Best practices for managing cost in the healthcare supply chain

J. Paul Dittmann, Ph.D.
Executive Director, Global Supply Chain Institute at the University of Tennessee
Healthcare will consume 18 percent of U.S. GDP in 2015 and is projected to grow to 26 percent in 20 years’ time. In addition, all areas of the healthcare industry are becoming more competitive whether big pharma, medical device manufacturers, healthcare retailers, or healthcare distributors.

The simultaneous overall growth in healthcare overhead costs, as well as the increasing competitive intensity is putting healthcare supply chain costs under scrutiny like never before. Maybe this is why, in the seventh annual UPS *Pain in the Chain* study, “managing supply chain cost” was identified by survey respondents as the least-met supply chain need.

Five to ten years ago, the supply chain component of the healthcare cost structure was not on the radar screen in many firms even though it consumed 50 percent or more of total cost. This lack of focus resulted in the average healthcare supply chain having a lower maturity level than the supply chains of other industries. Today, there is a growing recognition that a lot of low-hanging fruit exists for those healthcare firms that aggressively embrace excellence in managing their supply chain costs.

Some healthcare firms have gotten the message and are leaving no stone unturned. They are looking to third-party logistics providers (3PLs) to bring best practices from other industries. And in general, companies in the healthcare field have found a major opportunity for cost reduction lies squarely within their supply chain.

Supply chain professionals in most industries are traditionally charged with controlling and cutting costs, and managing the company’s cost structure. Healthcare firms are realizing that a 15 percent reduction (or more) in cost is very feasible in the short run with much more possible.
For purposes of this white paper, I chose five areas of supply chain cost on which to focus.

Part Two of this paper drills deeper into each of these five areas and provides a range of specific ideas to apply as you attack cost in the healthcare supply chain.
A major cost problem for healthcare companies

Managing orders and inventory should be an efficient, error-free function of the supply chain organization. However, many healthcare providers, distributors, and manufacturers seem to struggle with a large error rate. That often translates into major cost issues.

While other industries have implemented product scanning, electronic ordering, order accuracy controls, and other technology, the healthcare industry lags behind. Order management in particular is one of the biggest costs in the healthcare supply chain, burdened in many cases by manual processes.

Imperfect order management invariably causes problems with inventory accuracy, resulting in a failure of the supply chain to provide the right product at the right place at the right time.

Companies react to failures like this the only way they can in the short run: they increase inventory—sometimes to astronomical levels. Even among the best companies in this field, too much inventory exists. For example, in the Gartner Annual Healthcare Supply Chain Top 25, one company in the top five is turning its inventory less than three times annually (i.e., it retains over four months of supply) and the 11th ranked company turns inventory only 1.6 times (i.e., it retains over seven months of supply). The healthcare distributors and retailers in the field do a better job at around seven to ten turns, but even those firms do not compare to the best in other industries.

The average company in the Gartner Top 25 Supply Chains turns its inventory 28 times, vs. eight times for the Gartner Healthcare Top 25.
How you pay for inventory twice: it costs money and also absorbs money

When inventory is added to the healthcare supply chain to compensate for errors and inefficiencies, it requires out-of-pocket cost to store and manage it. These costs include:

- **Capital**: to finance the inventory
- **Storage**: to cover costs of warehouse rent or mortgage, lighting, heating, cooling, and moving materials in and out of the warehouse
- **Service**: to cover insurance and taxes
- **Risk**: of theft, shrinkage, and obsolescence/spoilage, all of which are major issues in the healthcare supply chain

Ignore the impact of inventory on the balance sheet at your peril

All of these items negatively impact the income statement, and are costs like any other. Inventory increases working capital and depresses cash flow (i.e., it absorbs money). The stock market focuses heavily on cash and for good reason. It tells the other side of the story and indicates how well the healthcare firm is managing its overall financial health.

When it comes to managing inventory, establish multiple ways to reduce it as far as you can without jeopardizing service to your customers.

Part Two of this paper will provide a list of eleven ideas for how to cut inventory painlessly.
The costs of maintaining security and global regulatory compliance exist in most supply chains in most industries. But these factors are magnified by an order of magnitude in the healthcare arena.

The *Pain in the Chain* study, sponsored by UPS, has consistently pointed to regulatory compliance as the number one concern of healthcare supply chain professionals, followed by security. Healthcare-oriented regulations impacting the supply chain are often unclear and, to make things worse, those regulations frequently change between countries and regions—often in unpredictable ways.

