hospital system’s senior leadership.

To support this self-manufacturing approach, the GPO built a 6,000-square-foot production facility; given that it wanted to offer its services to other providers in the future, the GPO invested significant time and resources to apply for and receive FDA registration for the facility. The GPO also had to contract with over 150 vendors to cover the 900 unique items included in its CPTs.

By working closely with end users on pack construction and using an activity based pricing model that provides price transparency and builds trust, the GPO standardized some packs, eliminated unnecessary waste, and built new packs where none previously existed.

Today the GPO builds 600+ unique packs that are used over 500,000 times per year, not only for the original hospital system, but other like-minded healthcare providers as well. (The GPO is also planning to open a new 100,000-square-foot CPT facility soon, which will increase its capacity to enable it to produce over 2 million packs annually.)

As a result of this approach, the hospital system has saved \$10 million since the program's inception and has achieved annual savings of 10%, in addition to the efficiency benefits gained by the nursing staff in room setup time.

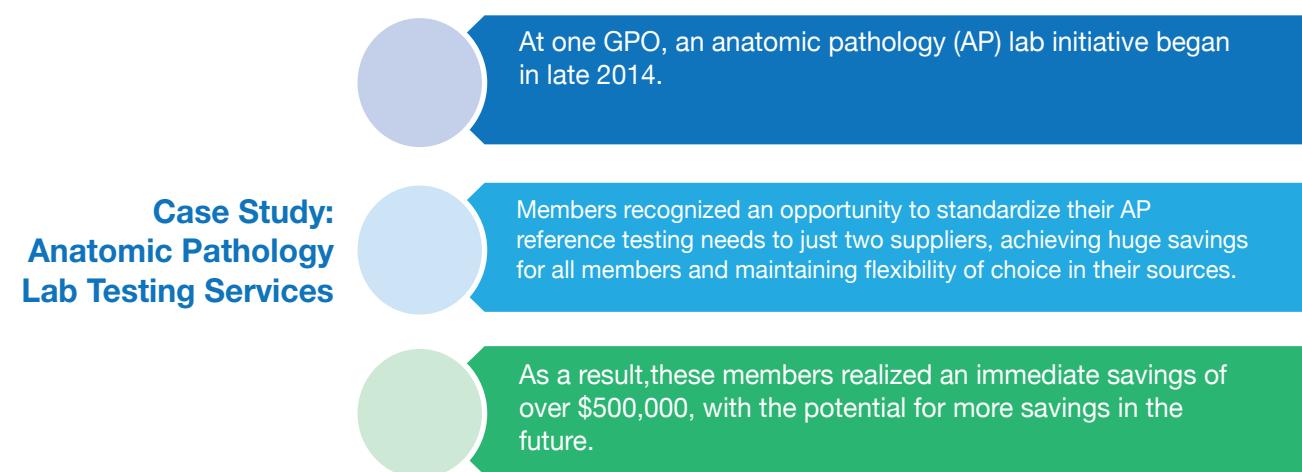
Case Study: Anatomic Pathology Lab Testing Services

As the era of fee-for-service from government and private payers is replaced by value-based reimbursement, clinical laboratories and pathology groups need to adapt. At one GPO, an anatomic pathology (AP) lab initiative began in late 2014, led by the organization's

clinical value analysis team. The team consisted of lab directors from each member facility, pathologists and a supply chain council.

At the beginning, the membership's contracts were spread across ten different suppliers. Together, the members recognized an opportunity to standardize their AP reference testing needs to just two suppliers, which achieved huge savings for all members and still provided them the flexibility of choice in their sources. The GPO assembled pathologists from each member to review and evaluate the suppliers that would participate in the Request for Proposal – taking into consideration each supplier's test menu and service capabilities.

At the end of the review process, two suppliers were selected, and the results were impressive. The category spend for member organizations was over \$3 million. By leveraging their combined purchasing power, these members realized an immediate savings of over \$500,000, with the potential for more savings in the future. In addition to the financial benefit, the program also afforded a turnaround guarantee with penalty, third party billing, firm pricing for the term of the agreement, web portal tool and services, and educational training.



Case Study: Supply Chain Culture Change for Growing Hospital

One GPO worked with a critical access hospital that was seeking to change its purchasing culture. Even as the hospital had grown and moved to a much larger facility, it was still using outdated purchasing methods, and managers were making decisions in silos for product changes, capital equipment, and services contracts.

The GPO developed a 22-point plan to improve supply chain processes, inventory, and engagement with the GPO; the plan encompassed tactical changes such as centralized purchasing and just-in-time inventory management. These tactical changes supported broad strategic objectives such as implementation of an inventory/stocking plan, training for all management staff on the GPO's services and solutions, implementation of an electronic order system, and completion of quarterly formulary reviews with department managers.

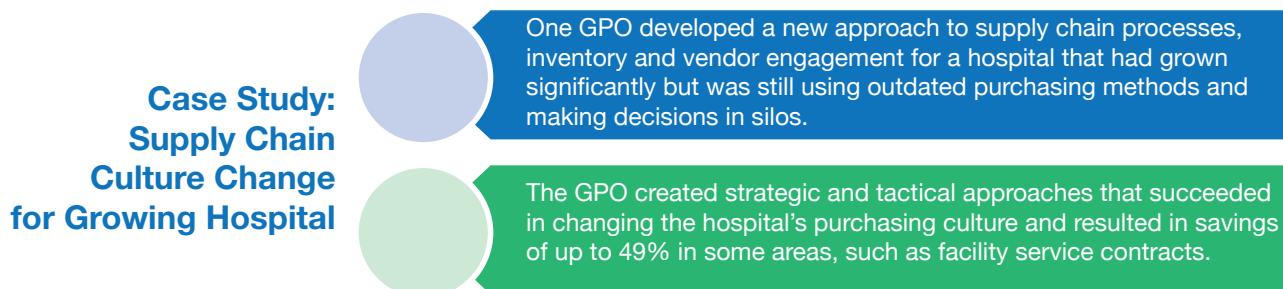
To ensure changes were not only achievable but also supported by both leadership and front-line staff, the effort to improve purchasing workflows and methodology was included in the hospital's annual strategic plan.

