

How Do We Heal the Healthcare Value Chain?

A Hospital Perspective

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Research

This report is based on a quantitative research study conducted online during February-April 2013 to better understand how we can design the healthcare supply chain to deliver more value. The study was placed into the field by Supply Chain Insights through our own email outreach and social media connections, such as LinkedIn and Twitter, along with emails sent to healthcare providers through GHX. This report is focused on healthcare providers, with the aim of better understanding the goals, aspirations and current state of hospital supply chain organizations. A synopsis of the quantitative survey methodology is shown below. The detailed respondent demographics are shared in the Appendix.

Healthcare Value Chain Study: Healthcare Providers



Source: Supply Chain Insights LLC, Healthcare Study (Feb-Apr 2013)

The findings of the quantitative study are augmented by research and analysis done through our *Supply Chain Metrics that Matter* reports which analyzes the impact of supply chain on financial balance sheet performance. When used, these charts are footnoted with reference to the original research.

Disclosure

As an independent analyst firm, your trust is important to us. In conducting research, we are open and transparent about our financial relationships and our research processes.

We are committed to open research. These reports are intended for you to read, share and use to improve your supply chain decisions. Please share this data freely within your company and across your industry. As you do this, all we ask for in return is attribution. We publish under the Creative Commons License [Attribution-Noncommercial-Share Alike 3.0 United States](#) and you will find our citation policy [here](#).

Executive Overview

Over the last decade, as shown in figure 1, the hospital supply chain has been one of the few that has improved operating margin, reduced inventory and improved revenue/employee. In contrast, the manufacturing suppliers to the hospital organization have grown inventories and struggled to preserve margins. Across the value chain from the patient to the raw material suppliers, total inventories have grown and costs have escalated. With pending regulations, hospitals are being forced to rethink processes, redefine value and work more holistically to improve sourcing practices. The suppliers to the hospital systems are having to rethink their systems to rethink the customer (from selling to the physician to selling to a more formal buying organization based on patient outcomes) and adapt to the new processes within the hospital for value analysis.

Figure 1. Healthcare Value Chain Financial Performance for the Last Decade

Healthcare Value Chain Financial Metrics (2000-2011)				
Industry Segments	Average Operating Margin	Average Percent Changes (2000-2011)		
		Operating Margin	Days of Inventory	Revenue per Employee
Hospitals	0.06	8.5%	-8.5%	66.0%
Medical Device Manufacturers	0.18	5.1%	7.9%	56.7%
Pharmaceutical Manufacturers*	0.23	-28.6%	20.6%	99.8%

Source: Supply Chain Insights LLC, Corporate Annual Reports 2000-2011

Hospitals: Community Health Systems, HCA Holdings Inc., Tenet Healthcare Corporation, Universal Health Services, Inc.

Medical Device Manufacturers: Baxter International Inc., Boston Scientific Corp., Stryker Corp., St. Jude Medical, Inc., Zimmer Holdings Inc.

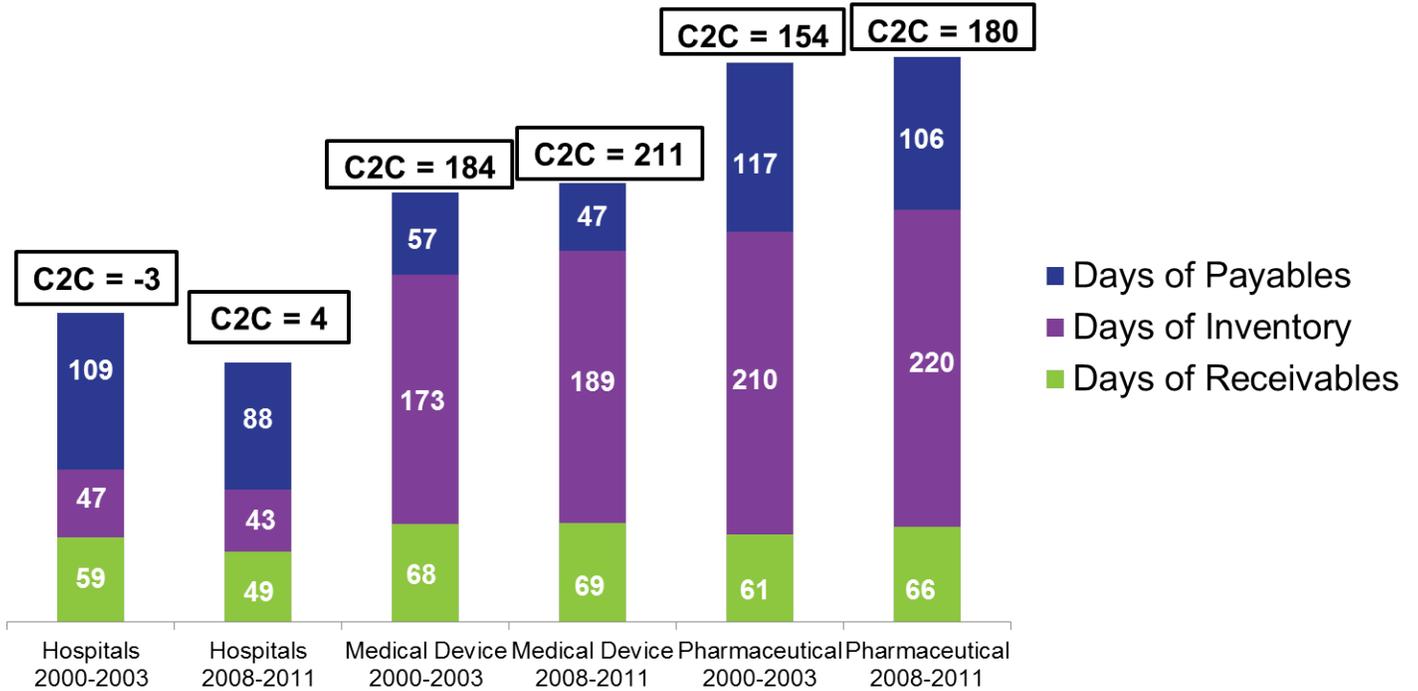
Pharmaceutical Manufacturers: Abbott Laboratories, Eli Lilly & Co., Merck & Co., Inc., Novartis International AG, Pfizer, Inc.

*Due to unavailable data, pharmaceutical revenue per employee values were calculated using 2002 and 2011 numbers.

Supply chain processes within the hospitals have matured. Hospitals have made more progress on improving cash-to-cash cycles than their upstream manufacturing trading partners. They have reduced inventories and attempted to work with suppliers. As shown in figure 2, it is notable to see that this industry is one of the few where downstream trading partners have actually improved payable terms for their suppliers.

The future lies before the healthcare provider. As the provider of patient care, they have the greatest potential to lead in the healthcare value chain's redesign to improve value. They have come a long way, but the changes have been incremental. They have focused primarily on traditional sourcing techniques; not a redesign of the healthcare value chain from the outside in, and the redefinition of complex and antiquated processes.