There are multiple handoffs in a global healthcare supply chain coupled with a lack of visibility. Theft is a constant threat, especially with very high-value healthcare shipments. Law enforcement is inconsistent at best and corruption is rampant in some parts of the world.

**having people with special expertise in regulatory compliance and security in the healthcare supply chain is essential.**

Over half of the companies in the UPS *Pain in the Chain* study use regulatory consultants. Many such firms are also looking to hire in-house expertise. This can be expensive, but is often unavoidable. In the global environment, almost 40 percent of healthcare firms set up partnerships with local distribution companies to address regulatory and security challenges.

To have a secure supply chain, each step in the chain must be made more secure, and each action carries a cost. Insurance can be considered and well over half (60 percent) of *Pain in the Chain* respondents use shipment coverage.

Key concerns: The *Pain in the Chain* study pointed to regulatory compliance as the number one concern of healthcare supply chain professionals, followed by product security.
8 ways to make distribution centers more secure

Even warehouse operations can be a major security concern for healthcare companies. Use these guidelines to ramp up security.

1. Front-end screening of all new employees must be very aggressive. Include polygraph or voice-stress analysis.

2. High-theft items must be placed in their own secure areas. Only certain employees should be able to enter secure areas and break seals.

3. Modern, hard-to-defeat electronic alarm systems are a necessity.

4. High fences, even guard dogs, around a warehouse perimeter help.

5. There should be a rigorous sign-in/sign-out procedure and badging program.

6. High-resolution cameras, metal detectors (for everyone—even visitors and management), and turnstiles can be essential security devices.

7. There should only be one way in and out of a distribution center, barring an emergency. That should be manned by staff with appropriate detectors (e.g., metal detectors).

8. Trailer yards can be vulnerable. Tractors and trailers have been stolen from secure fenced-in areas. Consider extending cameras, guard dog patrols, etc. to these areas.

Clearly, healthcare supply chain professionals are faced with major decisions with cost implications to deal with regulation and security issues. This calls for a strategy with a prioritized, multi-year action plan.

There’s a lot to do here and a lot of cost associated with all of the actions. You can’t do it all at once. So make sure you have a plan giving you the greatest return on your regulatory compliance and security project investments.
The average healthcare firm has 60 percent or more of its cost in purchases from suppliers. With a cost level this high it is critical to follow best-in-class procurement principles. Of course cost is not the only variable that must be managed. Cost must be balanced against delivery that is fast, on time, and complete.

Though it may not fall within the area of responsibility of all supply chain managers, procurement is a supply chain function, and is critical to all firms in the healthcare field whether medical device, big pharma, healthcare retailers, or healthcare distributors.

Part Two of this paper will give you ten specific ideas on how to optimize procurement cost.
More than half of the respondents in the UPS Pain in the Chain study cite labor cost as a major challenge. The lion’s share of supply chain labor often resides in warehouse operations.

Do you farm out your warehousing and transportation operations to a 3PL? Or do you manage logistics operations in-house? In the UPS Pain in the Chain study 78 percent of respondents said they were using logistics partnerships to manage cost. If you use a 3PL be sure to understand that 3PL’s value to determine the best short- and long-term approaches to reducing cost. To have an effective partnership you should embrace and fully understand the details and the basics of managing cost in a healthcare distribution center.

Cost reduction best practices in distribution centers fall into 6 areas:

1. Receiving
2. Picking and order fulfillment
3. Lean warehouse management
4. Warehouse information systems
5. Warehouse space optimization
6. Warehouse network optimization

I’ll summarize specific cost reduction ideas in Part Two of this paper.
Receiving

Based on statistics from my studies, receiving and put away consume 24 percent of the cost in the average healthcare distribution center. Below are some best practices for controlling that cost.

Implement ASNs
An ASN (automatic shipment notice for inbound receipt) notifies the distribution center of a pending delivery and is usually sent in an electronic data interchange transmission. This improves inventory accuracy and greatly reduces receiving costs. Cost reduction estimates are in the 40–50 percent range.

Fast put away
Best-practice distribution centers put away product quickly to avoid unproductive congestion and enhance security. Companies should measure “dock-to-stock” time to help facilitate this process. Goods should be placed in the best locations to minimize the travel distance and time of distribution center personnel.