The GPO's strategic planning tool allowed the hospital to add specific measureable tactics along with timelines. The support team at the GPO also proved to be a valuable resource, with its "all hands on deck" approach to helping the hospital achieve its goals for the year; this support included IT services, on-site education, and meetings.

The outcomes included annual savings of:

- 49% in facility service contracts
- 38% in lab reagent agreements
- 12% in lab equipment purchases
- 10-15% on IT purchases, by using a GPO-contracted vendor for IT smallwares and licensing

The just-in-time stocking plan at three of the facility's clinics also allowed for the reallocation of several thousand dollars in supplies to other areas of the hospital, resulting in increased efficiencies.



In addition, a purchasing managers group within a local rural health collaborative recognized that several of this GPO's partners and a fairly high percentage of vendor matches existed among the collaborative members. The collaborative reached out to the GPO to explore the option of creating a purchasing umbrella within the collaborative for various members to aggregate volume. This group's first joint savings roadmap highlighted 52% annualized savings opportunities. Thus, the GPO's flexibility and willingness to work on developing tailored solutions was instrumental to the process as well.

Case Study: Preventing central line-associated bloodstream infections (CLABSI)

A hospital was experiencing high rates of central line-associated bloodstream infections (CLABSI), resulting in adverse patient events, extended patient stays, and increased cost of care along with reduced reimbursement. The hospital reported 24 CLABSIs in a 12-month period, at an average cost of \$45,000 per infection.

At the time, the hospital was using multiple vendors and products for venous access devices (all used non-impregnated/regular catheters); overall, the hospital had high supply chain costs, low-quality processes, and poor financial outcomes.

Case Study:
**Preventing central
line-associated
bloodstream
infections
(CLABSI)**

A GPO worked with a hospital to reduce patient risk of CLABSI, which was causing costing an average of \$45,000 per infection.

The GPO and hospital worked together to: standardize purchasing to a single manufacturer; switch to a high-value product with anti-microbial catheters; and develop a calculation methodology to monitor results.

The changes resulted in a 50% reduction in CLABSI infection rates and a reduction in hospital-acquired condition penalties. Infection prevention savings (device cost + CLABSI reduction) totaled over \$550,000.

To reduce patient risk of CLABSI, a physician-led value analysis team, led by the GPO and a sister consulting company, recommended the hospital change to a high-quality product with chlorhexidine impregnated catheters (catheters saturated in antimicrobial substance).

The hospital addressed three areas of concern:

1. Cost – by standardizing purchasing to a single manufacturer,
2. Quality – by switching to a high-value product with anti-microbial catheters, and
3. Outcomes – by developing a calculation methodology to monitor results.

The hospital and the selected vendor also had a mutual agreement to assess current practice, educate clinicians on best practice, and re-evaluate the approaches quarterly to measure their impact. The value analysis team worked with the hospital's infection prevention department to track occurrences of CLABSI. Simultaneously, the value analysis team facilitated vendor-provided education on best practice catheter placement and care, and a quarterly look-back is conducted to continually monitor results.

As a result of these changes, the hospital experienced a 50% reduction in CLABSI infection rates and a reduction in healthcare associated infection penalties. The hospital showed total infection prevention savings (device cost + CLABSI reduction) of \$550,351.

Appendix 2: Healthcare Trends and GPO Responses: Examples

Emergency Preparedness

GPOs are an invaluable partner for a healthcare organization's emergency preparedness efforts. GPOs help members prepare, respond and rebuild after man-made or natural disasters.

Prepare

Almost any disaster will have an impact on hospitals and health systems by disrupting the supply chain and increasing the number of urgent cases, and all GPOs have developed ways to alleviate these pressures. One particular GPO has a dedicated Disaster Response Team to create prevention plans and ensure a 100% uninterrupted supply chain. Together, the GPO and its members work on advance planning, contacting all members in the affected area to ensure supplies are on hand for at least three days' operations with no deliveries/assistance (with a special focus on life saving products), as well as food and clean linens that may be needed to serve a surge of people turning to the hospital for shelter. The GPO also works with supplier partners to ensure they can meet additional demands, make deliveries in advance and identify backup sources, if necessary.

Respond

Once disaster strikes, the GPO initiates daily communications with members to ensure they are faring well and are able to provide uninterrupted patient care. The Disaster Response Team also keeps tabs on the affected region, as flooding, debris and other factors can impede usual delivery and operations systems, even in a local area. During the storm, the GPO prepares for anticipated problems and coordinates with manufacturers to ensure supplies that are running low are forward-loaded as close to the affected area as possible for rapid delivery once it's safe to do so.

Rebuild

Every storm is different and the aftermath can be difficult to foresee. Each requires its own set of problem solving skills and ingenuity to respond. Some common solutions this GPO provides include:

Predicting and ensuring members understand the duration of any potential supply interruptions due to damage from the storm; helping members locate alternative sources for supplies when their contracted vendor is unable to accommodate their need; working with distributors and other health systems that may be able to move, donate, or sell supplies to health systems in an affected or shortage area; working with Red Cross and other disaster agencies to secure accessible, staffed warehouse space for medical supplies; and creatively solving transportation, fuel, and other logistics challenges.

Example: Hurricane Harvey – Houston

- A Texas hospital system reached out to one of its GPOs days into Hurricane Harvey because their local blood bank wasn't able to fulfill certain orders for blood and platelets due to flooding, making roads impassable. The health system was able to find alternate sources in Indiana but didn't have a way to receive the supplies.
- The health system contacted their GPO asking for help just after noon on Monday, August 28, 2017. By 4:30pm the same day, the GPO had chartered a plane and had

160 units of blood and 12 platelets in the hands of the Texas health system's medical team.