Figure 2. Comparison of the Elements of the Cash-to-Cash Cycle for Hospitals: A Comparison of Two Periods of 2000-2003 and 2008-2011



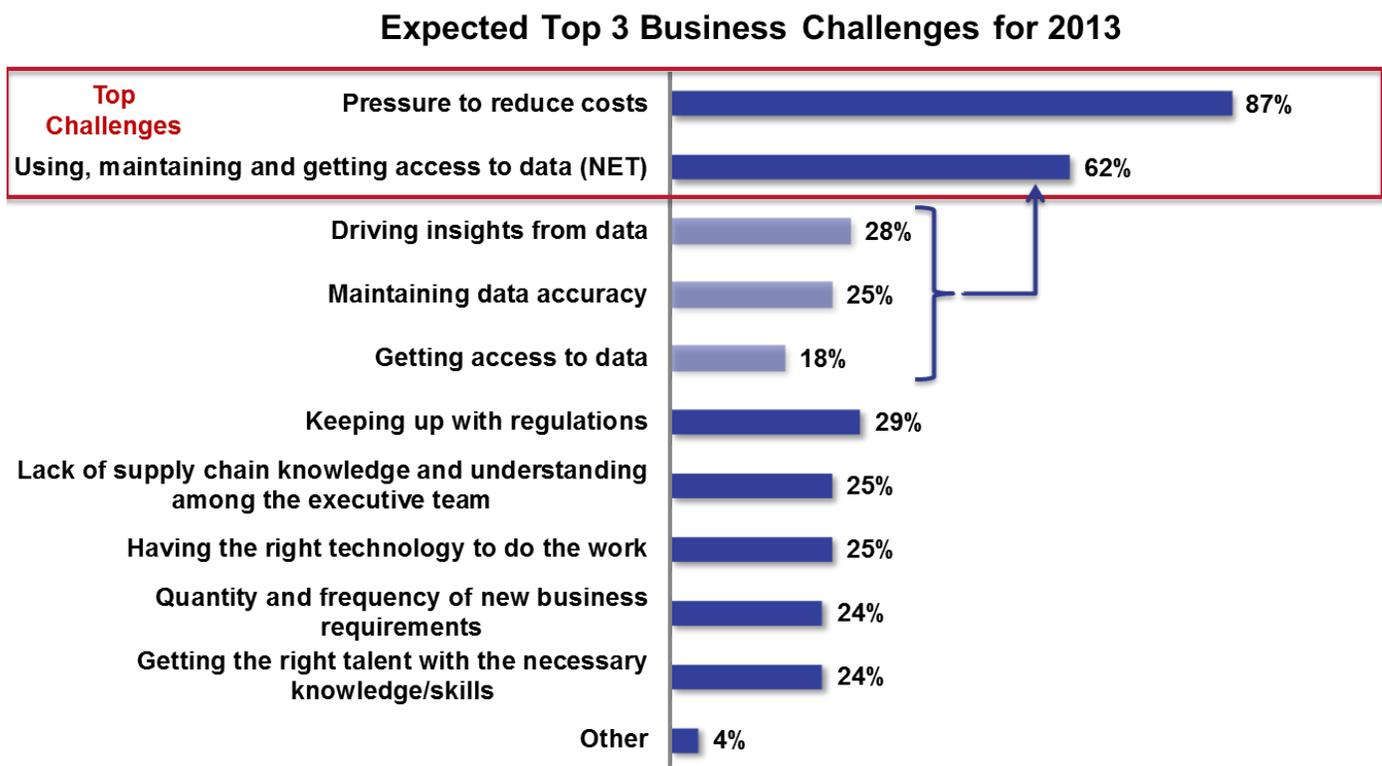
Source: Supply Chain Insights LLC, Corporate Annual Reports 2000-2003, 2008-2011
 Hospitals: Community Health Systems, HCA Holdings Inc., Tenet Healthcare Corporation, Universal Health Services, Inc.
 Medical Device Manufacturers: Baxter International Inc., Boston Scientific Corp., Stryker Corp., St. Jude Medical, Inc., Zimmer Holdings Inc.
 Pharmaceutical Manufacturers: Abbott Laboratories, Eli Lilly & Co., Merck & Co., Inc., Novartis International AG, Pfizer, Inc.

Current State

Change is the new normal. The government compliance whip is out. Hospitals are largely regional operations facing intense pressures to reduce costs while improving patient care. There is a forced march for readiness in the face of pending healthcare regulations.

Like all industries, as seen in figure 3, the hospital organization is drowning in data. They are trying to drive insights from data. While their mission is clearer on what defines supply chain excellence than for other industries, getting, using and maintaining data is an obstacle for the hospital to drive more value in the healthcare value chain.

Figure 3. Hospital Business Challenges



Source: Supply Chain Insights LLC, Healthcare Study (Feb-Apr 2013)

Base: Healthcare providers (n=68)

Q5. What do you expect will be your organization's top 3 business challenges in 2013? Please select no more than three.

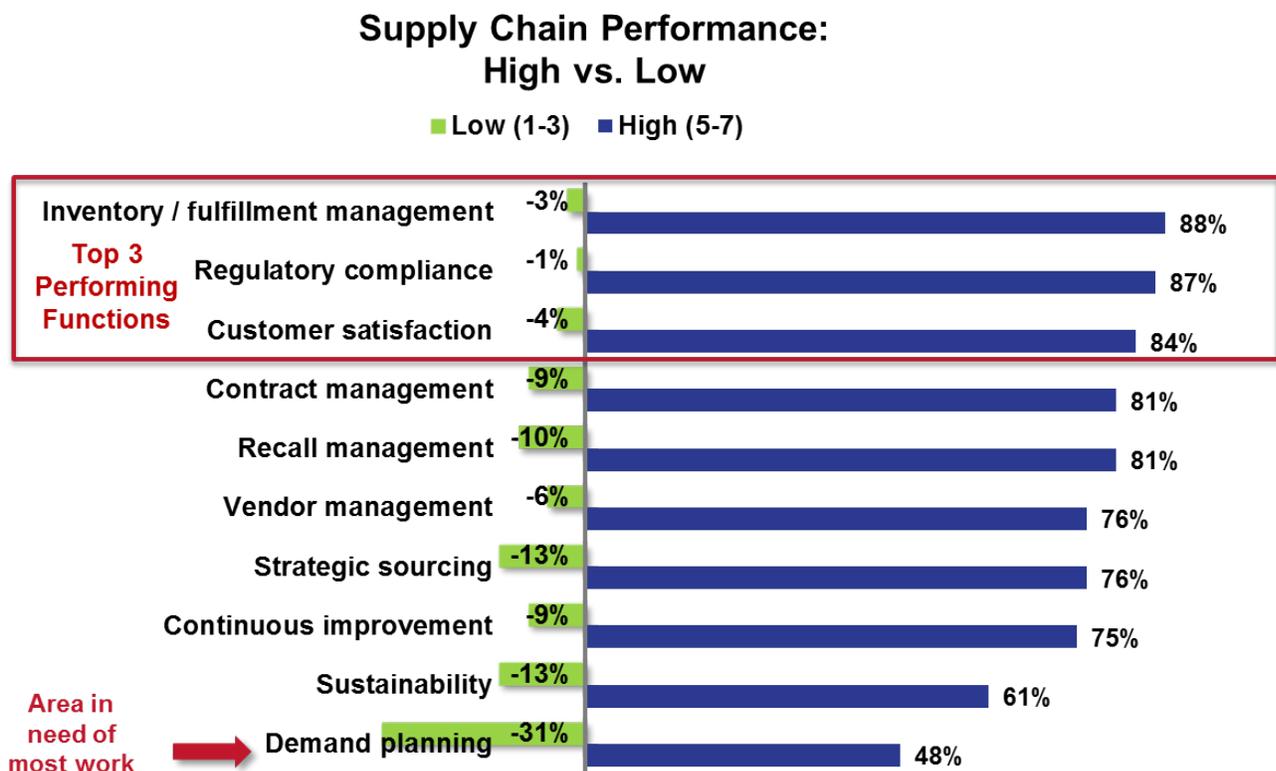
In our experience in working with hospital leaders driving supply chain excellence over the last decade, the supply chain organization within the hospital has matured greatly. In this study, 75% of organizations have a supply chain organization. The majority of these teams report to the Chief Financial Officer (53%). The focus is stronger in sourcing and procurement than other supply chain disciplines. (See the Appendix)

While the maturity of the hospital supply chain team is not at the level of the consumer electronics, consumer packaged goods or chemical industries, today, the supply chain organization within a hospital plays a key role.