Returns
More companies should pay attention to returns. Instead, reverse logistics is often treated as an afterthought and managed in a highly disorganized manner. When it comes to handling returns, many companies leave a lot of money on the table.

Costs must be carefully balanced against customer convenience. A return may be a second opportunity for your company to succeed at delivering a product to a dissatisfied customer, or it may be connected to remanufacturing or refurbishing. Opportunities exist to streamline and save on reverse logistics. A little attention here can pay big dividends.

Cross docking
Cross docking is the process of receiving product and shipping the product out the same day without putting it into storage. Since picking and put away consume most of the cost in a typical warehouse operation, productivity rockets if those two activities can be eliminated. As firms look to make the next big advance in distribution center productivity, cross docking merits a very close look.

Picking and order fulfillment

According to my statistics, picking and order fulfillment consume 54 percent of the cost in the average healthcare distribution center. Below are some best practices to control cost in this area.

Profiling/slotting (ABC zoning)
It goes by various names but, regardless of the moniker, profiling is a prerequisite to efficient fulfillment operations. Best-in-class distribution centers ensure that high-velocity SKUs are placed in convenient, easy-to-reach areas to minimize pick times.

Automation/systems
There is a great deal of technology available to assist the order-picking process including technologies like pick-to-light and voice-picking. The key is to select the appropriate level of automation and systems to accurately and efficiently fill orders.

Many of these systems must interface with bar codes and bar code standards (GS1 standards) especially in the medical device supply chain. This enhances visibility across the many handoffs in the end-to-end supply chain.
Lean warehouse management

Lean concepts originated in the 1950s in Japan and developed and matured in Toyota factories over several decades. Many firms are now aggressively rolling out Lean in their warehouse operations. In the process, they reduce cycle times, speed up customer responsiveness, and reduce waste throughout their operations. Huge paybacks are being seen with Lean implementations. It is safe to say that if a medium or large warehouse operation is not implementing Lean, it is falling behind its competition. Useful starting points for research include:

- Distribution Center Management: A Best Practices Overview (pp. 13-16) (www.bit.ly/1OaSQ7z)
- How to Create a Lean Warehouse Culture (www.bit.ly/169Fv8d)

Warehouse information systems

A modern warehouse management system (WMS) is critical to the efficient management of any medium to large warehouse. Ninety-five percent of all warehouse management system users find that their WMS is critically important to effectively manage the big 4 activities of receiving, put away, picking, and shipping.

To get the most out of a WMS, there must be consistent data standards for product, distributor, and customer. Otherwise, manual processing is required, adding cost inefficiencies and potential for inaccuracies. As mentioned previously, a single data standard (GS1) will go a long way to providing a foundation for healthcare supply chain automation and WMS implementation.
Warehouse space optimization

Productivity declines exponentially if distribution centers become too crowded and docks, staging areas, and aisles become congested with product. In addition, overcrowding often drives a company into extremely expensive overflow warehousing. Therefore, it behooves any firm to make warehouse space optimization a priority. This requires addressing aisles, docks, racks, mezzanines, office areas, etc.

Warehouse network optimization

Supply chain professionals routinely tell me, “If you haven’t completed a network optimization study recently, you are probably leaving a major savings opportunity on the table.” I agree. This is a strategic activity, and can result in a major breakthrough in the total distribution center network cost structure.

A network optimization answers questions such as:

| How many distribution centers should you have? |
| Where should they be located? |
| Which customers or locations should each serve? |

Both retailers and manufacturers can evaluate and change the structure of their distribution center network to produce major savings. Some firms carry out a network optimization review on a periodic schedule, usually every two to five years.
A major cost management challenge cited by 63 percent of the respondents in the UPS Pain in the Chain study is transportation cost. One solution is to simply wash one’s hands of this issue and depend on an outsourced supplier, or a 3PL.

Yet, 68 percent of respondents indicated that they have significant concerns about their distributors. Ironically, 3PLs yearn for a closer partnership with their customers. They want customers who understand the business and who can work with them to invest in real breakthrough solutions. Whether a 3PL is used or not, companies must understand how to manage transportation cost in the healthcare supply chain.

For years, pundits have been predicting that a perfect storm was about to hit transportation cost. A combination of factors was expected to converge simultaneously, led by fuel prices. The surprising relief in fuel prices has altered this landscape somewhat. Many now believe that fuel cost will be the least of our worries going forward, although the debate continues.