- Since the system began receiving emergency blood deliveries from the GPO, the health system was able to save the lives of three patients and help positively impact the care of many others in Galveston.

Example: Hurricane Irma – Florida

- Many GPOs responded to recent hurricanes in Florida and Georgia. One GPO served as an extra set of hands and legs for members in Florida. While the healthcare organizations may have disaster plans in place, the GPO is there to help each organization execute those plans and smooth over any hiccups they can't resolve on their own.
- The GPO worked with hospital staff to beef up supplies prior to the hurricane as well as secure plywood to protect the physical surroundings from damage. The GPO also worked to secure additional supplies, like IV fluids, that are crucial for care delivery.
- The GPO worked with hospital staff to ensure pop-up relief centers would be fully functional, including enough water for patients, their families and those needing shelter, as well as 30 reclining chairs. Additionally, in order to continue care delivery without interruption, GPO staff worked to secure shipment of critical blood supplies, extra stretchers, crucial drugs supply, and food reinforcements.
- The GPO worked to secure additional IV Fluids before Hurricane Irma made landfall. When a water main broke, the GPO initiated the Federal Emergency Management Agency (FEMA) response team on behalf of a member hospital. Additionally, the GPO secured crucial shipments of blood and blood supplies which helped a baby in critical condition and was used immediately upon arrival for another patient who was awaiting a transfusion.
- The GPO worked to ensure cancer center staff at a hospital could stay overnight to work through the storm with a delivery of cots and connected them to alternative linen vendors who could deliver clean linen supplies without interruption.

Example: Ebola Outbreak

- During the Ebola crisis of 2014, there were only five airports serving as points of entry from affected African countries. Among those were Newark (New Jersey) and JFK (New York).
- One GPO member from the area near the airports was tasked with identifying the proper quantities of protective clothing (gowns, booties, masks, gloves, etc.) required for first responders.
- Once those products and quantities were identified, the member worked with GPO staff to secure the product from its medical supply distributors. The team was then able to share that list with the rest of its membership, allowing facilities across the nation to benefit from the member's insight and expertise.

Example: Potential Product Shortages

- Following the recent devastation by the earthquake in Mexico and Hurricanes Irma and Maria in Puerto Rico, which is home to several pharmaceutical manufacturing facilities, one GPO's members were left with questions about potential product shortages.
- The GPO's pharmaceutical contracting unit continuously monitored information provided by the FDA and manufacturers.
- With likely shortages being reported by a handful of contracted vendors, the GPO's pharmaceutical contract analyst was able to get some items dual awarded within 1-2 weeks of force majeure notice.
- Information about these efforts to continue meeting members' needs was shared via the GPO's monthly newsletter, along with providing members with resources from the FDA to monitor the latest news and drug shortages.

Example: California Fires

- Hospital staff were severely impacted by the fires. Tragically, two pharmacists and many ICU nurses in particular lost their homes as a result of the destructive fires.
- The GPO worked with staffing contract suppliers to provide rapid nursing solutions which allowed staff impacted by the fires to focus their efforts on their families and homes, and allowed the healthcare organization to deploy human capital to ensure hospital operations weren't disrupted.
- The GPO also worked to quickly secure masks from suppliers for patients, families and staff that were used to prevent smoke inhalation.

Emergency Preparedness

GPOs help prepare members in advance of a disaster, respond throughout a disaster and ensure uninterrupted supply chain after a disaster with teams of representatives from several departments



Example: Las Vegas Shooting

- Immediately upon learning of the shooting, the GPO worked with two partners quickly to identify sources for blood and blood products outside of the greater Las Vegas region.
- Both partner organizations were ready and waiting on standby to deploy orders needed for the volume of trauma patients treated by the GPO's member facilities.
- Because of the overwhelming support from the people of Las Vegas and the diligent preparation of the local healthcare facility, no blood was requested or needed, but the GPO helped the healthcare organization be prepared in case requests were made.

Example: Foundation as Support During Disasters

One member GPO has set up a foundation to provide support to employees of its member healthcare organizations impacted by Federal Emergency Management Agency (FEMA) declared disasters. The foundation collects donations from the GPO employees, members, and suppliers to deliver emergency cash to hospital employees who are on the front lines helping patients while also dealing with personal loss and damage to their homes.

- This year, the foundation distributed \$1.5 million in cash to member employees impacted by 2017 natural disasters.
- Prior to that, since 1992, the foundation has distributed more than \$10 million from its disaster relief fund, assisting over 28,000 people following more than 100 disasters.

The foundation also facilitates in-kind donations and supply drives that enable individuals to coordinate giving to reputable agencies.

- Following Hurricane Harvey, the foundation collected and funded the transport of more than 1,000 school backpacks filled with supplies to districts impacted by the storm.
- The foundation also collected clothing donations to fill two box trucks; these were delivered to a relief organization focused on supply needs during crises.
- Following Hurricane Maria, the GPO's employees again responded by purchasing more than 4,000 pounds of necessities – from baby and hygiene items to over-the-counter meds to cleaning supplies – and shipped them to hospital members in Puerto Rico.

Cybersecurity

Advances in information technology and medical devices, and increasing interoperability of information systems, devices and services are improving patient care and creating efficiencies in the healthcare system. Medical devices are often life sustaining or provide vital clinical functions that cannot be compromised without diminishing direct patient care. Accordingly, the availability, reliability, and safety of these devices is essential. However, medical devices and services are vulnerable to cybersecurity threats that could jeopardize patient health, safety and privacy. The increased use of connected medical devices and software as a service (SaaS), adoption of wireless technology, and overall increased medical device and service connectivity to the internet, significantly increase the risks of cybersecurity threats.