It is not a rarity: the group has risen in stature and importance. The adoption of supply chain processes (e.g., value stream mapping, Lean processes, buying automation) has matured. In this study, the average tenure for a team member of a hospital supply chain organization in the field of supply chain management is now twenty years. (See Appendix)

By and large, supply chain teams in hospitals are satisfied with their progress in meeting their supply chain goals. In this study, 62% of hospitals, or three out of five respondents, believe that they are successful at meeting their goals. As outlined in figure 4 from the study, supply chain execution performance rates higher than supply chain planning; and ratings on hospital-based initiatives (e.g., inventory management and cost cutting) rate higher than processes involving multiple parties in the supply chain (e.g., contract management, rebate management, and recall management, etc.).

Figure 4. Current Performance of the Supply Chain Team



Source: Supply Chain Insights LLC, Healthcare Study (Feb-Apr 2013)

Base: Healthcare providers (n=68)

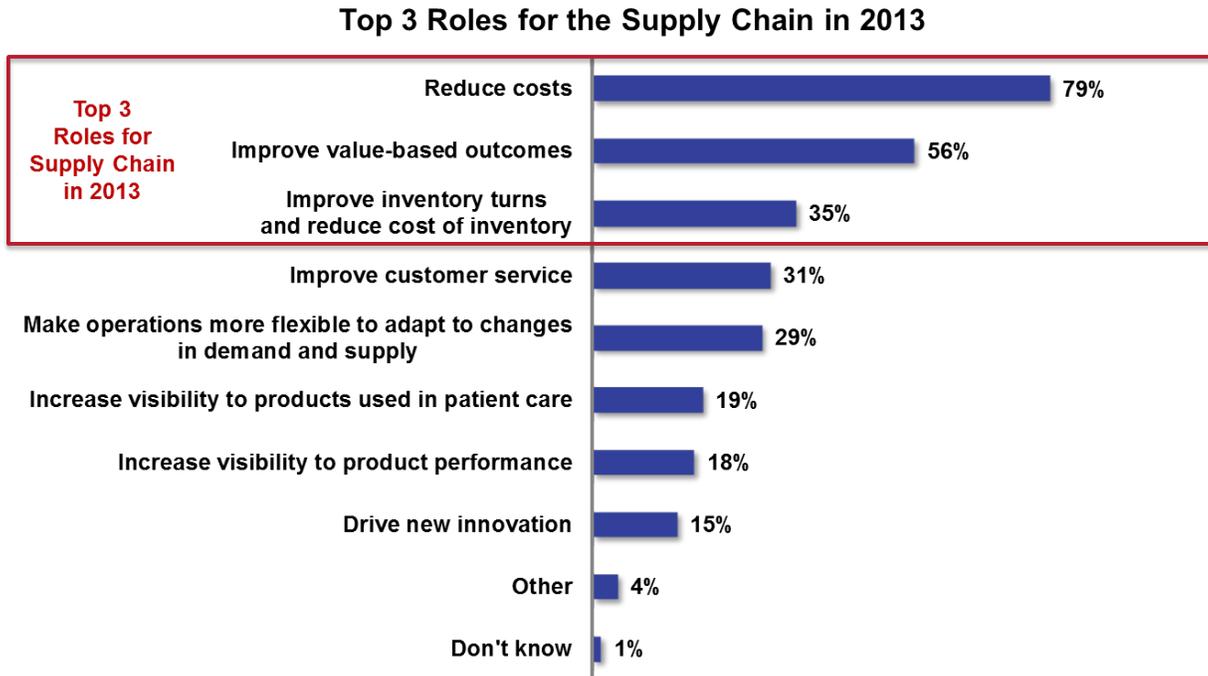
Q35. How would you rate the performance of your organization's supply chain on each of the following? SCALE: 1=Poor, 7=Excellent

Progress on Cutting Costs

Value analysis has increased in importance, but a supply chain team's major focus is on reducing costs. Cost cutting ranks at the top of the list in figure 5, above value analysis and inventory management. While the initial work on reducing costs was based on negotiations and aggregated buying, the efforts have moved into more

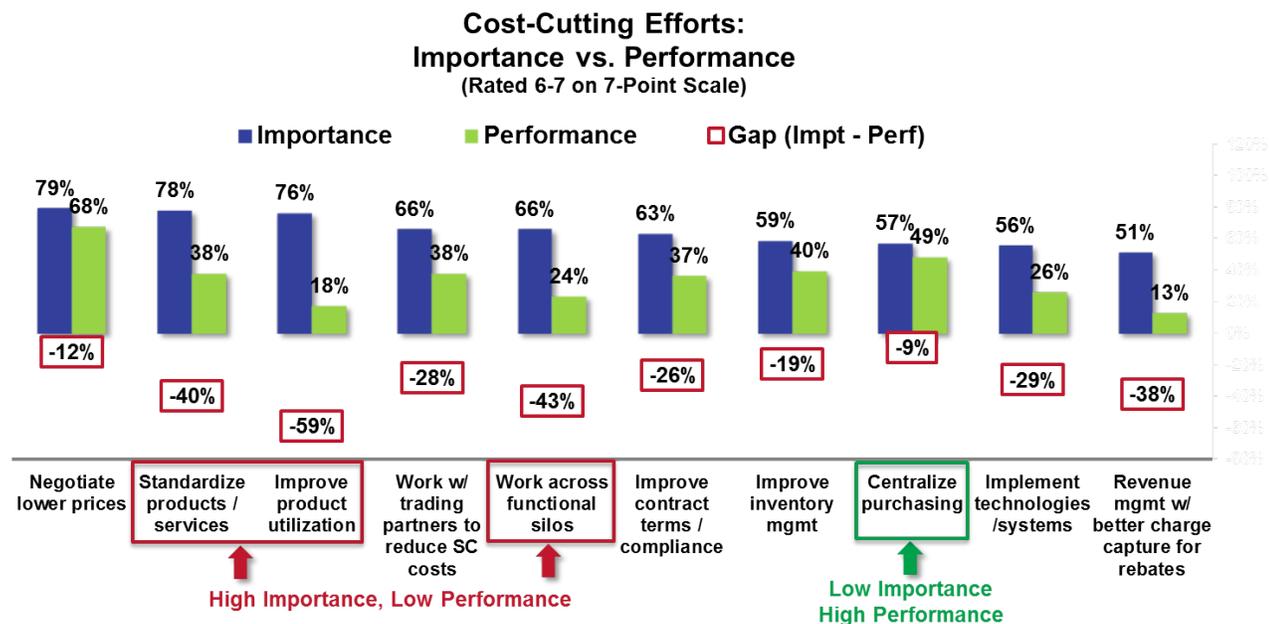
systemic programs based on Lean, collaborative relationships, product and material standardization and value analysis. Not all have worked equally well. The processes are evolving.

Figure 5. Importance of Supply Chain Team Activities



Source: Supply Chain Insights LLC, Healthcare Study (Feb-Apr 2013)
 Base: Healthcare providers (n=68)
 Q6. As you think about 2013, what are the top three roles you believe the supply chain can play in your organization?