Headwinds facing transportation professionals as they manage transportation cost

Driver shortage
Some estimate the shortage today is about 50,000 and growing rapidly. Another estimate has the shortage growing to over 300,000 drivers before it peaks in 10 years, which borders on catastrophic. This would be close to a 20 percent gap between demand and supply. And driver turnover exceeds well over 100 percent for the average company.

Rail, port, and highway capacity
By 2020, truck traffic is predicted to be up 75 percent, rail up 44 percent, and containerized cargo up 350 percent. Planned infrastructure investments will begin to fall behind.

Government regulations
A myriad of government regulations impact the healthcare supply chain globally. And the healthcare supply chain must also contend with the additional regulations that impact all companies, such as hours of service (HOS), compliance, safety, accountability (CSA), and environmental regulations.

Security
These issues continue to grow and add cost to the healthcare transportation system.

Part Two of this paper will give you thirteen ideas for how to cut transportation cost without impacting your customers.
Conclusion

Healthcare supply chain professionals are often on the front line when it comes to managing costs in their companies. That role will only intensify as healthcare costs become even more visible and the industry becomes more competitive. If managing costs were the only thing we had to do, life would be challenging enough. But we have two other big things on our plate, both equally important to cost management.

One, we manage our firm’s inventory and therefore we have a major impact on its cash flow. And two, we’re responsible for customer service—getting the product to the right place on time. Because the supply chain is the key to dealing with this critically important three-legged balancing act, more and more companies understand that supply chain excellence is essential to driving shareholder value.
Cost Management: As UPS sees it...

Given sufficient time and resources, healthcare supply chain managers should be able to derive savings from Paul Dittmann’s advice. And since the healthcare supply chain can consume as much as 50 percent of total costs, the potential savings are enormous.

As Paul concedes, however, supply chain managers are simultaneously managing their companies’ inventories and the process of getting product to the right people, at the right time, in just the right condition. The pressure on these professionals is tremendous. Most are already working to tackle the complexities of the healthcare supply chain—navigating regulatory compliance, managing product protection, scaling for growth, and expanding into new markets. For most, it will prove to be difficult to realize the cost savings they would like.

The truth is, many companies can no longer manage every challenge and solve every problem by themselves. And the most successful supply chain managers are turning to partnering and collaboration with experts to address their biggest challenges. In fact, six in every ten Pain in the Chain respondents are collaborating, and one in five is outsourcing 75 percent or more of its supply chain to reduce costs.

In summary, managing increasingly complex global healthcare supply chains may ultimately require collaboration. If your supply chain professionals are already spread thin then I invite you to make my team your team. Let UPS help you identify savings in your supply chain and free you to accelerate growth by focusing what you do best: innovating for human well-being.

About the author

J. Paul Dittmann, Ph.D. is Executive Director of the Global Supply Chain Institute at the University of Tennessee College of Business Administration.

He has consulted for over 50 companies and is the author of two books: The New Supply Chain Agenda and Supply Chain Transformation.
Best practices for managing cost in the healthcare supply chain

Part 2

J. Paul Dittmann, Ph.D.
Executive Director, Global Supply Chain Institute at the University of Tennessee
If you have read part one of this two-part white paper on cost reduction in the healthcare supply chain, you already know that this is a complex and challenging topic. You also know that you need to “change the game” as you squeeze out more cost from processes that are already virtually stripped bare of excess.

Part one provided guidelines for your journey to world-class cost management. This part is designed to help you take the next step and identify specific cost reduction projects in your firm. As in part one, I’ll focus on five areas of supply chain cost:

As we proceed from inventory and order management cost through other areas of opportunity, I’ll provide a checklist of best practices to consider in optimizing each cost element.
You will find a target-rich environment as you work through this material—most likely so rich that you will need to prioritize your goals. In setting cost-reduction priorities, I recommend that you follow the three-step process outlined below.

1. First, use the checklists and recommendations in this white paper as thought starters to draw up a **preliminary list of cost-reduction ideas**. You may want to take a team of internal experts off-site and brainstorm the subject area. Expect the list that results from such an exercise to be very long.

2. Once you develop your list of cost-reduction options, it’s time to **prioritize them**. You simply can’t do everything. I recommend that you do an initial screen by plotting potential projects on a two-dimensional graph like the one below and then focus first on projects in the bottom right of the diagram.