Maintaining device and information security is a shared responsibility of the manufacturers and suppliers of connected devices and services as well as the providers that use them. Providing this security is a continual effort that requires vigilance, adaptation, and ongoing communication and collaboration between the parties.

HSCA and its group purchasing organization (GPO) members are the sourcing and purchasing partners to America's hospitals, long-term care facilities, surgery centers, clinics, and other healthcare providers. Given our unique line of sight over the entire healthcare supply chain HSCA suggests the following key cybersecurity considerations for medical device manufacturers, healthcare providers, and service providers:

Providers and suppliers should, at minimum, participate in one or more Information Sharing and Analysis Organizations (ISAOs), utilize a risk assessment IT security methodology, and ensure their policies and practices reflect widely-accepted standards, such as those provided by the National Institute of Standards and Technology (NIST), the International Organization for Standardization (ISO), and/or the Federal Information Security Management Act (FISMA) recommendations and requirements for cybersecurity. Key measures that organizations should implement are noted below; some apply to all organizations, while others are healthcare provider- or supplier-specific.

Considerations for Healthcare Providers and Medical Device and Service Suppliers

- Organizations should designate an information technology and/or network security officer to be responsible for security of the organization, services, and products, and for maintaining communications and relationships with peers and counterparts across the industry;
- All employees with network access should receive role-appropriate periodic training and assessments, at least annually, on cybersecurity. Training should include periodic phishing tests with additional training provided for employees who fail tests or assessments;
- Organizations should have processes for implementing and maintaining anti-virus/anti-malware software;
- Organizations should have processes for ensuring all software, firmware, and third-party applications are updated and patched promptly. Unsupported software should be retired on a timely basis;
- Organizations should install firewalls and use network segmentation to provide least-privilege access to system resources and data where appropriate to further minimize risks;
- Organizations should make appropriate use of firewalls or network access control (NAC) to restrict user access to systems and data based on need. Consideration should be given to implementing IP address and/or application whitelisting in high risk environments, limiting applications and services to those pre-approved;
- When practical, data should be encrypted in transit. Authentication Information (usernames, passwords, keys etc.), Personally Identifiable Information (PII), Protected Health Information (PHI), as well as any confidential or sensitive information should always be encrypted in transit and at rest.
- Backup and restoration procedures, capable of aiding in recovery from a ransomware attack, should be created, documented, and periodically tested;

- A password policy that complies with latest NIST and/or ISO guidelines should be enforced. Default passwords for operating systems, databases, and applications should be changed upon implementation and immediately whenever an employee with knowledge of them leaves the organization. Where possible, organizations should also consider changing default usernames. Shared passwords are to be avoided;
- The expected useful life of the device or service should be specified within the purchase agreement and security updates to the software and all supporting software components should be made available for the stated useful life at no additional cost to the provider;
- In cases where manufacturers are selling devices that rely on software no longer supported by a third party, the acquisition cost should reflect any expenses providers will incur to securely implement and maintain the devices.
- Medical device application software (e.g. image acquisition, manipulation, reconstruction, analysis, display, etc.), and any commercial Operating System (OS) necessary for operation and maintenance of the system should be provided by the Supplier. The OS should be the latest major release currently available for purchase in the commercial marketplace. Older releases may be acceptable if authorized in writing by the healthcare provider. Application software updates compatible with the system's hardware shall be kept current at no cost to the healthcare provider for at least the expected useful life of the device.
- Medical device software and commercial OS licenses provided should be perpetual.

Considerations for Healthcare Providers

- Providers should avoid acquiring any device or service from a manufacturer that does not warrant that they actively participate in an ISAO. Providers are encouraged to participate in ISAOs as well. Information sharing among the user community is a significant factor in battling cybercriminals and participation in ISAOs is a platform for such sharing and a factor in improving the cybersecurity of all participants. Terms of sale, including non-disclosure agreements, should not prohibit providers from participating in ISAOs or other cybersecurity information sharing initiatives;
- Providers should avoid acquiring devices for which a supplier is unable or unwilling to provide a Manufacturer Disclosure Statement for Medical Device Security (MDS2). Where suppliers provide MDS2s, those MDS2s should be reviewed by provider network security teams, or their designated third party, prior to the purchase, use, or implementation of any medical device. All medical devices and services should be installed and operated in a manner consistent with the organization's security policies and practices;
- Purchase agreements for medical devices and services should contain appropriate liability and warranty provisions;
- Provider insurance policies should cover cybersecurity risks with appropriate minimum coverage. Providers should not acquire devices or services from any supplier who will not provide evidence of appropriate coverage unless no practical alternatives exist;
- Providers should not acquire or utilize devices, software or services not compliant with current U.S. Food and Drug Administration (FDA) cybersecurity guidance or industry standards unless no practical alternatives exist. In these cases, providers

should ensure devices, software and/or services are deployed in a manner that reduces the risk of a security event;

- Providers should conduct risk assessments, including testing when practical, for all devices and services to verify manufacturer claims prior to acquiring any device or service and connecting the device or service to their network. Alternately, a third-party testing and certification service may be used to validate manufacturer's claims. Policies regarding who can approve and add devices to the network should be implemented and followed;
- Providers should require suppliers to identify if a device can be remotely accessed or controlled, whether or not it is connected to a network, and if the device can be remotely accessed or controlled, the supplier should provide a detailed description of the measures incorporated to safeguard the security of that device
- Providers should implement physical security controls to prevent unauthorized and/or unwitnessed access to any devices and servers.

