Hospital Supply 2025: The Emerging Supply Ecosystem Disrupting Medical Device Companies

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Executive Summary

The healthcare supply chain has, historically, suffered from misaligned incentives, opaque data on price and value, outdated purchasing practices, and little accountability for managing costs. Much of this is now changing. A number of external forces and new disruptors are changing the hospital supply ecosystem. Channel partners are becoming competitors, generic devices and new business models are disrupting supply categories, and data are being used to drive supply decisions. With a projected global spend of almost $500 billion, it should be no surprise that a new ecosystem of businesses and organizations are trying to attack this spend and make money at the same time. This paper will highlight the changing ecosystem, provide some predictions about the future, and discuss strategic actions suppliers need to consider.

Introduction — Changing Ecosystems

An ecosystem is a dynamic network with many complex interactions and interdependencies. A change to one part of the ecosystem can create a cascading impact on the rest of the ecosystem, sometimes with unanticipated results. As an example of ecosystem dynamics, consider the decline of the beaver population in Yellowstone National Park.[1]

In Yellowstone National Park, the once thriving beaver population almost disappeared. Wolves, the apex predator, once roamed much of the park in packs. It is thought that the decline in the beaver population was because of the wolves. No, the wolves did not eat the beavers. In fact, hunting of the wolves and changes to their habitat had caused wolves to largely disappear from the park.[3]

So, what was the real reason for the decline in the beaver population? Beavers gnaw down mature willows to build dams to slow the streams. Without the threat of the wolves, the elk population grew and came down from higher ground to browse on the willows by streams. This destroyed the willow, and the beavers disappeared with the willows.[2] But it all was caused by the disappearance of the wolves. A change, therefore, in one part of the ecosystem can cascade and have an unanticipated impact on other parts of the ecosystem.

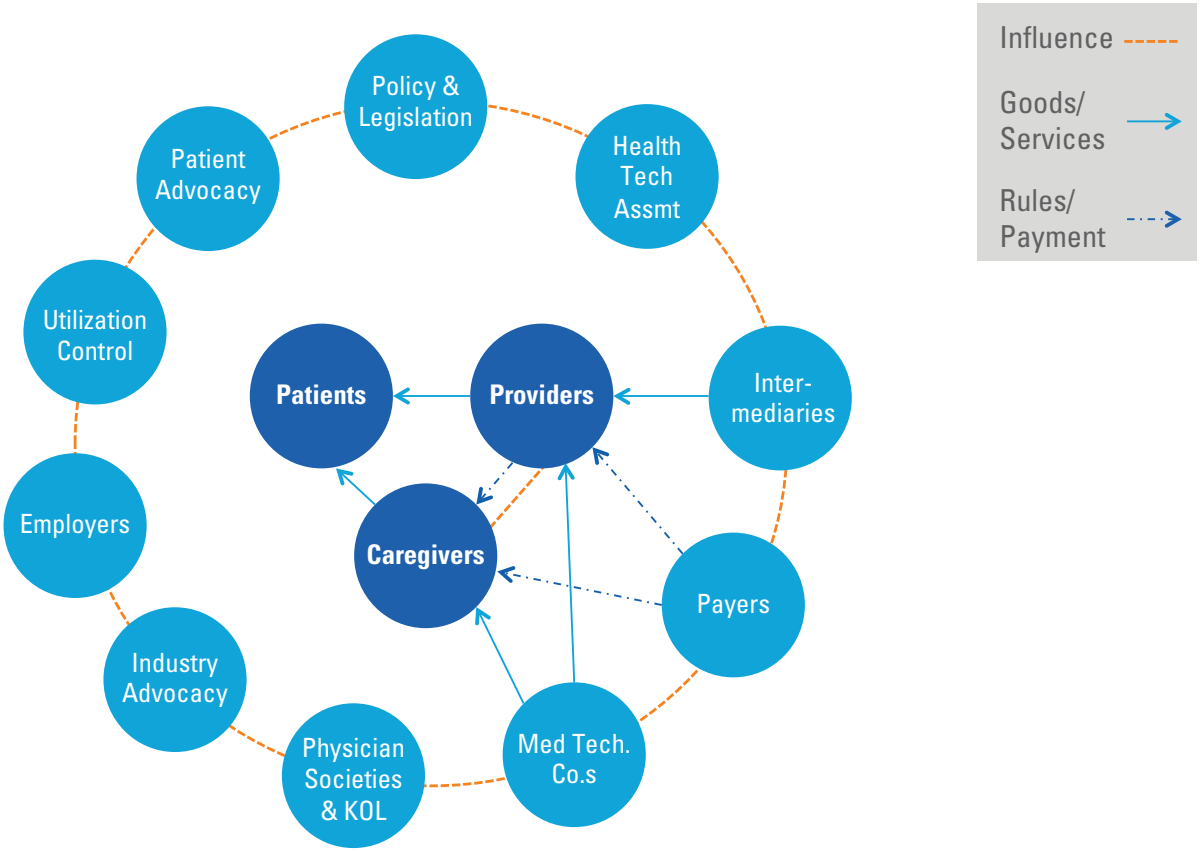
What does this have to do with the medical devices market? Just as in nature, businesses operate in complex ecosystems. External forces and changes to the ecosystem members can disrupt the delicate balance. In fact, this is exactly what is happening now in healthcare. A number of external forces and new disruptors are changing the hospital supply ecosystem. This paper will highlight the changing ecosystem, provide some predictions about the future, and discuss actions suppliers need to consider.