3. Once you have used this technique to pare your list down to a manageable number of options, it’s time to do a **detailed analysis of return on investment (ROI)** for each opportunity on the list, identifying as precisely as possible the cost, other investment requirements, and benefits of each. When that’s complete, you’re ready to select a project manager, prepare a detailed project plan, and execute using a disciplined project management process.

4. You could then replot potential projects and prioritize your goals, developing a longer-term roadmap.
Standardization

Although it may sound mundane, lack of data standardization is a huge obstacle for achieving healthcare supply chain excellence.

Global GS1 standards (data standards used in bar codes and other product identifiers) can bring the whole healthcare supply chain industry together around uniform identifiers. That, in turn, could facilitate the automation of a whole host of supply chain operations, bringing major cost and inventory savings. If GS1 standards are used by the manufacturer, distributor, and customer, then:

- Orders can be scanned at receipt and put away efficiently
- Accuracy can be better verified
- Inventory systems can be automatically updated upon scan
- The replenishment process can be automated

Having accurate data visibility throughout the supply chain can go a long way toward addressing the inefficiencies in many healthcare order and inventory management processes. What’s more, GS1 standardization can also serve as a foundation for other supply chain technology.

According to the seventh annual UPS Pain in the Chain study, healthcare supply chain decision makers are becoming increasingly aware of the advantages. Nearly half of the respondents say they are undertaking an initiative like this.

Using technology

Modern inventory management and advance planning systems can help optimize the “safety stock” you carry for each SKU in each inventory location.

In the UPS Pain in the Chain study, 66 percent of respondents said they intended to invest in IT systems. Three-quarters of these said they would implement an order management system and 63 percent said they would create a web ordering system.

Let this principle be your guide: Technology should simply be an enabler for a new, carefully thought-out process that is consistent with your overall supply chain strategy. (The development of a supply chain strategy is dealt with in the first paper in this series.)

Technology without a strategy and a defined management process is potentially a recipe for disaster.
Choosing the right order and inventory system

Only you fully understand your business needs, so first develop a list of requirements. Then invite prominent software vendors to demonstrate how their software meets those requirements. “See it before you believe it” is a good philosophy; vendors have been known to exaggerate. A useful checklist of elements worth considering follows.

A scoring system should be used for software selection. To maximize organizational buy-in, the scoring team should be large and cross-functional. Each element in the evaluation criteria should be listed and weighted for its relative importance. For each major capability required, the scoring could be something like this:

- **X** Not enough information
- **1** Does not meet needs
- **2** Partially meets needs
- **3** Meets needs but open questions remain
- **4** Meets needs
- **5** Exceeds needs

Once the weighted totals are tabulated and a good dose of judgment applied, a decision should be easy to reach.
Additional inventory reduction ideas

There are a number of additional things you can do to reduce inventory without negatively impacting service.

- **Use the latest technology**
  Systems exist to optimally set safety stocks based on unique product characteristics, such as supply and demand variability. Evaluate new decision-support systems using the process outlined earlier in this white paper.

- **Improve forecasting**
  You can’t improve forecast accuracy if you don’t measure it. Measure the accuracy of your demand forecast SKU by SKU and make it visible within the company. Then look at demand-sensing forecasting approaches.

- **Measure and reduce lead time**
  Longer cycle times in extended global healthcare supply chains can cause more inventory than necessary to be carried. You should measure lead time at each phase of the supply chain and look for ways to reduce it.

- **Embrace segmentation in your inventory policies**
  Not all customers and all products were created equal. Each product/customer segment needs a unique inventory policy appropriate for its position in the marketplace. You should have a segmentation policy both for customers and products.

- **Develop a thorough new product introduction and sunsetting process**
  New products come out constantly in the healthcare field. Your firm needs disciplined processes to manage new SKUs and forecasts, and to control SKU phase in/phase out.

- **Reduce unnecessary SKUs**
  You need all of the SKUs your customers require, but no more. Unnecessary SKUs consume and hold inventory, and hurt product availability. In most healthcare firms, 20-30 percent of the SKUs are dead and need to be eliminated.

- **Address obsolete and slow-moving inventory**
  Product damage and spoilage were cited as major concerns by 62 percent of respondents in the UPS *Pain in the Chain* study. Obsolete inventory never gets more valuable, but instead continually generates cost to keep and store it. That’s why your company needs an aggressive plan to regularly dispose of aging and obsolete inventory, which becomes increasingly likely to spoil.