Considerations for Medical Device and Service Suppliers

- Suppliers of network-accessible medical devices, software and services should warrant that they are compliant with current U.S. Food and Drug Administration (FDA) cybersecurity guidance documents, industry standards and do not contain known malicious code or other known vulnerabilities;
- Medical device manufacturers should provide an MDS2 for any medical device that can be connected to a network (i.e., any device that has a MAC address);
- Supplier insurance policies should cover cybersecurity risks with appropriate minimum coverage;
- Although compliance with current guidelines can significantly reduce the cybersecurity risks associated with medical devices and services, legacy devices and possible future noncompliance pose ongoing risks. Providers have a considerable investment in connected legacy devices, software and services that may not be compliant with current guidelines and standards but that are critical to maintaining patient care. Recognizing that it is not practical or feasible in the short term to retire or replace those assets, manufacturers should realize that acknowledging responsibility for the security of legacy devices and working expeditiously to upgrade those to current security standards or provide device upgrade paths to providers at no or minimal additional cost may afford competitive position relative to future sales;
- In addition to complying with regulatory reporting requirements, suppliers of network-accessible medical devices, software and services should, at their own expense, provide corrective actions, etc., which includes the following:
 - Reliable and timely information regarding any issues or risks identified with one of their devices or services, the firmware, software and/or any other security issues;
 - Guidance on what should be done to address any vulnerability, including a corrective action plan/flaw remediation process that identifies appropriate software update(s) and/or workaround(s) to mitigate all issues or risks associated with the vulnerability;
 - Change management-based release notes and/or provider communications

explaining the impact of changes to operating systems, databases, applications etc.;

- Suppliers should make every effort to assist providers in resolving cybersecurity threats and vulnerabilities in a timely manner.
- Suppliers should ensure the security of all procured or developed systems and technologies, including all subcomponents (hereinafter referred to as “Systems”), throughout the useful life including any extension, warranty, or maintenance periods. This includes, but is not limited to workarounds, patches, hotfixes, upgrades, and any physical components (hereafter referred to as “Security Fixes”) which may be necessary to fix all security vulnerabilities published or known to the Supplier anywhere in the Systems, including Operating Systems and firmware. The Supplier should ensure that Security Fixes do not negatively impact the Systems.
- As encouraged by FDA guidance, device manufacturers should participate in an Information Sharing and Analysis Organization (ISAOs) such as the National Health Information Sharing and Analysis Center (NH-ISAC) and their Medical Device Vulnerability Intelligence Program for Evaluation and Response (MD–VIPER) or the Health Information Trust Alliance (HITRUST);
- Although the FDA’s guidance is prefaced as non-binding, the FDA has stated that medical device manufacturers must comply with all federal regulations including quality system regulations (QSRs). QSRs require medical device manufacturers to address all risks, including cybersecurity risks. The FDA guidance provides recommendations on how manufacturers might address those risks. Most medical device manufacturers recognize that providers prefer to purchase devices that adhere to the FDA guidelines and meet the QSRs. We further encourage manufacturers to view rapid adoption of the guidelines as an opportunity to develop competitive advantage.

The above key considerations address a very broad range of potential scenarios in terms of the costs, technical complexity, risks and benefits associated with connected devices and services. Each use case may present its own unique challenges. HSCA encourages all parties to work in a reasonable and cooperative manner to minimize cybersecurity risks while supporting the improved patient care, safety and operational efficiencies that these devices, services, connectivity and interoperability afford.

Managing Drug Utilization

In recent years there have been numerous high-profile reports of inadequate supplies of generic drugs that have served as the standard of care for some diseases. HSCA members have a portfolio of solutions to help clients manage price changes and tackle drug utilization—issues closely connected to drug shortages. One of the most important offerings is rapid and reliable communication between manufacturers and providers. GPOs also provide regular communication with healthcare organizations about ongoing shortages and mitigation strategies. Additional solutions include auto-substitution, failure-to-supply programs, private label (products and services manufactured or provided by one company for offer under another company’s brand), as well as spend management and budget development technology. For example, one GPO identified pharmacy distribution (Wholesale and Specialty) as an opportunity to streamline supplier relationships, due to rapid growth in membership. Prior to this project, member organizations used eight different distributors for wholesale or specialty distribution. The GPO led an in-depth RFP process which culminated in a live bidding event with the chosen finalists. Through this process,

the GPO membership collectively selected one wholesale distributor and one specialty distributor. The decision resulted in significant savings (in the millions of dollars), an innovative customer support model and a unique opportunity to mitigate high-impact drug shortages through a new drug shortage mitigation program.

Managing Drug Utilization 1



A GPO identified wholesale and specialty pharmacy distribution as an opportunity to streamline supplier relationships for a rapidly growing membership.



The GPO led an RFP process that included a live bidding event, where the GPO membership collectively selected one wholesale distributor and one specialty distributor.



The result was multi-million dollar savings across the member organizations, as well as an innovative customer support model and a new drug shortage mitigation program.

One HSCA member GPO offers upfront savings, 10% minimum—primarily on injectable and non-oral solid products— by using a cross-referenced substitution list that links all equivalents (generic-to-generic, brand-to-generic, and generic-to-brand) to the equivalent auto-substitution products. Another solution, called “failure to supply,” is a program that enforces the special terms and conditions in supplier contracts that allow the healthcare entity to be reimbursed for the difference between the GPO contract price and the cost of obtaining the product elsewhere, if available, at a higher price for a product that a manufacturer fails to supply, or which is periodically on backorder. Not only does the GPO drug utilization management service increase efficiency for individual hospital or other healthcare organization pharmacy departments by releasing them from the burden of performing this function manually, it also helps organizations manage drug shortages.

GPOs are also helping members with the ongoing opioid epidemic. One GPO engaged in contract negotiations with a pharmaceutical company for a product that is FDA-approved for emergency treatment of known or suspected opioid overdose. The Wholesale Acquisition Cost (WAC) for this product was \$125; the GPO was able to secure public interest pricing of \$75, as well as sales volume qualifying for wholesaler cost of goods discount and a shareback of administrative fees. Thus, the GPO produced significant savings and addressed a need by its members in the first responder, public safety, and other classes of trade, in an existing procurement supply chain they were able to easily access.