Figure 6. Importance versus Performance of Cost Cutting Efforts



Source: Supply Chain Insights LLC, Healthcare Study (Feb-Apr 2013)
 Base: Healthcare providers (n=68)
 Q9. How would you rate the importance of each of the following when it comes to lowering overall costs of your organization? SCALE: 1=Not at all important, 7=Extremely important; Q10. How well does your organization perform on these same cost-cutting efforts? SCALE: 1=Poor, 7=Excellent

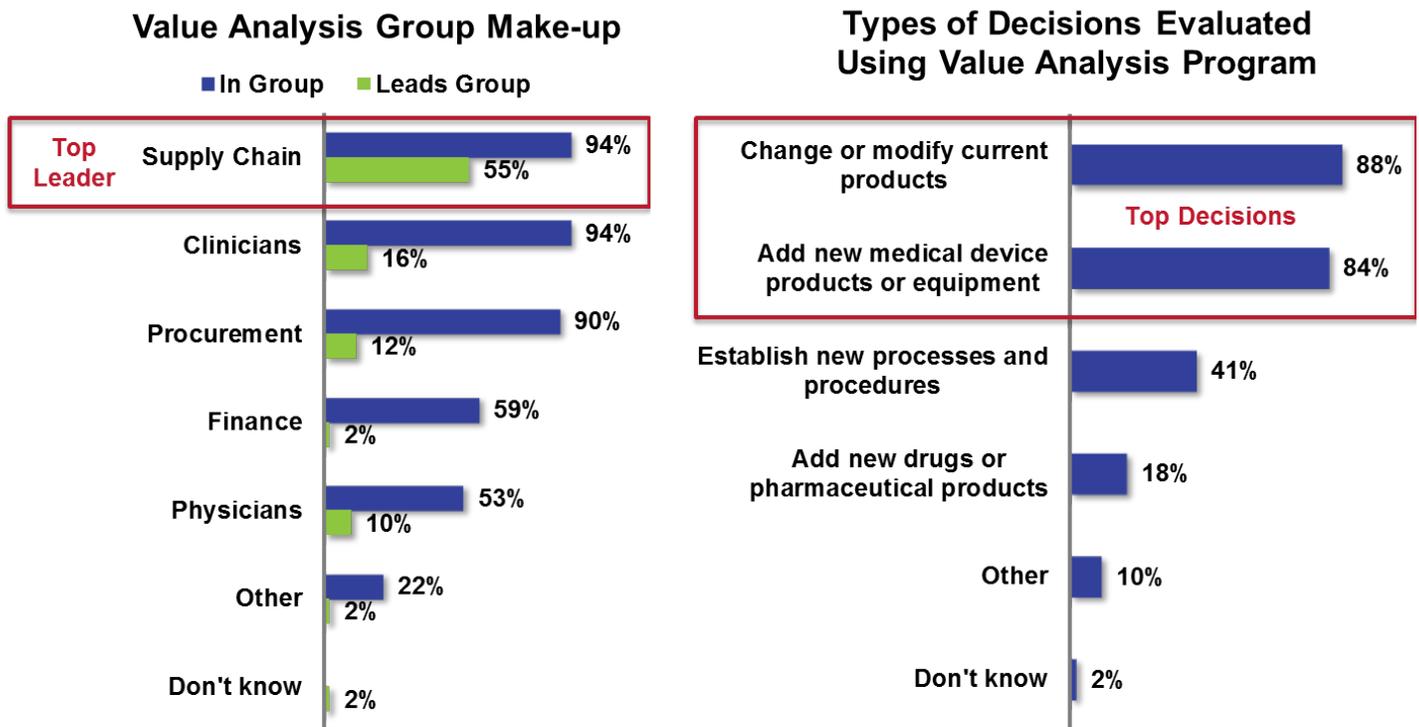
Hospitals give themselves high scores on negotiating lower costs, but they rate themselves lower on more process-intensive sourcing initiatives. As shown in figure 6, the areas with the greatest gaps (high importance, but low performance) are standardization of products and services, improving product utilization, and working across cross-functional silos. Most of the effort has been focused on traditional sourcing techniques. The focus is now moving to building strategic relationships. In the survey, 49% of respondents rate themselves as successful in building effective collaborative programs.

Conversely, the consolidation of procurement functions and aggregate buying processes by Group Purchasing Organizations (GPO) is rated highly in performance, but is seen as less important in reducing overall costs.

Driving Greater Value

Over the course of the last decade, there has been significant focus within the hospital to improve value. The shift from cost to value is not trivial. In this study, 72% of companies have a cross-functional value analysis team that is trying to chart this path. The supply chain team is leading the effort and 67% of study respondents believe that their value analysis efforts are successful. For most, as shown in figure 7, the current focus is on the modification of existing or adoption of new equipment or products. The evaluation of new processes and pharmaceuticals are less commonly reviewed by these committees.

Figure 7. Understanding the Role of the Value Analysis Team



Source: Supply Chain Insights LLC, Healthcare Study (Feb-Apr 2013)

Base: Healthcare providers with value analysis program (n=49)

Q15. Who currently participates within the value analysis group? Please select all that apply. And who leads the group?

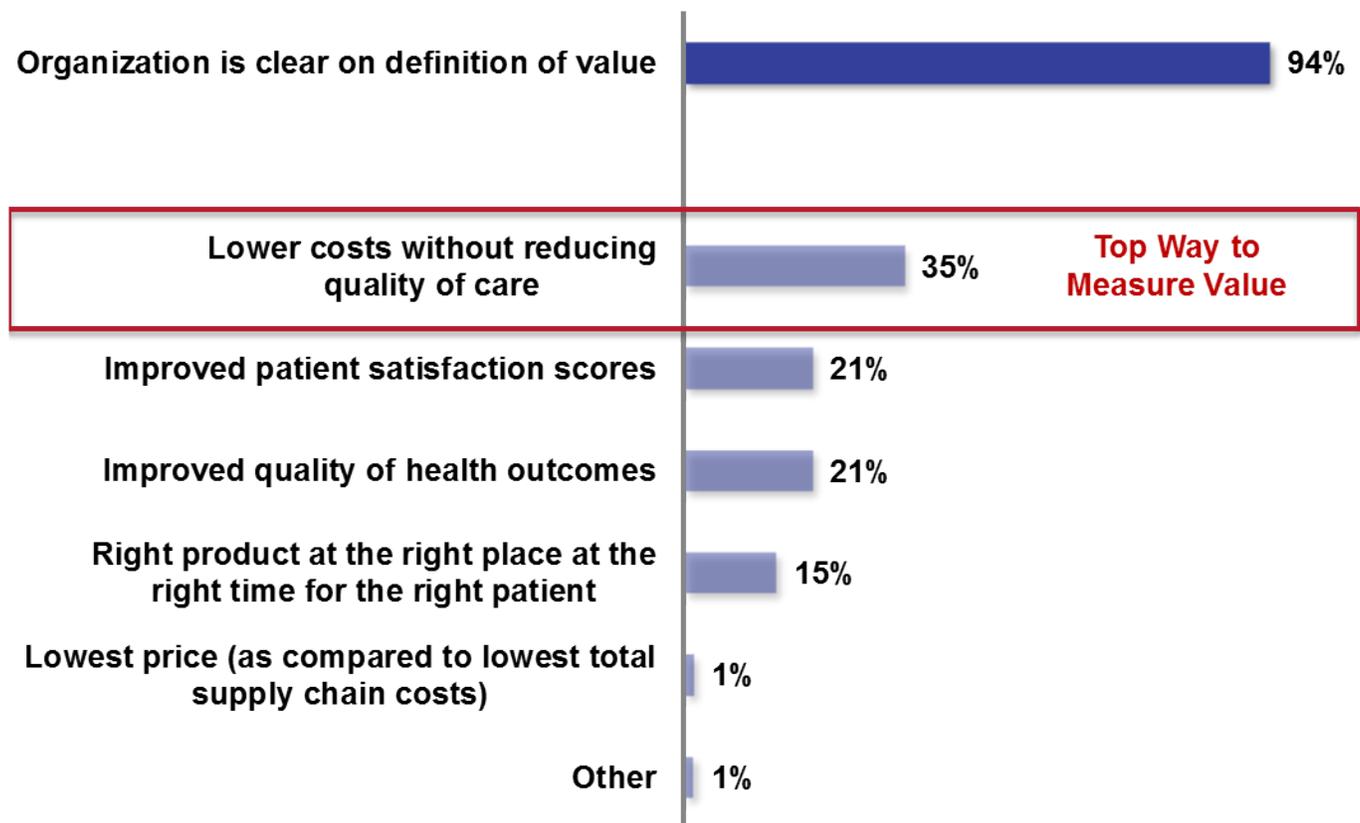
Q13. What types of decisions does your organization evaluate using your value analysis program? Please select all that apply.

