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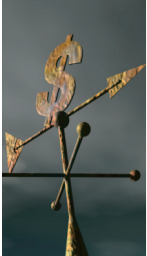
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Hospital Supply Chain Savings

Priya Kamani

Hospital executives are strengthening their institution's financial position through judicious cost savings initiatives and strategic technology investments.

U.S. hospitals are under great financial pressure. The hospital supply chain presents enormous opportunities for hospital executives seeking to reduce costs and gain new efficiencies. Cost savings opportunities from operational analyses and efficiencies from upgrading or replacing enterprise resource planning (ERP) systems rely on a foundation of accurate, reliable data for their success. With limited resources, hospitals should outsource their data accuracy and analysis projects to a trusted third party to ensure that the underlying information is available in a timely manner, is accurate and reliable, and drives improvements in the supply chain.

Modern Healthcare and Arista Associates reported in August 2001 that 61 percent of U.S. hospitals are either losing money or just breaking even. In 2003, Healthcare Financial Management Association reported that the median hospital operating margin was in the red 1.8 percent. Never has financial pressure on U.S. hospitals been greater.

Hospital executives are looking for ways to save that do not adversely affect their ability to deliver high quality patient care. Supply expenses, which typically make up 25 to 30 percent of a hospital's spend, are an increasingly important target area for cost reduction. Hospital supply chain executives can contribute to strengthening the financial position of their institutions by driving cost savings initiatives and making strategic technology investments that drive efficiencies. Clean, accurate product, vendor, and contract data provide the foundation for maximizing the ROI of technology investments and for completing meaningful spend analysis to drive cost-reduction efforts. Additionally, given the heavy investment in resources, reference data, and technology required to drive a successful data cleansing initiative, hospital supply chain executives should look to outsource data cleansing and to continue to maintain the integrity of the data over time.

We will discuss how hospital supply chain executives can maximize the investments made in implementing ERP/MMIS systems (enterprise resource planning/material management information system) and how to use the clean data for spend analysis. Spend analysis is essential to supporting any cost reduction efforts by providing visibility into exactly what is being spent for supplies and with which vendors. In addition, the paper will provide criteria for selecting a trusted data cleansing and maintenance partner.

Driving Efficiencies, Maximizing Investments

IDC states that spending on health care information technology by providers is likely to increase from $15.1 billion in 2003 to $17.3 billion in 2007. Fifty-eight percent of hospital supply chain executives surveyed by Healthcare Information and Management Systems Society (HIMSS) in 2003 indicated that electronic resource planning systems were most important to the facility in the next two years. One of the key supply chain benefits of ERP systems is to automate supply chain processes and increase procurement efficiencies. Unfortunately, poor quality data in the systems is a significant contributor to manual workarounds, manual exception processing, and rework. HealthCare EBusiness Collaborative indicates that as much as 80 percent of all transaction errors are directly related to inaccurate product information. For ERP systems to deliver on their promise, the underlying data must also be accurate. Commonly encountered data problems include:

- Incomplete vendor and/or product information;
- Nonstandard vendor names;
- Vendor product numbers with missing information or additional characters;
- Overly abbreviated product descriptions;
- Product descriptions that are not normalized or may have missing attributes; and
- Unclassified products.

These problems lead to difficulty in identifying the right supplies, as procurement personnel cannot effectively search and find supplies

Priya Kamani, M.D., vice president of Data Management Solutions at Neoforma, is responsible for Neoforma's data cleansing and maintenance technology, information, and services. With more than 15 years of experience in health care, she leads a team of Neoforma professionals with decades of health care experience in clinical areas and materials management. Dr. Kamani completed her residency in pediatrics at University of California, San Francisco and has an M.B.A. from the Wharton School of Business.

in the system. The result is usually a proliferation of duplicate items in the item file – with the same supply being purchased at varying prices, not necessarily the right price. These issues are often magnified significantly for multihospital systems that have many item and vendor files to manage.

Figure 1 illustrates how inaccurate entries appear in a hospital's item file. Both items are actually the same product, but it is not clear which item has the correct vendor and product information. It may be that neither has the correct information. Incorrect product information can lead to a:

- Delay in delivery of medically necessary, urgent supplies as the supplier tries to reconcile the part number discrepancy;
- Waste of scarce resources as the hospital personnel work with the supplier to resolve the price discrepancy created; and
- Delayed payment from the hospital to the supplier, preventing the hospital from taking advantage of supplier discounts for timely payment and possibly incurring late payment fees from the supplier.

Often, despite the significant time invested in manual discrepancy management, the errors are never corrected in the system, perpetuating this vicious cycle.