Managing Drug Utilization 2



A GPO’s contract negotiations with a pharmaceutical company secured a product for emergency treatment of opioid overdose at significant savings (\$75 WAC versus \$125).



The GPO also obtained volume qualifying for wholesaler cost of goods discount and a shareback of administrative fees.

Value-Based Payment Models

Value-based payment (VBP) is a new approach to paying for healthcare. VBP aims to connect payments to better care, smarter spending, and healthier people, instead of simply reimbursing for any service that is delivered, regardless of quality, cost, or impact on the health of the patient. For example, Medicare, which is the payer for nearly half the inpatient volume of hospitals across the country, created the Hospital Value-Based Purchasing program to reward higher quality care and the new Quality Payment Program for Medicare physician payment. Notably, Medicare aims to have 50% of total payments to providers be under some type of alternative payment program by 2018. The largest insurers in the country are also shifting to VBP. Aetna, for example, estimates about 40% of its payments are going to doctors and providers who practice value-based care. Aetna has committed to increasing that number to 75% by 2020.

VBP requires healthcare organizations to take on more risk than in the existing system that allows the organization to simply receive an agreed upon fee when they deliver a certain service (often referred to as fee-for-service) regardless of the quality of care provided. Hospitals, IDNs, and other types of healthcare providers are now being asked to accept payments for services that reflect quality cost-effectiveness of care and are proven to work for the patients they serve. GPOs play a unique role in assisting both suppliers and healthcare organizations in responding to the opportunity VBP presents. Suppliers have long been interested in focusing on product quality over cost. Value-based payments are making this conversation more relevant to supply chain professionals, as product cost is now factored into reimbursement and the overall cost of an entire episode of care.

Suppliers that better understand provider challenges and the immense VBP learning curve that many healthcare supply chain professionals face will be more successful in this new environment.

HSCA members are able to help organizations establish more strategic purchasing practices that connect total costs and patient outcomes with financial reimbursements. One way to better understand costs, outcomes, and reimbursements is through comparative effectiveness efforts. This is particularly useful in analyzing which products would bring the most value to physician preference areas, such as total joint replacement or spinal implants. These strategies focus on bringing together multi-disciplinary teams of supply chain and physician/clinician leaders to share data and engage in VBP discussions.

Example: One GPO offers a range of contract options that align with providers' needs, with increasing opportunity for value creation through partnerships with manufacturers focused on outcome improvements. Some examples include aligning supplier discounts to defined metrics including market share goals or standardization of evidence-based care practices. The more sophisticated examples offer rebates if a supplier's product fails to deliver a defined outcome. Most begin as smaller pilots, and, when successful, are scaled to the full membership. The supplier provides significant services and support to ensure optimal success for the providers. These value based contracts are grounded in providers' clinical and financial needs. By defining risk and by sharing accountability, healthcare systems can focus on improving patient goals, while simultaneously addressing the financial pressures they face in a value based market.

Decreasing Healthcare Associated Infections

Healthcare-associated infections (HAIs) are infections a patient might get when receiving medical treatment in a hospital or other healthcare facility. According to the Centers for Disease Control and Prevention (CDC), "steps can be taken to control and prevent HAIs

in a variety of settings. Research shows that when healthcare facilities, care teams, and individual doctors and nurses, are aware of infection problems and take specific steps to prevent them, rates of some targeted HAIs (e.g., CLABSI) can decrease by more than 70 percent.” The HAI Prevalence Survey, published in the New England Journal of Medicine in 2014 found there were an estimated 722,000 HAIs in U.S. acute care hospitals in 2011 and approximately 75,000 patients with HAIs died during their hospitalizations.

GPOs offer a range of programs that help their member organizations prevent HAIs. One GPO convened a performance improvement collaborative to focus on the early recognition and intervention of sepsis. The 72 organizations participating in the collaborative saw significantly improved outcomes. These participants avoided more than 6,400 patient days, resulting in an estimated total potential cost avoidance of more than \$14.7 million, and most importantly, resulted in 270 fewer patient deaths.

In another GPO example, the challenge was intensive care unit (ICU) delirium and early mobilization. Using a similar approach as the sepsis example, the GPO convened a performance improvement collaborative with 25 participating organizations. After the collaborative, participants avoided 4,100 ICU days, leading to total estimated cost avoidance of between \$8.2 million to \$12.4 million.

Appendix 3: Markets Served

Markets Served by GPOs

Acute care hospitals

Alternate care sites

Ambulatory surgery centers

Clinics

Colleges/universities

Corporations

Dental

Developmentally disabled facilities

EMS/first responders

Home healthcare

Home infusion

Infusion pharmacies

Integrated delivery networks

K-12 schools

Long-term care

Long-term care provider pharmacy

Mental health facilities

Pediatrics

Physician practice

Prisons

Public health departments

Retail pharmacy

Small business

Specialty hospitals (rehabilitation, psychiatric, etc.)