Healthcare Supply Ecosystem Overview

James Moore popularized thinking about business markets as an ecosystem. Viewing a business market as an ecosystem is helpful for strategizing, making tough choices when it comes business alliances, and leadership of customers and suppliers.[3] According to Moore, "in business ecosystems, companies coevolve capabilities around a new innovation: they work cooperatively and competitively to support new products, satisfy customer needs, and eventually incorporate the next round of innovations."[4]

Just as in the Yellowstone example, the medical devices and diagnostics supply market can be considered an ecosystem. Many stakeholders play a part in innovation, product selection, and utilization decisions. Manufacturers, hospitals, patients, distributors, group purchasing organizations (GPOs), health technology assessors, physicians, payers, physician societies, and others have had a complex interaction and interdependency in this ecosystem. Figure 1.1 below provides an overview of the traditional ecosystem.

Figure 1.1 – Medical Technology Stakeholder Ecosystem Map



This ecosystem, with a projected $500 billion in annual purchases of medical devices and in vitro diagnostics globally, faces significant disruption as new ecosystem members enter and external forces reshape the competitive balance. Manufacturers that formulate strategy based on past market dynamics or a static view of the ecosystem may be at significant risk or miss big opportunities.

Changing U.S. Healthcare Market and Suppliers

U.S. hospitals and other providers face unprecedented change. Reimbursement cuts, pressure to improve quality and outcomes, consolidation, and new reimbursement models are just some of the forces driving change. In the United States, the Affordable Care Act (ACA) has ushered in a series of penalties and incentives to reward or penalize hospitals for the quality and cost of care. Up to 5.5% of Medicare impatient revenue is at risk in fiscal year 2015. [5]

For an industry with single-digit operating margins, these reimbursement cuts and quality incentives create even more pressure for hospitals.[6] It's not a shock that "financial challenges" were listed as the top concern of hospital CEOs in a recent survey.[7] Hospital leadership is turning to various strategies to deal with these challenges. One area that is getting increased attention is the supply chain and supplier management.

Supply costs are the second largest category of operating expenses for providers, and are growing at the fastest rate of all expense categories.[8] Furthermore, now more than ever, the quality of a supply item has the potential to impact not just costs, but also revenue for a provider because of pay-for-performance and population health reimbursement schemes.