Investments made in software without accompanying efforts to improve the quality of data mean that goals for automation and increased efficiencies are not met and the return on investment is not fully realized. To maximize the return, savvy hospital supply chain executives today are combining a data cleansing initiative with an ERP/MMIS system implementation or major upgrade.

So, the value of accurate data is achieved when hospital personnel are able to find the right product at the right price the first time, eliminating the rework and maximizing the value of the ERP system.

Categorized Data Provides the Framework for Analysis

Meaningful spend analysis is essential fuel for hospitals pursuing supply chain cost reduction efforts. The analogy to the clinical environment is patient diagnosis. Clinicians evaluate information about the patient's history, symptoms, and other factors to develop a diagnosis and treatment plan. Analogously, hospital supply chain personnel armed with intelligence on spend patterns can begin the process of understanding how to reduce costs. The analysis of spend patterns depends on having accurate product information that is properly classified in the item file and the purchase order history file. In addition, the choice of classification system is critical. A classification system such as the United Nations Standard Products and Services Code (UNSPSC), which provides an appropriate level of granularity, yet is hierarchical, is the cornerstone of successful spend analysis. The right schema will allow appropriate aggregation of like supplies and facilitate drilldown to a more granular level so that users can view spend data at the most useful level. For example, a CFO will be interested in high-level buckets to understand the top 10 areas of spend, but a contracting manager will like to see the data bucketed into families of products that can be used to negotiate a signif-

icant discount with a single supplier. Neoforma has discovered that, unfortunately, more than 70 percent of hospital spend can be unclassified, or misclassified, making it difficult to identify patterns and direct initiatives. Figure 2 describes a common hospital scenario before UNSPSC classification.

Increasingly, participants in the health care supply chain are adopting UNSPSC. It is a global reference taxonomy for products and services, developed with significant input from industry participants over several years. It is free, does not lock the hospital into a data services provider's proprietary taxonomy, is updated on a regular basis by the United Nations, and reduces the resource

Figure 1 Common Inaccurate Data Scenario				
Vendor Name	**Vendor Product Number**	**Hospital Product Description**	**Hospital UOM**	**Hospital Unit Price**
AGC, Inc.	RBP094632PR	PF LTX GLV, PR	EA	$30
Acme Glove Company	AGC-94632	Powder-free gloves, 6	Each	$44

requirements for developing and maintaining a proprietary taxonomy. Additionally, UNSPSC is consistent and complete, encompassing all the supplies (not just medical/surgical supplies) that a hospital consumes. Figure 3 reveals the UNSPSC Hierarchy. Once the item file and PO history file in the ERP system is categorized to the UNSPSC standard, hospitals are able to generate information that helps them analyze their spend patterns. Specifically, hospitals are able to track:
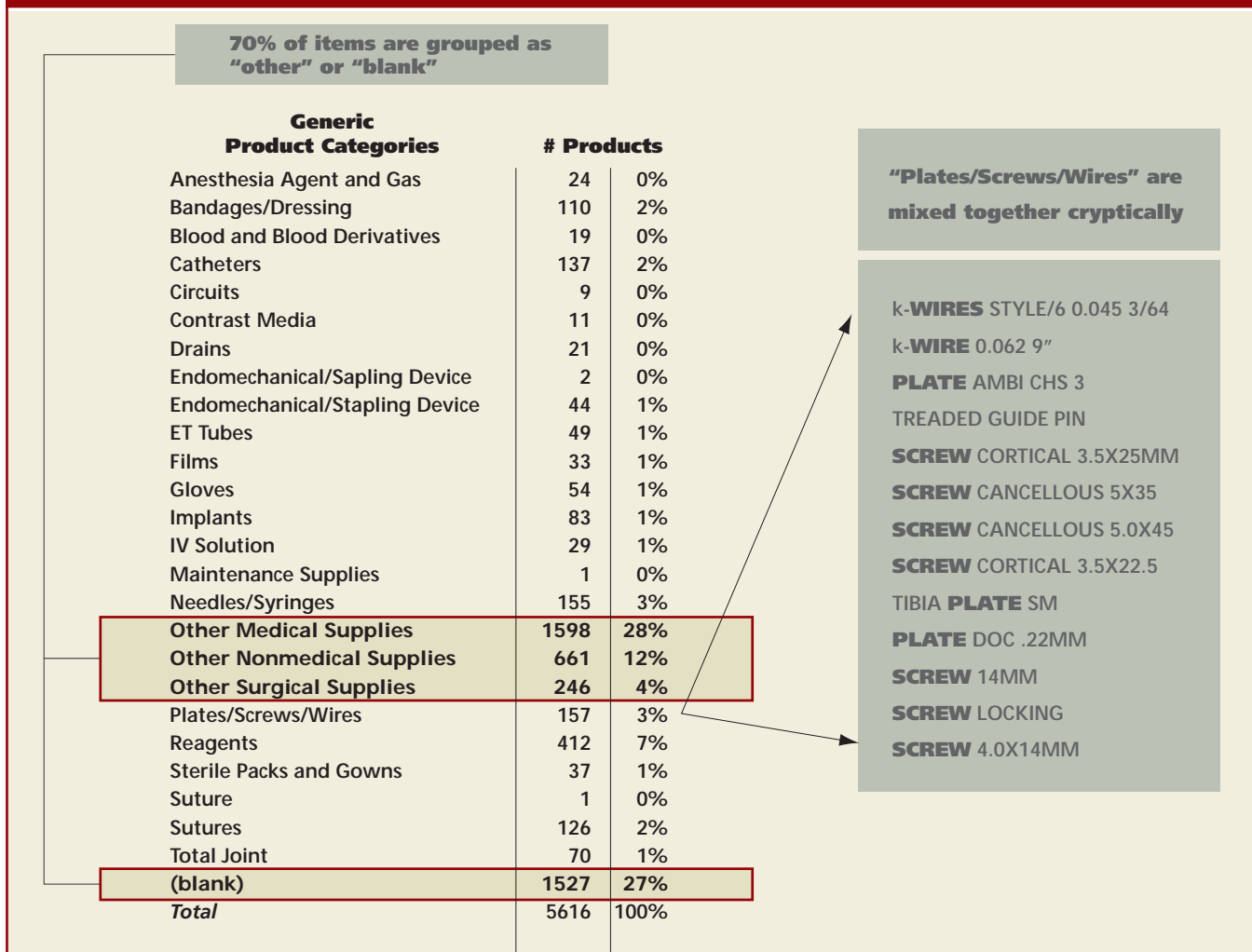
- Top vendor spend including manufacturer and manufacturer division by UNSPSC category; and
- Top item spend by UNSPSC category.