For the supplier that is used to selling products directly to the physician, the introduction of teams to ensure value analysis may seem like an unnecessary step. Each hospital's processes are slightly different, and the team's decision processes are evolving. As a result, for a medical device supplier or a provider of medical equipment, the review can elongate the sales cycle and derail a sale.

The measure of "value" can vary by hospital and by region, but there are similar patterns. The majority of healthcare providers define value as lowering costs without reducing the quality of patient care. Only 1% is only looking at the lowest price and 94% of respondents report that their organization is clear on how it defines "value."

Figure 8. Definition of Value

How Organizations Measure Value



Source: Supply Chain Insights LLC, Healthcare Study (Feb-Apr 2013)

Base: Healthcare providers (n=68)

Q8. How does your organization measure "value" today, at a company level? Please pick the one that best applies.

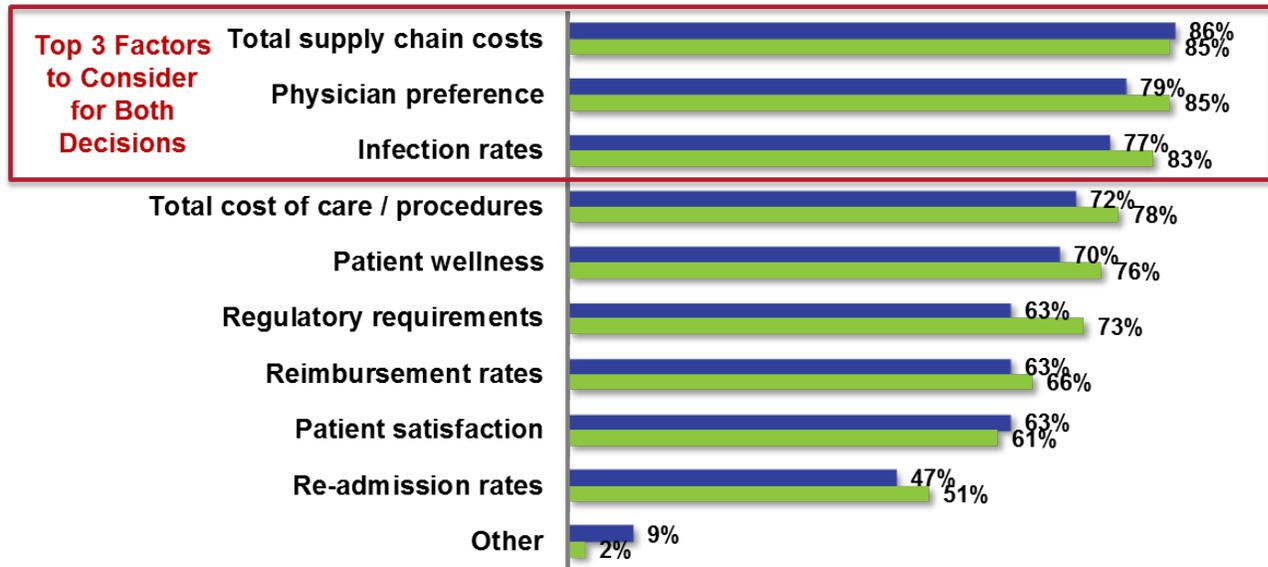
The processes have become more complicated. On average, to add or change a product, seven out of nine factors are considered. These are listed in figure 9.

Figure 9: Factors Considered in the Decision for New or Changing Products by the Value Analysis Team

Factors Consider for Specific Decisions: Changing vs. Adding Products

■ Changing Current Products ■ Adding New Medical Device Products

On average, will consider 7 out of these 9 factors



Source: Supply Chain Insights LLC, Healthcare Study (Feb-Apr 2013)

Base: Healthcare providers with value analysis program for specific decisions – Changing or Modifying Current Products (n=43), Adding New Medical Device Products (n=41); NOTE: Base sizes too small to show for other decisions asked about.

Q14. What factors on the left does your organization consider when determining how to make each of these decisions? Please select all that apply.

Recommendations

Power has shifted from the supplier to the provider in the healthcare value chain/network. The hospital organization has grown and matured and can now use this power to force a redesign to improve patient-based outcomes.

- Structural design changes.** The healthcare value chain's contract terms and rebate structures are some of the most complex of any industry. To reduce costs and improve value, companies should look at the redesign of these programs. The low score on rebate capture charges in figure 6 is indicative of the greater problem.
- Redesign from the patient back, outside in.** Total inventories in the healthcare value network have grown over the last five years. To truly reduce inventory and improve the response, hospitals need to evaluate a system redesign including disintermediation of traditional distributor relationships and the use of consignment inventories. Since the suppliers to the hospitals are weak in network design capabilities, hospitals, as part of value analysis, could initiate these programs to reduce total system inventories and improve replenishment.

- **Actively build inter-enterprise Systems of Record.** The coordination of activities in the hospital environment is more complex, requiring the coordination of multiple entities. Simplify processes and actively support standardization of item tracking and recalls. As a result, hospitals should actively support efforts like the GS1 Standardization and GHX medical/surgical Case Scheduling to improve patient outcomes and improve tracking. They need to recognize that they now have the power in the supply chain to drive suppliers to adopt these new practices and can design them to be a win/win value proposition.
- **Share daily usage data daily with suppliers. Redesign relationships for value.** To improve patient care and better align with suppliers, hospitals should take a page from the Wal-Mart playbook and recreate Wal-Mart's Retail Link for downstream suppliers. This would enable a pull-based signal and the active sharing of daily usage data daily. The transmission of usage data, changes in perpetual inventory status, inventory adjustments, and withdrawal data could be of great help to the supplier base if enough hospitals adopted data sharing.
- **Redesign based on the Internet of Things.** The hospital is a wonderful opportunity to transform the supply chain based on the Internet of Things. Smart shelves, RFID in the operating rooms on surgical cabinets, beds that sense body movement, implantable devices that that emit signals... the opportunities go on and on. The opportunities for improved patient care due to the Internet of Things are great. Focus value analysis teams on what could be, and invest in the future to focus on health and wellness.

Summary

Over the last decade, the hospital supply chain organization has matured. They have successfully adopted sourcing techniques and value analysis programs. The opportunity lies before them to be leaders in the redesign of the healthcare value chain to focus on value-based outcomes. This will not happen through traditional techniques. Instead, it requires the hospital organization to drive change. It is clear from the pending healthcare legislation that continuous improvement of existing systems will not be sufficient; instead, we need healthcare supply chain leaders to exert power and start to drive the outside-in process innovation effort from the patient back, based on value-based outcomes.

Appendix

Definitions

Collaborative Programs: A joint value proposition between buyers and sellers that is a win/win for both parties.

Group Purchasing Organizations (GPO): An organization that is formed to orchestrate collective buying programs for a group of hospitals.