With changes to the payment system, physician employment trends, aligned incentive on reducing costs, and growing transparency, the seeds of disruption are now in place. An entire ecosystem of companies is emerging to help providers strategically manage supplier costs and extract more value from the supplier network.

The changes to the healthcare system are also reshaping the supplier side of the market. Large companies are trying to get larger. In 2014, it is estimated that merger and acquisition activity in MedTech was up 40%.[9] In addition, ecosystem roles are evolving as distributors and GPOs increasingly become suppliers of products. The recent acquisition of Cordis by Cardinal Healthcare, a supplier of vascular medical devices, is evidence of this trend and change in roles.[10] Many more changes are likely as the pressure for cost reductions and greater value intensifies.

The Hospital Supply Chain Value Levers

In order to better understand the changing supply ecosystem, it is helpful to begin with some background on hospital supply chains and sourcing levers. Sourcing lever simply means the strategies and techniques supply chains use to gain savings or value from suppliers. Table 1 describes eight sourcing levers.

Historically, the sourcing lever used most often by procurement organizations was price reduction. Price reduction could be accomplished through a variety of tactics including, but not limited to, tenders, request for proposals, reverse auctions, and leveraging spend. Savvy buyers, however, recognize price is just one component of value or one sourcing lever. Understanding a supply item's impact on total cost is critical. Moreover, finding new ways to partner with suppliers to create value or new models to extract value are essential.

The hospital industry has historically lagged behind other industries in terms of procurement capabilities, supplier management, and the use of many sourcing levers beyond price.[11] There are a lot of reasons why. The old fee-for-service business model, physician influence on buying decisions, the vast number of supply items that need to be managed, and reliance on group purchasing organizations are some of the factors. Many hospitals, increasingly, are taking a more strategic approach to supplier management and are managing supply related costs more holistically.

Eight Hospital Sourcing Levers

1. Price Reduction
2. Specification Management
3. Supply Related TCO
4. Operational Efficiency
5. Outsource /Insource
6. Patient Care Costs
7. Capital Efficiency
8. Revenue

Table 1: Eight Hospital Sourcing Levers

Sourcing Lever	Description
1. Price Reduction	• Reduce the price of supply items and services through vendor consolidation, requests for proposal, tenders, should-cost modeling, reverse auctions, price benchmarks, leveraging spend, and other sourcing strategies
2. Specification Management	• Use generic drugs and devices, private label supplies, and reprocessed single-use devices • Appropriate utilization and control of expensive drugs and devices • Smart management of service specifications
3. Supply Related Total Cost of Ownership	• Reduce Total Cost of Ownership (TCO) related to a supply category including maintenance, energy, disposal, inventory, ordering, shipping, etc.
4. Operational Efficiency	• Reduce procurement related costs (contract management, sourcing, vendor management, etc.) and automation of buyer-seller interface (logistics, demand planning, invoicing, etc.)
5. Outsource/Insource	• Purchase a service from an outside supplier rather than provide in-house (outsource) or perform the process or activity in-house rather than purchasing from an outside supplier (insource)
6. Patient Care Costs	• Reduce patient care costs across the care continuum (prevention, diagnosis, treatment, recovery, monitoring)
7. Capital Efficiency	• Improve capital purchasing and utilization through reducing working capital, price benchmarking, and smarter capital equipment acquisitions
8. Revenue	• Make buying decisions that take into account pay-for-performance programs • Create new service lines or services

Evolving Hospital Supply Ecosystem

Until recently, the supply ecosystem had been dominated by group purchasing organizations (GPOs). GPOs have been around since the early 1900s in the U.S., and have had a long, and some times, controversial role in the healthcare supply chain.[12] GPOs have traditionally worked to aggregate group members' purchasing volume to negotiate better deals with suppliers.