Specialty pharmacy

Staff model HMO

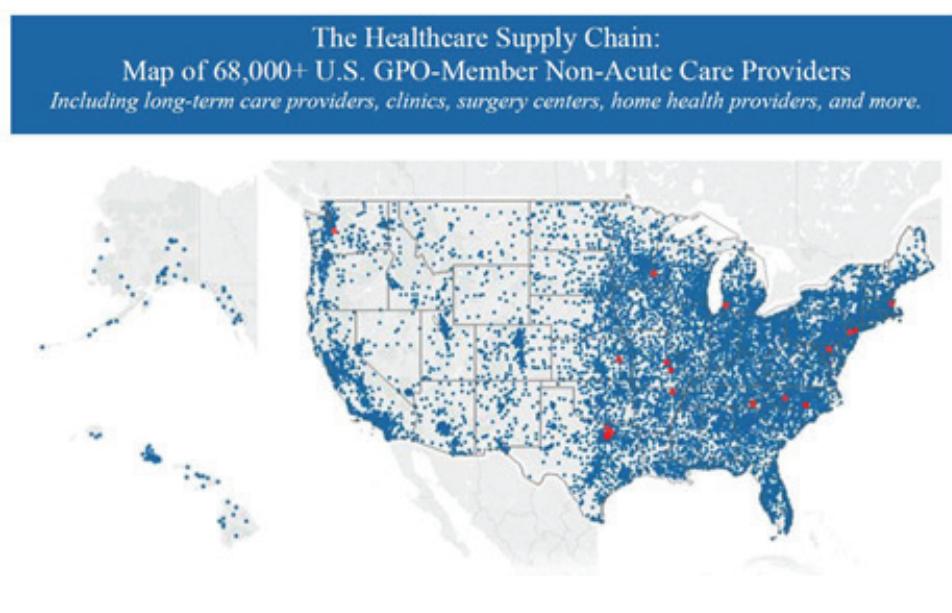
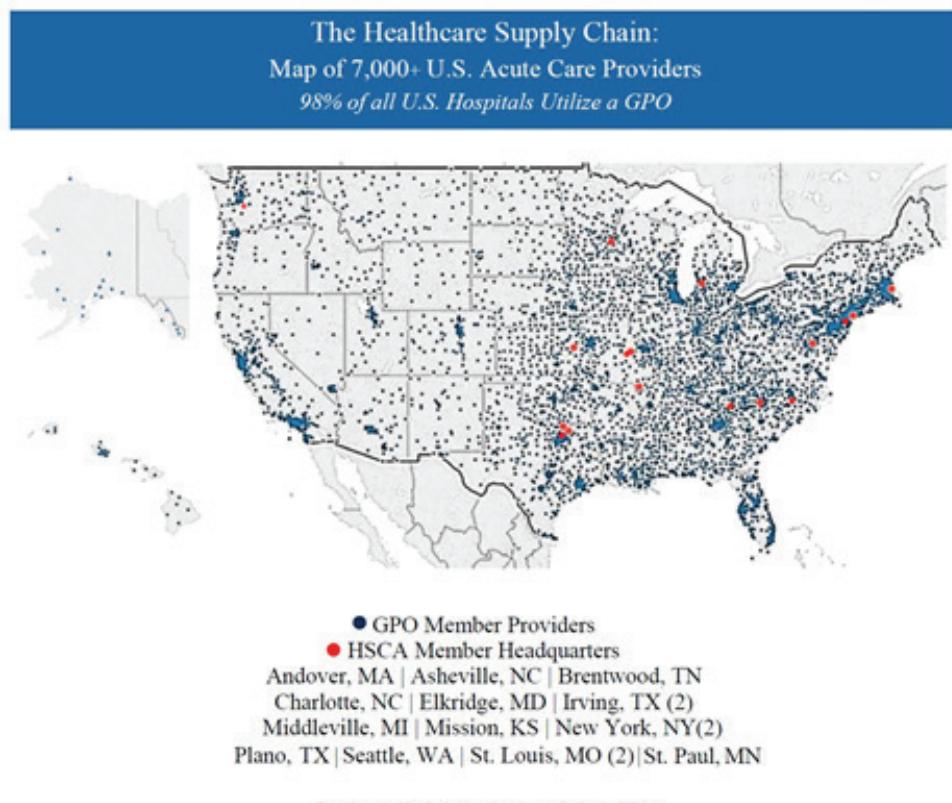
State and local governments

Substance abuse treatment facilities

University student health

Veterinary

Appendix 4: Geographic Reach of GPOs



Data Provided by Definitive Healthcare: DefinitiveHC.com

Appendix 5: Services Provided by HSCA Member GPOs

Services provided by GPO

Account management

Benchmarking data services

Biomed repair

Bulk buy programs

Clinical consulting: Preference items, pharmacy, dietary, radiology, etc.

Clinical evaluation and standardization

Competing services

Continuing medical education

Continuing pharmacy education

Custom committed contracting

Data analytics and custom reporting

Drug information communication

Drug shortage management

Electronic commerce

Environmental services (EVS)

e-Procurement services

Equipment repair services

Formulary assistance

Freight management services

Healthcare industry updates

Insurance services

Invoice auditing services including state audit assistance

Market research

Marketing of products or services

Materials management consulting

Materials management outsourcing

Membership input opportunities/programs (councils)

New technology forums

Patient safety services

Pharmaceutical hazardous waste handling

Purchased services program

Request for Bid process management, local to state-level agency coordination

Revenue management programs and services

Shared services integration

Stockpiling/emergency preparedness program

Supply chain analysis

Supply chain integration services

Supply chain strategic advisory services
Technology assessments
Telecommunications
Utility management services (energy, water, waste, etc.)
Warehousing services
Wholesaler distribution services management program

Appendix 6: Contracting Categories of HSCA Member GPOs

Contracting categories of GPOs

Cardiovascular
Commercial products: Computers, copiers, office and cleaning products, etc.
Construction
Contraceptive products
Dental products and services
Diabetic syringes, needles and related products
Dietary
Diversity
Drug testing products and services
Energy: Contracts with producers/providers of electricity and natural gas
Environmental services
Executive resources and office solutions
Facilities management
HR benefits: Insurance, pre-employment background checks
Human resources
Influenza vaccines
Information technology
Interventional radiology
Invoice auditing
IV solutions and supplies
Laboratory equipment and supplies
Medical supplies and equipment
Nursing
Nutritionals
Operating room
Pediatric-specific products and services
Pharmaceutical hazardous waste handling
Pharmacy

Prescription filling service

Purchase services: Elevator maintenance, valet parking, lawn care, etc.