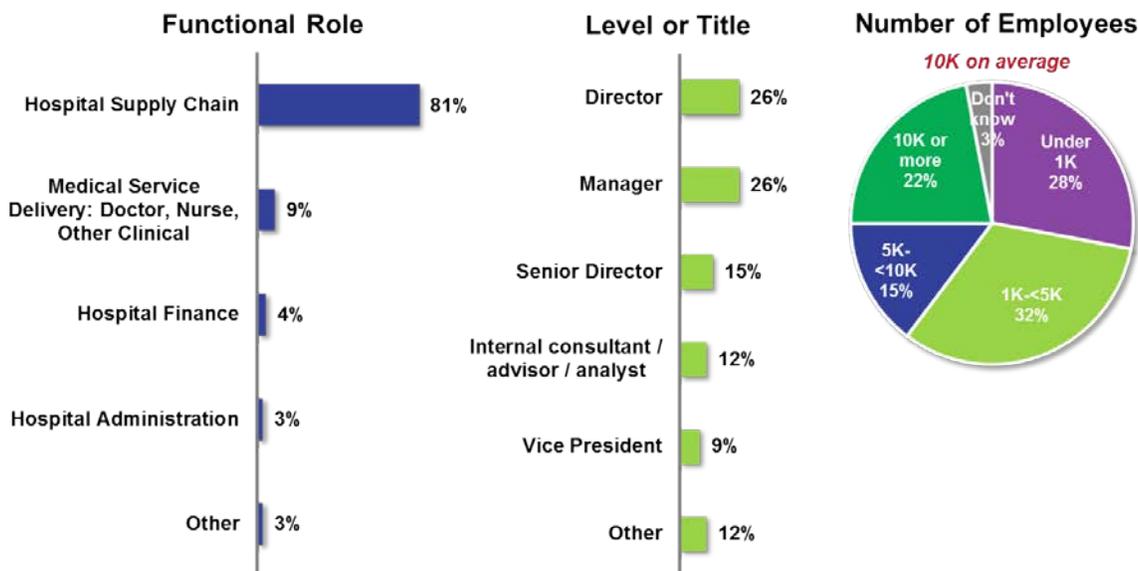
Value Analysis Programs: The formation of a cross-functional team to assess the value of changes in equipment, processes and new technologies for the hospital.

Data and Demographics

The data from this report primarily came from an online, quantitative survey fielded by Supply Chain Insights during February through April of 2013. The respondents answered the surveys of their own free will. The only offer made to stimulate a response was to share the survey results in the form of Open Content research at the end of the study.

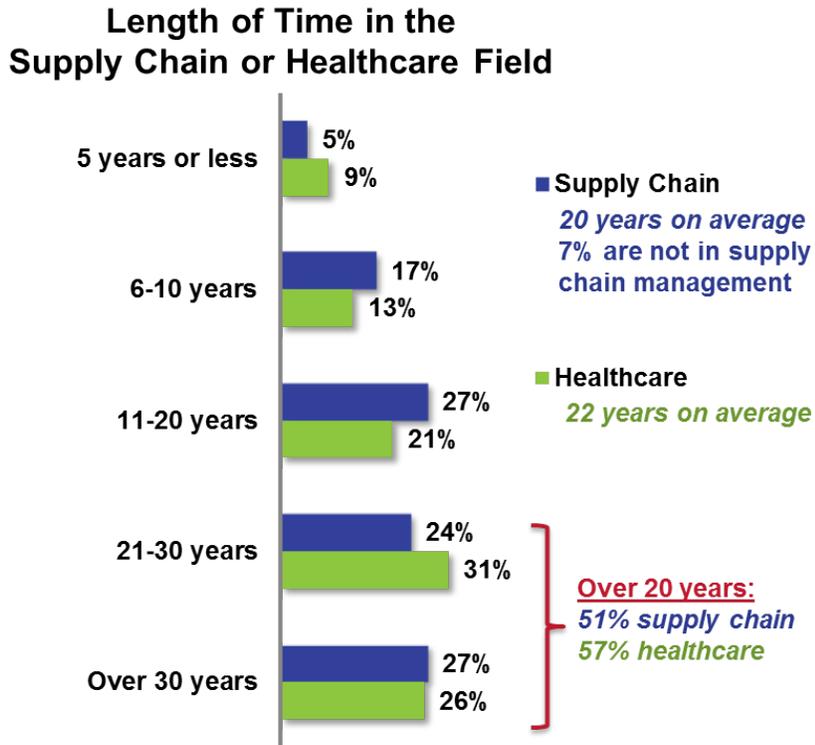
The names of those that completed the surveys are held in strict confidence, but the demographics are shared to help the readers of this report gain perspective on the respondents. The demographics supporting the research findings are found below. The [full study is available](#) in our Supply Chain Insights Community.

Figure A. Role and Title of Survey Respondents and Number of Employees



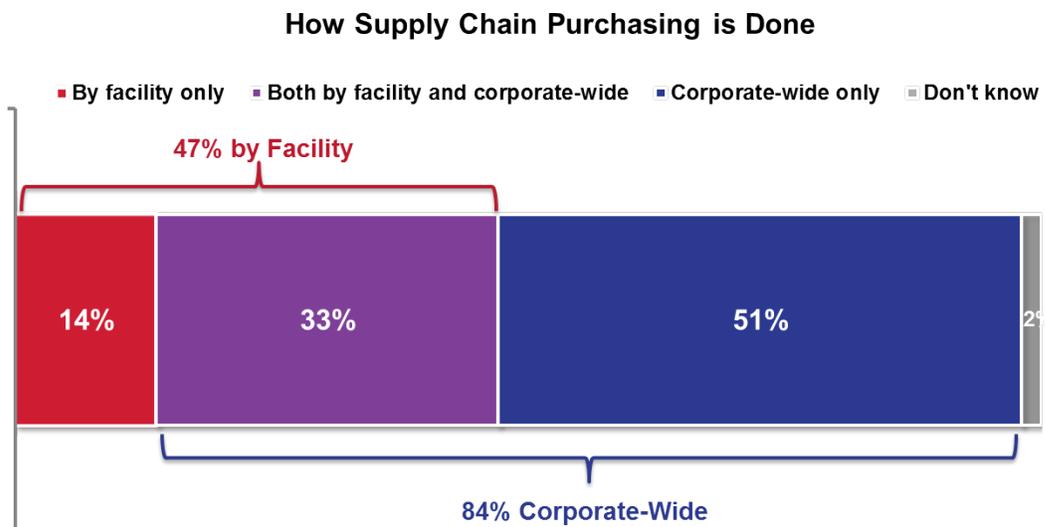
Source: Supply Chain Insights LLC, Healthcare Study (Feb-Apr 2013)
Base: Healthcare providers (n=68)
Q45. Which of the following best describes your functional role within your organization? Please select the one that fits best.
Q46. Which of the following best describes your current level or title? Please pick the one that fits best.
Q43. What is the size of your organization, in terms of number of employees? Please write in your best estimate below. OPEN-ENDED

Figure B. Tenure of Respondents in Supply Chain



Source: Supply Chain Insights LLC, Healthcare Study (Feb-Apr 2013)
 Base: Healthcare providers (n=68) and in supply chain management (n=63)
 Q47. For how long have you been a supply chain management professional?
 Q48. For how long have you been working in the healthcare field?.