Usually, the aggregation approach worked well with supply items that were less differentiated, non clinician-preference items. For items that are physician-preference driven and with new technologies, GPOs have had much less success in leveraging buying power.[13] Whether successful or not, GPOs have been able to extract a substantial amount of fees. The U.S. Government Accountability Office (GAO) reports that the major five GPOs collected $2.3 billion in administrative and license fees from vendors in 2012.[14]

Despite the involvement of GPOs and other entities, hospital supply chains have suffered from opaque pricing, little information on the value of medical technologies, and low buying leverage for physician preference items. Now, the

cost-out and value-in supply ecosystem is evolving. New entities are innovating and developing ways to assess the value of supply items, reduce supply related costs though new business models, and help hospitals make smarter buying decisions.

SharedClarity is an example of the ecosystem coevolving as described by Moore. Healthcare insurer UnitedHealthcare, and US health care providers Advocate Health Care, Baylor Scott & White Health, Dignity Health, and McLaren Health Care are collaborating to increase the availability and quality of clinical information about medical devices. Health care systems join SharedClarity as members to gain insight from the studies when purchasing high-cost products such as defibrillators, heart valves, knee and hip implants, and stents. With the most effective products identified, SharedClarity members also participate in collaborative purchasing, which results in improved patient outcomes and lower operating expenses.[15]

ProcuredHealth is another example of an entity working on bringing transparency to value. ProcuredHealth helps hospitals streamline value analysis, make outcomes-based purchasing decisions, and discover savings opportunities.[16] Value analysis of supply categories or items can occurring locally at an individual hospital, but be shared through an Internet-based platform with other hospitals. Therefore, local value assessments have the potential to be more transparent.

Another group of innovators are emerging to reduce supplier related costs using the "rep-less" medical device sales model. The "rep-less" medical device sales model has received much attention recently.[17] In this sales model, the hospital receives much lower pricing, usually for implantable devices like orthopedics, in exchange for reduced support from the manufacturer. The hospital has to provide the clinical case support with internal resources, use technology to replace the sales support, or buy the clinical support from a third-party other than the manufacturer.

A number of new entities have emerged to help hospitals make the transition to the "rep-less" medical device sales model. With less reliance on manufacturer support, hospitals can lessen the sales representative-physician relationship. This can enable more aggressive price negotiations and possible price savings.

Smartly managing specifications and buying "good enough" supply items is a purchasing practice in many industries. It is now growing in the hospital supply area. Distributors are increasingly offering their own private label or generic supply items at lower costs. Likewise, GPOs have begun selling value brands for many common, less differentiated supply items like exam gloves. In addition, new generic manufacturers are emerging, usually focused on physician-preference technologies that are at the mature stage of the product lifecycle.

Many providers invest a fair amount in capital equipment each year. While capital equipment price benchmarking services have been around for a while, hospitals have struggled with duplicate and under-utilized capital equipment. A recent start-up, Cohealo, provides a software platform to track the entire fleet of medical equipment, giving real-time access to every asset's location, availability and usage. The company also has specialists who will manage the movement of assets.[18] This company hopes to improve capital equipment utilization and presumably reduces the need for new capital investments.

In total, research has revealed, excluding purchasing consultants and GPOs, over forty entities working to help hospitals take costs out and bring value into supply management. Many of these are new firms that have started in the past five years. Many new entities end up being acquired. Just in the past couple of years, Premier Inc., a publically traded U.S. GPO, has acquired numerous companies focused on various sourcing levers.[19]

Table 2 below provides some examples of these entities organized by sourcing lever. Note that many of these entities seek to deliver value to hospitals in multiple ways.