- **Set the right accountability**
  It should not be the sole responsibility of the supply chain organization to reduce inventory. Your firm needs to recognize that sales and marketing have a major role to play in inventory management and they need to be incentivized to do so accordingly.
Supply chain security and regulatory compliance cost

Supply chain professionals face major costs due to regulation and security issues in the healthcare arena. Managing this reality calls for a strategy with a prioritized, multiyear action plan.

There’s a lot to do in response to these two challenges, and a significant cost associated with all of the actions. Again, you can’t do it all at once. So make sure you choose a plan that promises the largest possible return on your regulatory and security project investments.

Measure the cost, measure the benefit, and implement with a rigorous project management and change management process. It is worth returning to Part 1 of this paper for a refresher on a number of specific recommendations on controlling security and compliance cost. This includes a checklist of 8 ways to make distribution centers more secure.
Best practices for managing cost in the healthcare supply chain, Part 2

Collaborate with key suppliers

In the UPS Pain in the Chain survey, 61 percent of respondents cited collaboration as a successful strategy. While this applied to logistics partners in the study, it could be equally useful for any supplier from chemical suppliers for pharma firms to component suppliers for medical device companies.

There are well-known best practices regarding how to establish a win-win relationship with suppliers. In advanced relationships:

- Each party measures performance using the same metrics
- They agree to share savings 50:50
- There are clear bottom-line improvements in cost, inventory levels, and customer service

Only a critical few suppliers should be identified for this type of partnership, given the time required to manage.

Support vendor innovation

It is important that firms support their suppliers and provide them with the information and commitment they need to innovate. Suppliers should be contractually incentivized to generate savings through innovation.

Selective manage inbound transportation

Pricing should always be quoted two ways: prepaid and collect. Determine whether you want to control the inbound transportation, or leave it to the supplier. Alternatively, you could contract a third party to manage it on your behalf.

Reduce vendor lead time and measure total landed cost

Lead time is a critical variable in managing both inventory levels and out-of-stocks, especially in the global healthcare supply chain. And, it’s rare to see total landed cost quoted (that is, the total cost of a product arriving on the buyer’s dock including taxes, transportation, and so on). Shorter lead times allow vendors to be more flexible and responsive, which can help reduce cost, stock outs, and inventory levels.

Consider logistics when designing packaging

Suppliers should develop packaging that can help minimize logistics costs, especially supply chain transportation costs. Practices commonly associated with sustainability measures—including the use of appropriately engineered packaging that avoids wasted space and sustainably sourced materials designed to complete the shipping process so that resends are unnecessary—have environmental, cost, and even reputational benefits, especially for shipments delivered to end-consumers. Look particularly for expert methods for creating and testing packaging described in the UPS white paper Cold-chain packaging: A new approach to packaging optimization and small-package cost management.
Evaluate vendors using a scorecard
Vendor scorecards need to include key logistics measures, such as damage rates, on-time delivery, lead time, packaging evaluation, and transportation cost. When you aggressively manage these items, you will see a major positive impact on your firm’s cost structure.

Consider your vendors’ reputations, too. While it is a more indirect cost, the companies you align with may color your brand perception. A company that fosters ethical practices and aligns with your company’s reputational goals is more likely to support the perception you seek to build with customers and shareholders.

Run a comparative analysis
The procurement team, in preparation for supplier contract and price negotiations, should carry out an in-depth commodity or competitive analysis.

Train procurement personnel on best practices
There should be professional procurement training in place and a personal development plan for each procurement professional. Organizations such as the American Purchasing Society can provide assistance to companies and individuals.

Reduce and eliminate the impact of personal relationships
Personal relationships may play too large a role in negotiations. The impact of this phenomenon needs to be totally eliminated to capture maximum value. Some firms require that their procurement staff meet with suppliers only on-site, with no outside meals, gifts, or entertainment activities allowed.

Leverage the buy
There are huge benefits to increasing scale and leveraging the buy whenever possible. Leading firms centralize procurement globally and so should you on the largest appropriate scale.
04 Warehousing cost

Distribution center management cost reduction ideas

Cost reduction best practices in distribution centers largely fall into six areas. I discussed each one of these in part one of this white paper. Below are additional cost reduction ideas to consider.