Figure C. Definition of the Purchasing Organization

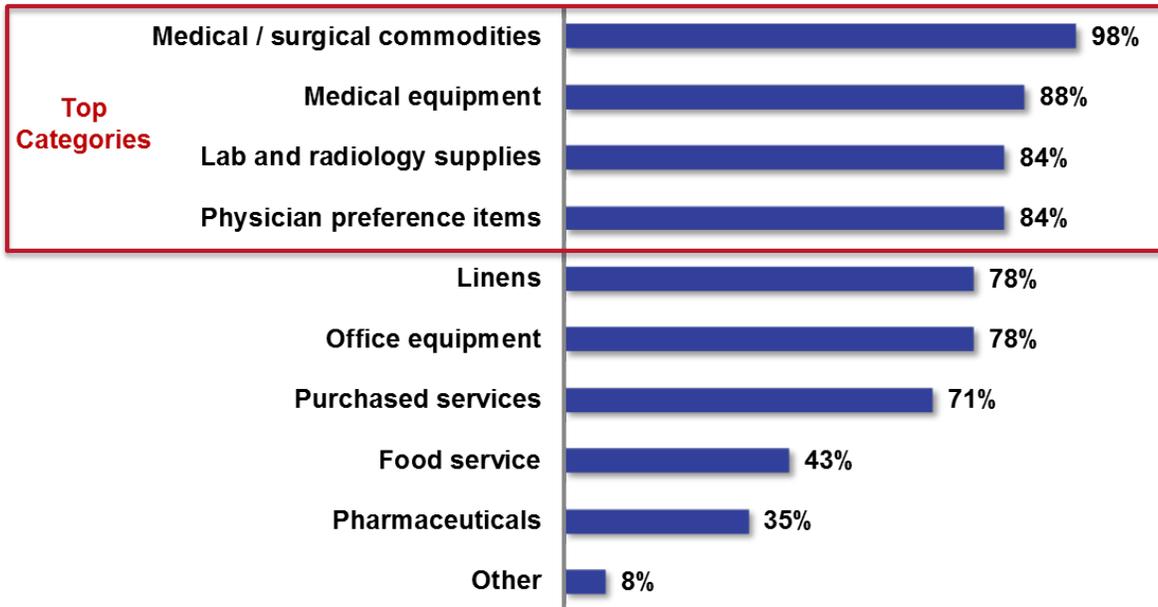


Source: Supply Chain Insights LLC, Healthcare Study (Feb-Apr 2013)
 Base: Healthcare providers with supply chain organization (n=51)
 Q41. Is your company's supply chain purchasing primarily done by facility or corporate-wide?

Figure D. Spend Categories Managed by the Supply Chain Organization

Categories Contracted and Managed by Supply Chain Organization

7 Categories on Average



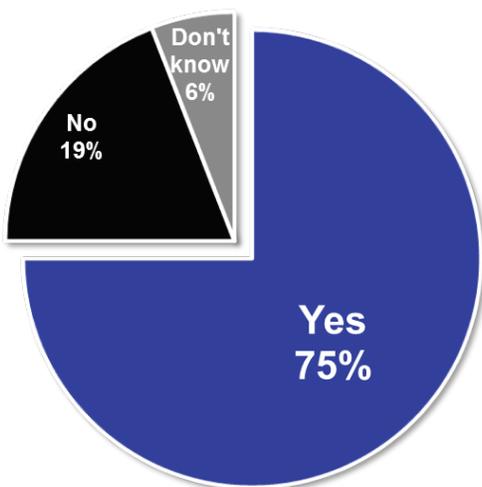
Source: Supply Chain Insights LLC, Healthcare Study (Feb-Apr 2013)

Base: Healthcare providers with supply chain organization (n=51)

Q40. For which of the following categories does your company's supply chain organization actively contract and manage in the delivery of patient services? Please select all that apply.

Figure E. Supply Chain Organization

Have Formal Supply Chain Organization

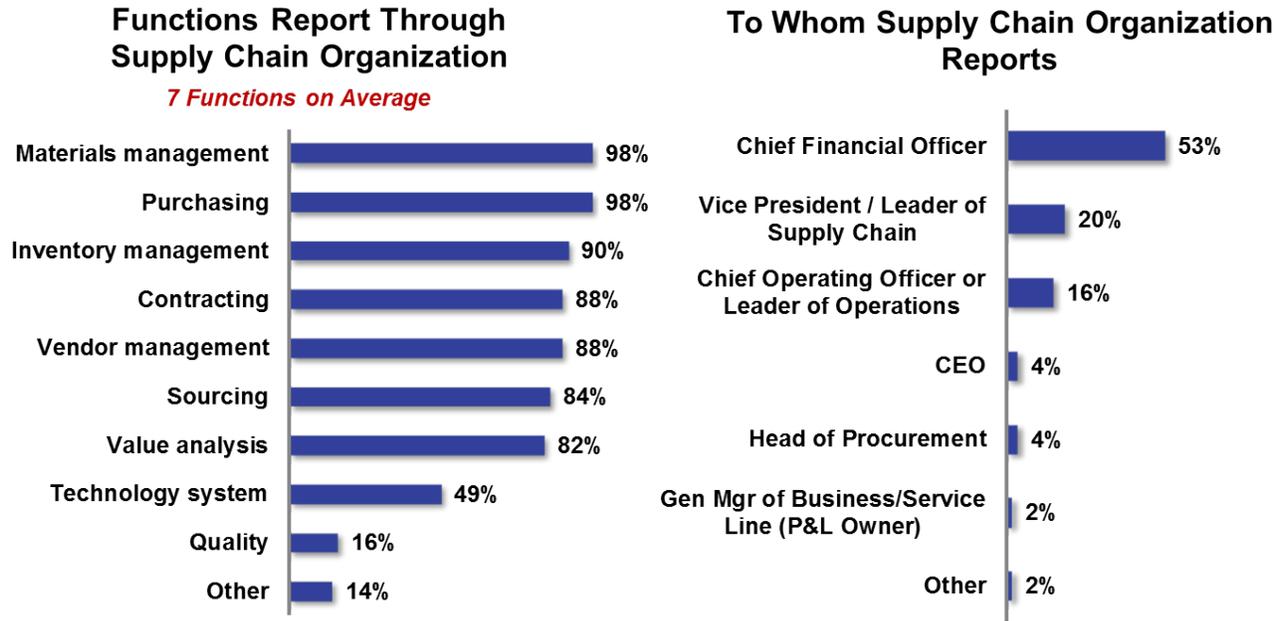


Source: Supply Chain Insights LLC, Healthcare Study (Feb-Apr 2013)

Base: Healthcare providers (n=68)

Q36. Does your company have a FORMAL supply chain organization?

Figure F. Definition of the Supply Chain Organization

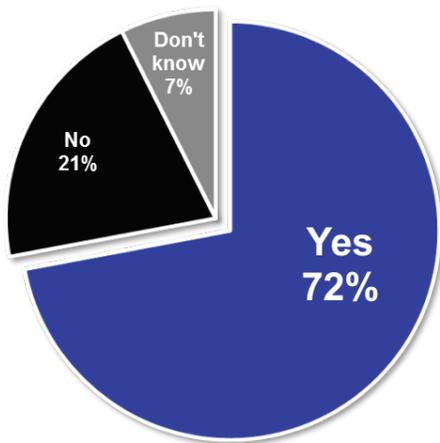


Source: Supply Chain Insights LLC, Healthcare Study (Feb-Apr 2013)
 Base: Healthcare providers with supply chain organization (n=51)
 Q39. Companies define their supply chain organizations in different ways. Please tell us how your organization defines its supply chain by selecting which function(s) report through the supply chain organization. Please select all that apply.
 Q37. To whom does your company's supply chain organization report?