Table 2: Cost-Out and Value-In Ecosystem by Sourcing Lever

Sourcing Leve	Ecosystem member	
1. Price Reduction	• Group purchasing • Purchasing consultants • Regional purchasing collaborative/ alliance • Price benchmarking services	Premier, Novation, MedAssets, ECRI, Medline, MedPricer
2. Specification Management	• Generic drugs and devices • Private label supplies • Re-processors of single-use devices • New service models	SterilMed, SpineDirect, OrthoDirect, SafeOrthopaedics, Generic Medical Devices, Emerge Medical, Distributor private label supplies
3. Supply Related TCO	• Purchasing consultants • Value analysis tools and technology • Value transparency providers	ProcuredHealth, ECRI, MD Buyline
4. Operational Efficiency	• Online procurement tools • E-sourcing services • Device benefit managers	Aptitude, MedPassage, InnovaCor, MedPricer
5. Outsource/Insource	• Outsource service providers for food services, housekeeping, ER, biomedical enginnering, clinical laboratory, etc. • Insource firms supporting the transition from purchased services	Aramark Healthcare, NuRep, Intralign, Quest
6. Patient Care Costs	• Comparative effectiveness and value data providers	SharedClarity, ProcuredHealth
7. Capital Efficiency	• Services and tools to track and optimize capital utilization • Services to provide capital price benchmarks	Cohealo, ECRI, MD Buyline
8. Revenue	• Service providers that help provide better assessment of supplies' impact on pay-for-performance and population health	SharedClarity, ProcuredHealth

For medical device and diagnostic suppliers, understanding, monitoring and preparing for this evolving ecosystem is becoming increasingly important. Transparency is accelerating. Customers are decoupling products and services. Channel partners are becoming competitors. Good enough supplies are gaining a foothold. It should be clear that the ecosystem is dynamic and evolving. Where is it all going?

6 Predictions for The Future — Hospital Supply Ecosystem in 2025

"Prediction is very difficult, especially if it's about the future," is an apt quote from Dutch physicist and author Niles Bohr.[20] It is, nevertheless, helpful to assess the trends and consider some possible outcomes in the future. Many of the trends in healthcare are clear. We will see continued cost pressures, growing transparency, maturing of hospital supply chains, a continued drive to pay-for-performance care delivery, a movement to good enough solutions, an increase in population health payment models, and an continued influx of entrepreneurs trying to make money by taking costs out and improving quality.

How will these trends come together and impact the hospital supply ecosystem? Here are predictions for the hospital supply ecosystem in 2025:

1. Rep-Less Sales Model: The rep-less or low-service model, an offering in which the device manufacturer provides limited services or no support in exchange for a lower price, will continue to grow. This "unbundling" of an offering is a trend that is occurring across many industries – from corporate legal services to airlines. Expect some variant of the rep-less sales model to take 30% of the U.S. procedures market share in key product areas such as orthopedics by 2025. The remaining 70% of the market will be unable or unwilling to adopt the rep-less model.

2. Medical Device Formularies: With the explosion of data, unique device identifiers, population health payment models, and other forces, evidence-based formularies for expensive implantable devices and diagnostics will be the norm not the exception. As an example, a recent pilot study by the GPO UHC revealed that higher prices don't always correlate with better outcomes.[21] With insights like these, providers can create evidence-based formularies for the more expensive implantable device categories. With the growth of ACOs and many providers launching their own insurance products, there are even more incentives in place for making smarter utilization decisions for expensive devices and diagnostics. Many ecosystem members are working on developing a solution in this area.

3. Price Transparency: The hospital supply chain has historically suffered from opaque pricing for devices. This is beginning to change and will accelerate. With some medical device prices varying by more than 50% within a market and greater than 500% across markets for the same item, there's a real opportunity for buyers to use these insights to capture savings. Buyers, enabled by technology and new business models, will take advantage of this price variation and greater transparency. As an example, a UHC pilot study of its supply cost and quality tool showed that purchaser's use of pricing intelligence can lead to creative contracting strategies that drive savings.[22]

4. Low Cost Competitors: Distributors, GPOs, Generic Device Companies and non-traditional players will have a much more significant role in the supply area by offering lower cost medical supplies. This will be especially true for technologies that have reached the mature stage of the product lifecycle. With all of the pressure for change and the increasing transparency of outcomes, good enough supplies will take hold in the healthcare supply chain.