UNSPSC allows the hospital supply chain executive to understand where the dollars are being spent and to identify the highest spend areas to focus on and look for cost savings opportunities. UNSPSC also enables supply chain personnel to limit the view of the data to a manageable group. For example, a report on top spend by category may reveal that hospital A spent $100,000 in the past 12 months on the UNSPSC class medical gloves and accessories. Further drilldown may indicate that 50 percent of that spend is within the UNSPSC commodity medical exam or nonsurgical procedure gloves and that the hospital is buying these gloves from more than five different suppliers. This represents a supplier consolidation opportunity. Driving procurement from a more limited set of suppliers will enable the hospital to maximize tier opportunities and potentially drive for better contract prices based on higher purchasing volumes.

Data Drives Deeper Savings

For hospitals, a deeper level of strategic supply chain initiatives is contract utilization and contract savings. Hospitals overpay 2 to 7 percent on contracted medical-surgical products.[1] Inaccuracies in data and lack of analysis lead hospital personnel to buy similar products from multiple manufacturers. The consequence is that

Figure 2 Common Hospital Scenario Before UNSPSC Classification

70% of items are grouped as "other" or "blank"

Generic Product Categories	# Products	
Anesthesia Agent and Gas	24	0%
Bandages/Dressing	110	2%
Blood and Blood Derivatives	19	0%
Catheters	137	2%
Circuits	9	0%
Contrast Media	11	0%
Drains	21	0%
Endomechanical/Sapling Device	2	0%
Endomechanical/Stapling Device	44	1%
ET Tubes	49	1%
Films	33	1%
Gloves	54	1%
Implants	83	1%
IV Solution	29	1%
Maintenance Supplies	1	0%
Needles/Syringes	155	3%
Other Medical Supplies	**1598**	**28%**
Other Nonmedical Supplies	**661**	**12%**
Other Surgical Supplies	**246**	**4%**
Plates/Screws/Wires	157	3%
Reagents	412	7%
Sterile Packs and Gowns	37	1%
Suture	1	0%
Sutures	126	2%
Total Joint	70	1%
(blank)	**1527**	**27%**
Total	5616	100%

"Plates/Screws/Wires" are mixed together cryptically

k-**WIRES** STYLE/6 0.045 3/64

k-**WIRE** 0.062 9"

PLATE AMBI CHS 3

TREADED GUIDE PIN

SCREW CORTICAL 3.5X25MM

SCREW CANCELLOUS 5X35

SCREW CANCELLOUS 5.0X45

SCREW CORTICAL 3.5X22.5

TIBIA **PLATE** SM

PLATE DOC .22MM

SCREW 14MM

SCREW LOCKING

SCREW 4.0X14MM

contract utilization with one particular manufacturer is not maximized. When contract prices with a manufacturer are based on tier participation, maximizing utilization is the key to gaining entry to the best possible tier for which the hospital is eligible. The categorized data can be used to identify similar commodity items; however, UNSPSC does not provide enough information to determine exact functional equivalency between products. Enriched product attributes can be used to establish functional equivalency.