Receiving

- Use automatic shipment notifications (ASNs). These have been shown to reduce receiving costs by 40-50 percent.
- Improve overall distribution center efficiency by using only qualified suppliers who ship on time, with quality and reliability.
- Put away product quickly to alleviate congestion and its associated waste.
- Manage returns efficiently.

Picking and order fulfillment

- Use a profiling process to locate the highest volume SKUs in the easiest-to-pick locations.
- Use an appropriate level of automation, such as radio frequency picking, pick-to-light, etc.
- Consider whether you have the right level of focus on the omnichannel, and develop an efficient process to fulfill Web orders.
- Look to opportunistically coordinate inbound and outbound loads in order to eliminate put-away and picking operations that represent the lion’s share of the labor in a distribution center.

Lean warehouse management

- Keep it simple and focus first on total employee involvement, management walkabouts, and visual management.
- Keep things in order with a methodology such as 5S (a quick Internet search will be helpful).
- Then, later, take out 20-50 percent of the operation’s waste with value-stream mapping.
- Use Six Sigma techniques to reduce process variation and improve efficiency.
Best practices for managing cost in the healthcare supply chain, Part 2

Warehouse management systems (WMS)

- Implement a modern WMS.
- Using the WMS, efficiently organize put-away, picking, shipping, labor management, yard and dock management, and other key distribution center activities.

Warehouse space optimization

- Optimize warehouse space by managing all stacking heights, appropriately using racks and mezzanines, managing docks and aisle size, and so on.
- Avoid exponential productivity declines by making sure the distribution center does not become too crowded.

Warehouse network optimization

- Use modern software or a partner resource to evaluate how many distribution centers you should have, where they should be located, and which customers they should serve.
Transportation cost

In order to meet the challenge of increasing transportation costs, leading companies pursue a combination of the thirteen initiatives listed below.

**Find a good partner**
More than half (56 percent) of healthcare firms distribute to wholesalers or distributors, and 46 percent ship directly to customers. About one-third of overall transportation and warehousing spend is outsourced. Selecting and contracting with a good third-party provider that will flex with your needs is critical to controlling cost in the healthcare supply chain.

**Develop an efficient cold-chain process**
This is especially important in the pharmaceutical industry. The UPS Pain in the Chain study found that product damage and spoilage is the fourth-highest concern among supply chain professionals. And 69 percent of healthcare supply chain decision makers cited adverse weather and temperature environments as a top challenge to product integrity.

**Focus on cube utilization**
In other words, consolidate orders. If you can increase the average cube (or weight) per load, the additional product rides for free. One retailer who rigorously manages cube utilization gets about 3,000 cubic feet of product in the average fifty-three-foot trailer (a very high volume indeed; a standard trailer holds 3,800 cubic feet).

**Use more rail, intermodal, and ocean**
Using more rail and intermodal clearly reduces cost. However, it often means adding time to the supply chain, which translates into additional inventory in the system and may be inappropriate for many healthcare products. This is also one of many areas where there is a classical tradeoff between transportation cost and inventory cost. Each operation is unique. Also, switching from air to ocean transport can save 70-80 percent of cost in the healthcare supply chain.

**Optimize the network**
This is a strategic approach to reducing transportation cost. One healthcare retailer serves about 200 of its stores from each distribution center. Every year, it saves $1-5 million in transportation cost by using a network optimization system to revise which stores should be served by which distribution center. Manufacturers can do much the same thing by reevaluating which customer locations should be served by each distribution center.

**Implement a transportation management system (TMS)**
A modern TMS can improve fleet routing, load tendering, and delivery scheduling, saving a significant amount of transportation cost.

**Reduce empty backhauls/revenue generation**
Many companies actively look for backhauls to avoid empty miles and generate revenue to offset cost. One healthcare retailer delivers to stores all over the U.S. and also has vendors spread across the country. This company constantly looks for ways to unload at their retail stores and use the same vehicle to pick up vendor product for an almost-free return trip to one of its distribution centers. Another manufacturer company actively sells empty capacity on its backhauls and generates millions in revenue each year that flows as a credit into its freight account.

**Manage inbound freight**
Inbound freight often finds its way into vendor product purchase price rather than to the transportation budget. But, it is a transportation cost nonetheless. Leading firms request freight collect and freight prepaid bids from all of their vendors and then take over the control of the inbound shipments that make economic sense. One small grocery retailer ($7 billion in sales) saved over $10 million in a small pilot by controlling certain inbound loads and is looking to expand this and realize a $40 million savings.