5. GPO Business Model: The old aggregator role of GPOs will decline as hospitals continue to consolidate and new low-cost players enter the market. Regional buying groups and large consolidated customers will be a major force in purchasing. GPOs won't go away, but will continue to evolve their business model to provide value-added services around outcomes analytics, formulary/care pathway design, utilization management, consulting, and other services to extract costs out of the healthcare system.

6. New Purchasing Models: In the US, Medicare implemented the competitive bidding program for certain durable medical equipment and mail order diabetes supplies in 2011. The result was substantial price reductions in many categories. Will competitive bidding expand to other areas in the US? Why doesn't Medicare do competitive bidding for implantable devices or set reimbursement caps for the device portion of the DRG payments? These may sound like farfetched idea, but it's likely that new purchasing models will emerge over the next ten years. Whether it's from the payers, GPOs, device benefit managers, or other entities, expect new purchasing models to emerge to drive costs out.

Strategic Implications for Suppliers

With a projected global annual spend of almost $500 billion by 2020, it should be no surprise that a new ecosystem of businesses and organizations are trying to attack this spend and make money at the same time. Medical devices and diagnostics technologies help millions of patients ever year. The healthcare supply chain has, however, suffered from misaligned incentives, opaque data on price and value, outdated purchasing practices, and little accountability for managing costs. Much of this is now changing.

For suppliers, this evolving ecosystem has significant implication. A number of leading suppliers have been actively preparing for the changing market by piloting new business models, changing commercial models, and developing new capabilities. For suppliers who do not yet have a strategy to deal with the evolving ecosystem, there are five areas that need to be considered:

1. Set a Clear Pricing Strategy and Implement With Discipline: Companies with poor transactional price management will face significant risk. The transparency of pricing and growing sophistication of buyers will mean that your customer will increasingly have as good or better data than you. This will create price leaks, frustrated sales teams, and dissatisfied customers. Properly managing this begins with a clear pricing strategy that accounts for customer consolidation and the changing role of GPOs. Next, transparent price rules are needed to control discounting. Of course, process and tools to implement and optimize the pricing rules will be critical to success.

2. Manage Revenue and "Leaks:" With all of the pressure on pricing and utilization in the future, MedTech companies will need to be proactive in capturing revenue that they are entitled to. Signing a contract with a customer is necessary, but not sufficient. Too many companies leak revenue by having poor process and tools. The leaks can occur in many areas such as: discounting too heavily to certain customers and segments, not managing contract compliance, providing excessive free goods/services, unnecessarily generous payment terms, and poor chargeback and rebate reconciliation.

Top 5 Actions For Suppliers

1. Set a Clear Pricing Strategy and Implement With Discipline
2. Manage Revenue and "Leaks"
3. Define and Pilot New Contracting Models
4. Develop Flexible Offerings
5. Communicate and Monitor Value

3. Define and Pilot New Contracting Models: Leading suppliers are already piloting or using gain sharing programs. For more expense technologies, tying value and pricing to outcomes will be key. Savvy buyers are increasingly unwilling to invest in new technologies with the hope that the supplier's proposed value will be delivered.

4. Develop Flexible Offerings: GPO value brands, distributor private label brands, and other generic competition means suppliers will have to be able to unbundle their offerings, and be able to price and sell services separate from the product. Manufacturers that have not yet considered or begun design on a "rep-less" sales model should at least be ready. Also, carefully evolving the offering strategy over the product lifecycle will be key. This includes new service and business models.

5. Communicate and Monitor Value: As new entities have a growing body of value analysis and comparative data, manufacturers will need to be able to exploit findings that are in their favor and be prepared to refute negative findings. This means being prepared with a clear and substantiated value proposition will be critical. Since value analysis and comparative studies will be done on a more fragmented and local hospital basis, companies will need to have resources in place to monitor and actively shape value analysis findings involving their products.

It is an exciting time in healthcare. For suppliers who are prepared, the evolving supply ecosystem should be an opportunity and chance to coevolve to better quality healthcare. For unprepared suppliers, they may disappear like the beavers in Yellowstone, unable or unwilling to survive in a changing ecosystem.

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