Radiology supplies and equipment

Repackaging services

Returned goods processing

Routine vaccines

Surgical supplies and equipment

Telecom

Vials and containers

Wholesaler distribution contracts

Appendix 7: Healthcare Group Purchasing Industry Initiative

As part of the group purchasing industry's commitment to compliance, ethics, and other industry standards, executives representing the nation's largest GPOs created the Healthcare Group Purchasing Industry Initiative (HGPII) in 2005. HGPII is an independent, voluntary, non-profit 501(c)(6) organization that monitors business practices within the GPO industry.

In order to participate in HGPII, participating companies must report business practices annually, participate in an annual best practices forum, and adhere to six principles:

1. Have and adhere to a written code of business conduct. The code establishes high ethical values and sound business practices for the GPO.
2. Train all within the organization as to their personal responsibilities under the code.
3. Commit to work toward the twin goals of high quality healthcare and cost effectiveness.
4. Commit to work toward an open and competitive purchasing process free of conflicts of interest and any undue influences.
5. Have the responsibility to each other to share their best practices in implementing the Principles; participate in an annual Best Practices Forum.
6. Be accountable to the public.

Member companies are also required to participate in a multi-tiered review of their business practices. The annual review surveys business practices related to ethics, compliance to code of conduct principles, and contracting. HGPII uses findings from this survey to publish a yearly public report on key GPO business practices.

In its unique role, HGPII also acts as a conduit for transparency between GPOs and Congress, federal agencies, and other stakeholder groups. The principles that HGPII was founded on have also been supported within the healthcare industry by the American Hospital Association, Association of American Medical Colleges, Catholic Health Association of the United States, Federation of American Hospitals, Children's Hospital Association, America's Essential Hospitals, and the National Rural Health Association.

Appendix 8: The GPO Safe Harbor

The federal Anti-Kickback Statute, originally enacted by Congress in 1972, specifically prohibits the knowing or willful solicitation, receipt, offer, or payment of remuneration, including any kickback, bribe, or rebate, directly or indirectly, overtly or covertly, in cash or in kind, to induce or reward the purchase of an item or service for which payment may be made under a federal healthcare program. In response to concerns about the vague application of anti-kickback statutes, the Medicare and Medicaid Patient and Program Protection Act of 1987 directed the Office of the Inspector General (OIG) of the Department of Health and Human Services (HHS) to create 23 statutory and regulatory “safe harbors,” which carve out certain arrangements from the federal Anti-Kickback Statute. These are sometimes referred to as GPO Statutory and Regulatory Safe Harbors. Notably, in the discussions in the House of Representatives about which transactions should be granted a “safe harbor,” a Committee report indicated organizations that use these services believed GPOs reduce healthcare costs and that the services GPOs provide should be protected under a “safe harbor.”

Appendix 9: Recommendations for Medical Device Cybersecurity Terms and Conditions

The Healthcare Supply Chain Association has circulated “Medical Device and Service Cybersecurity: Key Considerations for Manufacturers & Healthcare Providers” which outlines the shared responsibilities of the parties in assuring medical device and information security and some of the steps they might take in promoting that security. We believe that suppliers should view the rapid adoption of rigorous cybersecurity measures and compliance with published guidelines as an opportunity to develop competitive advantage.

In support of these key considerations, we recommend that purchasing contracts include clauses reflecting the following principles for the acquisition of connected medical devices and services:

- 1) Suppliers should warrant their compliance with FDA premarket and post market guidance relative to cybersecurity risks throughout their product’s lifecycle.
- 2) Products should be assessed and warranted to be free of known malicious code or other vulnerabilities at the time of delivery and/or implementation.
- 3) Suppliers should comply with all reasonable security practices required by the provider that are consistent with current network and device security guidelines and best practices including those developed and implemented by the provider or as published by standards bodies such as the International Organization for Standardization (ISO) and the International Electrotechnical Commission(IEC) (ISO/IEC), the Association for the Advancement of Medical Instrumentation (AAMI), the Open Web Application Security Project(OWASP), The SANS Institute, the Center for Internet Security and the National Institute of Standards and Technology (NIST).
- 4) The expected useful life of the device or service should be specified within the purchase agreement and security updates to the software and all supporting software components should be made available for the stated useful life at no additional cost to the provider. This is to include monitoring, upgrading and patching in a manner consistent with the provider’s protocols.
- 5) Suppliers should make every effort to assist providers in resolving cybersecurity threats and vulnerabilities in a timely manner. Providers should not be penalized for defects caused by modifications made to products in remediation efforts if the supplier fails to provide such assistance.
- 6) Purchase agreements for medical devices and services should contain appropriate liability and warranty provisions that contain no limitations on supplier’s liability due to failure to comply with cyber security terms.
- 7) Providers participation in ISAOs and other cyber security sharing initiatives should be explicitly allowed and exempted from any non-disclosure provisions.

Contact terms should require that manufacturers/suppliers provide documentation as follows:

- 8) A Manufacturers Disclosure Statement for Medical Device Security (MDS2) should be provided for any device that maintains or transmits data.
- 9) Suppliers should warrant that they internally follow cybersecurity best practices, provide documentation describing in detail their cybersecurity/penetration testing process as well as program details for patching, incident response and secure set up and configuration.
- 10) Suppliers should provide documentation of processes and technology for external access, including security (authentication & authorization) and monitoring.
- 11) Suppliers/manufacturers should warrant ongoing and active participation in one or more Information Sharing and Analysis Organization (ISAO), provide a certificate of participation and provide their vulnerability disclosure protocols.
- 12) A bill of materials describing the component parts of products including software should be provided to the provider prior to implementation that includes software versions, patch levels, and patching plans. The product lifecycle/expectancy should be explicitly stated.

Endnotes

¹This annual report was produced by HSCA on behalf on the HSCA member organizations. M2 Health Care Consulting authored this paper with ongoing input from HSCA and member entities.

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