Switching from air to ocean transport can save 70–80 percent of cost in the healthcare supply chain.
Focus on driver retention
The great driver shortage is upon us and it will not abate for the foreseeable future due in large part to demographic and social trends. The no-brainer solution is to simply pay more and no doubt that will be required. But companies can do a lot of other things to retain drivers from flexible work arrangements to creative bonus plans.

Manage the flow and peaks
The HOS (hours of service) regulations penalize companies greatly when drivers have to wait. And drivers have to wait when there are workload peaks. One company told me that they ship 40 percent of their loads on a Monday. They are now looking at moving to a 7-day operation to smooth shipments throughout the week. Using industrial engineers or Six Sigma techniques to optimize the loading and unloading process can also help greatly in this area.

Minimize express/air shipments
Often, inadequate planning systems or a fundamental lack of flexibility and responsiveness in the supply chain lead to a need for emergency shipments. Firms need to track these shipments, identify root causes, and develop an action plan to tackle them.

Manage global import/export cost-efficiently
Global transportation represents a major source of transportation cost in international corporations. Special expertise is required to efficiently manage freight in the global environment. This implies world-class, third-party relationships, along with advanced in-house expertise.

Manage product security efficiently
Product security was the second-top supply chain concern in the UPS Pain in the Chain study. Serialization is now a focus for pharma products, and requires a comprehensive system to track and trace the movement of prescription drugs through the entire supply chain. Every product should be identified by a unique serial number in addition to the origin, shelf life, and batch number.

Counterfeiting by organized crime can be reduced significantly by implementing product serialization and e-pedigree documents (electronic documents that provide data on the history of a particular batch of a drug).
Conclusion

This paper provides some ideas to manage cost in the extremely challenging healthcare supply chain. I recommend that you use this as input to develop a multi-year plan. Set some stretch objectives. Remember, your best today may not be good enough in the competitive world of tomorrow. So, keep raising the bar for your business processes. Your supply chain is potentially a huge competitive advantage and a major contributor to shareholder value in your firm.

Citations

1 Embracing Risk: It’s Time to Capitalize on Untapped Opportunities, The Seventh Annual Pain in the (Supply) Chain Healthcare Survey. ups.com/pitc
2 How to Plan for Supply Chain Success in the Healthcare Industry by J. Paul Dittmann, Ph.D., available at ups.com/healthcareresources
Best practices for managing cost in the healthcare supply chain, Part 2

Cost management: As UPS sees it...

When it comes to managing costs, the most tangible ones probably first spring to mind; freight, staffing, and supplies, for instance. But less-tangible costs also have a critical effect on the bottom line. Time, for example, is a precious resource to most supply chain managers, many of whom will turn to outside expertise to help get costs under control for the rewards that Paul Dittmann outlines in parts 1 and 2 of his white paper.

Each year, hundreds of companies turn to UPS for supply chain optimization. We commence each assessment with a fact-finding “white-boarding” session. Gathering senior management and internal subject matter experts on both sides, we probe the strategic vision for the company including corporate strategy, competitive differentiators—both existing and needed—market conditions, and external challenges to the organization, customers and suppliers, and the product portfolio.

Next, we diagram the current supply-chain from end to end. Not only the transportation of goods, but also the flow of materials and data, both upstream from its suppliers and downstream to its customers, all the way to care providers and their patients. In doing so, we inevitably uncover inefficient legacy processes that are disconnected from the organization’s current reality and strategic vision. Here, the history-versus-strategy gap reveals the processes that are ripe for improvements that boost efficiency and save money. The solutions we implement, from efficient sourcing to global growth, can reduce expenditure, improve regulatory compliance, reduce spoilage and loss and improve asset utilization.

If, therefore, you find yourself motivated by Paul Dittmann’s white papers to take action on your supply chain costs, but don’t have the capacity to do so alone, let UPS help you identify efficiencies that will lead to cost savings while freeing you to focus on what you do best: innovating for human well-being.

John Menna
Vice President, Global Strategy
Healthcare Logistics
UPS

Visit healthcare.ups.com

About the author

J. Paul Dittmann, Ph.D. is Executive Director of the Global Supply Chain Institute at the University of Tennessee College of Business Administration.

He has consulted for over 50 companies and is the author of two books: The New Supply Chain Agenda and Supply Chain Transformation.