Figure G. Formal Value Analysis Group

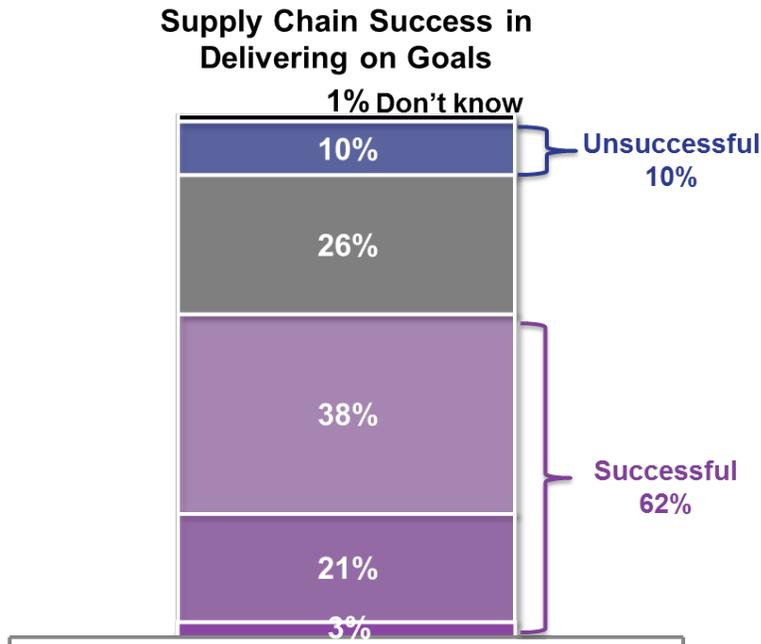
Have a Formal Value Analysis Program or Group

Value Analysis Program = where value analysis is focused on the selection of products and/or services



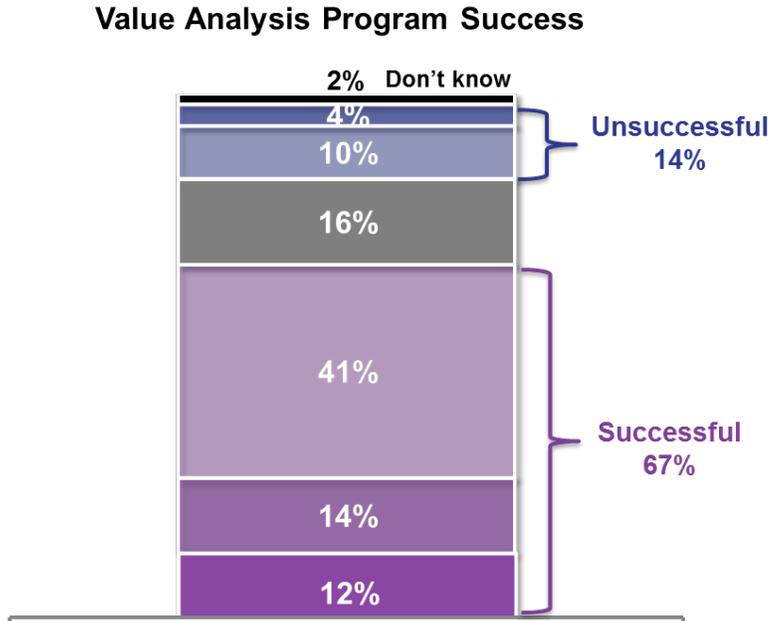
Source: Supply Chain Insights LLC, Healthcare Study (Feb-Apr 2013)
 Base: Healthcare providers (n=68)
 Q12. Does your organization have a formal value analysis program or group, where value analysis is focused on selection of products and/or services?

Figure H. Supply Chain Success in Delivering on Goals



Source: Supply Chain Insights LLC, Healthcare Study (Feb-Apr 2013)
 Base: Healthcare providers (n=68)
 Q7. Overall, how successful is your organization's supply chain today in delivering on these goals? SCALE: 1=Not at all successful, 7=Extremely successful
 NOTE: Summary % may not match sum of parts due to rounding

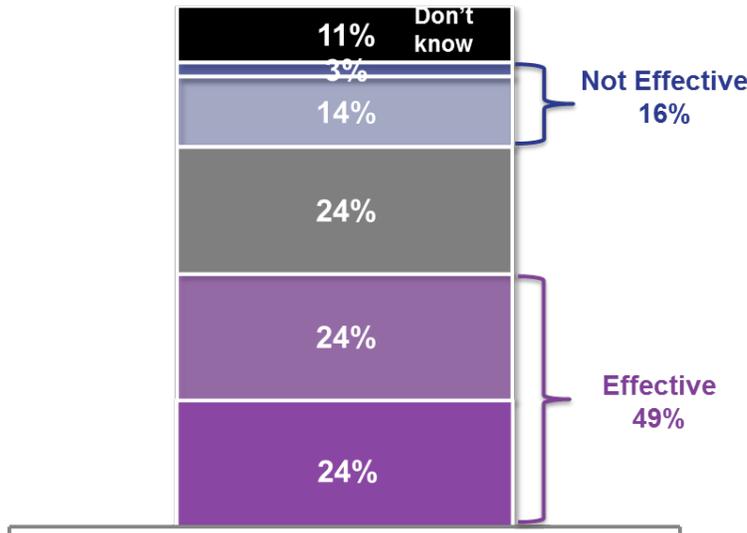
Figure I. Value Analysis Program Success



Source: Supply Chain Insights LLC, Healthcare Study (Feb-Apr 2013)
 Base: Healthcare providers with value analysis program (n=49)
 Q16. How would you rate the success of your organization's value analysis program or group, in terms of meeting the operating unit's goals? SCALE: 1=Not at all successful, 7=Extremely successful; NOTE: Summary % may not match sum of parts due to rounding

Figure J. Collaborative Program Effectiveness

Collaborative Program Effectiveness



Source: Supply Chain Insights LLC, Healthcare Study (Feb-Apr 2013)
Base: Healthcare providers with collaborative programs (n=37)
Q18. How would you rate the effectiveness of the collaborative program(s) for your organization? SCALE: 1=Not at all effective, 7=Extremely effective
NOTE: Summary % may not match sum of parts due to rounding

Other Related Reports:

[Supply Chain Metrics That Matter: The Cash-to-Cash Cycle](#)

Published by Supply Chain Insights in November 2012.

[Supply Chain Metrics That Matter: A Focus on the Pharmaceutical Industry](#)

Published by Supply Chain Insights in December 2012.

[Supply Chain Metrics That Matter: Driving Reliability in Margins](#)

Published by Supply Chain Insights in January 2013.

[Supply Chain Metrics That Matter: A Focus on Hospitals](#)

Published by Supply Chain Insights in January 2013.

[Supply Chain Metrics That Matter: A Focus on Medical Device Manufacturers](#)

Published by Supply Chain Insights in February 2013.

About Supply Chain Insights LLC

Supply Chain Insights LLC is a research and advisory firm focused on reinventing the analyst model. The services of the company are designed to help supply chain teams improve value-based outcomes through research-based Advisory Services, a dedicated Supply Chain Community and public/in-house training. Supply Chain Insights is focused on delivering **independent, actionable and objective advice for supply chain leaders**. As a company dedicated to research, turn to us when you want the latest insights on supply chain trends, technologies to know, and *Supply Chain Metrics That Matter*.

About Lora Cecere



Lora Cecere (twitter ID [@lcecere](#)) is the Founder of [Supply Chain Insights LLC](#) and the author of popular enterprise software blog [Supply Chain Shaman](#) currently read by 5,000 supply chain professionals. Her book, ***Bricks Matter***, (co-authored with Charlie Chase) published on December 26th, 2012.

With over nine years as a research analyst with **AMR Research, Altimeter Group, and Gartner Group** and now as a Founder of Supply Chain Insights, Lora understands supply chain. She has worked with over 600 companies on their supply chain strategy and speaks at over 50 conferences a year on the evolution of supply chain processes and technologies. Her research is designed for the early adopter seeking first mover advantage.