With this type of enriched data, the hospital can focus the supply analysis to gain maximum savings. In the previous example, a report on top spend by category reveals that hospital A spent the $50,000 in the past 12 months on the UNSPSC commodity medical exam or nonsurgical procedure gloves. With enrichment of the data, supply chain personnel can limit their view within this commodity to a specific attribute. For example, one attribute for gloves that enrichment provides is latex. Latex would include latex and latex-free gloves. It is essential that hospitals provide personnel with latex allergies a latex-free alternative. However, all too often departments order just the latex-free variety for general use to avoid stocking/ordering two types. Unfortunately, the latex-

free gloves are usually significantly more expensive. Supply chain personnel could now use the latex attribute and drill down deeper to identify that 75 percent of the gloves procured in the medical exam or nonsurgical gloves category are latex free, significantly driving up the costs in the gloves category. This information could be used to launch an education effort aimed at minimizing the use of latex free only to those personnel who are allergic to latex. Thus, a combined use of UNSPSC category and additional attributes allows supply chain personnel to identify some quick wins that can be easily implemented across the organization.

Product attributes can also be applied in the contract maximization arena. The hospital supply chain executive can take a contract opportunity report provided by his or her data cleansing partner and have a supply chain employee separate products on contracts that have been activated from those that have not. The supply chain employee can then take the list of supplies being purchased off contract and use product attributes to find functionally equivalent products that are on contract. Doing so will enable the hospital to either maximize existing contracts or activate new contracts to drive higher levels of contract utilization

and maximize associated savings. It is also important for the data cleansing partner to work collaboratively with the hospital's group purchasing organization (GPO) and suppliers.

Locking in Savings

Once a hospital's item and vendor files are cleansed, categorized, and enriched, it is essential that hospital supply chain executives take concrete action to prevent degradation of the data. First, the hospital needs to institute policies and procedures that limit access by hospital personnel who can add, delete, or modify vendor, product, and contract information within the ERP system. This step will minimize the number of inaccuracies that are introduced into the system. In addition, suppliers frequently change product information or discontinue products on a routine basis; mergers and acquisitions are common, with resulting changes in supplier hierarchy, and the UNSPSC classification system is continually being improved and updated. To keep up with these changes, hospital supply chain executives should invest in a data maintenance program with a trusted data cleansing partner that has made the necessary investments in resources, technology, and supplier relationships to deliver this service.

Choosing a Partner

It is critical to select the right data cleansing and maintenance partner. The three most important criteria to consider when selecting a partner are its technology, service delivery experience, and quality of reference information. In addition, hospitals should consider thought leadership, promotion, support of industry standards, and financial stability. Hospitals should consider the following when selecting a partner:

- Does the company's technology support automated data cleansing and maintenance?
- Can the hospital receive a demonstration of the technology tools and results?
- Does the company support the cleansing and maintenance of large health care organizations, such as GPOs?
- Does the company's staff have strong clinical or materials experience?
- Does the company work collaboratively with your GPO and supplier partners to insure you receive the maximum benefit from the data work?

Figure 3 UNSPSC Hierarchy

42 Segment: Medical equipment and accessories and supplies
Logical aggregation of families for analytical purposes.

31 Family: Wound care products
A commonly recognized group of interrelated classes.

22 Class: Suture and related products
A commonly recognized group of interrelated commodity groups.

01 Commodity: Suture
A group of common function products and services.

- Is the product database sourced from suppliers that offer the highest quality data?
- Is there a mechanism to track the age of the data in the product database?
- Does the company have a separate reference database for vendor information?
- Does the company support accepted industry standards, such as the UNSPSC?
- Does the company play a leadership role in driving adoption of standards through board or committee membership?
- What is the financial strength and viability of the company? and
- Does the company provide references that can speak to the timeliness and quality of the data cleansing work?

Conclusion

Hospital supply chain executives have an opportunity to strengthen the financial position of their institution through judicious cost savings initiatives and strategic technology investments. The foundation, framework, and ultimate success in delivering these savings is based on accurate, categorized, enriched data driving the systems and the processes. With limited resources to manage the data themselves, hospitals should leverage a trusted third party for data cleansing and maintenance. The most desirable partner has the right combination of technology, information, and services to deliver on-time, reliable, and accurate data cleansing projects. ∎

Endnote

1   "The Value of eCommerce in the Healthcare Supply Chain," R. Lacy, p. 6, June 2001.

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