Best Practices for Building a Better Chargemaster
With Supply Data Integration
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Introduction

Reform is driving unprecedented changes in the management, funding and delivery of care as hospitals develop and implement strategies to achieve higher quality care at lower cost.

An area that healthcare leaders are turning to for increased value is the supply chain; with proper systems and best practices in place, there are opportunities to improve net revenue, contain costs, minimize compliance risks, and achieve higher quality care. The supply chain represents one of the highest expenses in a hospital’s annual operating budget, and leaders are recognizing that the performance of the supplies procurement-to-reimbursement revenue cycle is critical to future financial success.

The real and perceived value of supply revenue capture and retention is increasing as clinical, financial and regulatory demands from ongoing reform accelerate. Just as hospitals are developing strategies to optimize the supply chain, Recovery Audit Contractors (RACs), Medicare Administrative Contractors (MACs) and commercial auditors are targeting the supply chain for increased opportunities to withhold reimbursements, deny claims, and assess compliance penalties for missed or erroneous charges. Additionally, the focus of the Office of Inspector General (OIG) on healthcare enforcement is at an all-time high, including the evolving use of data mining, statistical analysis and extrapolation, and trend analysis and modeling to identify questionable billing patterns.

Two key success factors for healthcare leaders are ensuring excellent synergy between supply and revenue cycle departments, and supporting a high-performing supply procurement-to-reimbursement revenue strategy with improved supply documentation and coding accuracy. The reality is that most healthcare organizations do not have the necessary visibility across the data gaps and siloed systems that exist between materials management and revenue cycle departments. These gaps are constant sources of revenue underpayments and losses, compliance risks and penalties, and costly departmental inefficiencies.

Challenges with Traditional Methods and Systems

Supply chain management is typically laser-focused on vendor consolidation to better manage costs and analytical outcomes. Often overlooked is the care that must be taken to validate these supply inventories with the revenue cycle to ensure supplies are properly linked to charge codes. In order to consistently capture reimbursable compliant charges and identify areas for financial improvement, communication and current reference information is necessary for accurate mark-ups and HCPCS coding.

A recent paper by the Health Sector Supply Chain Research Consortium (HSRC-ASU) states:

As healthcare reform continues to place emphasis on margin management within provider organizations, creating synergy between the supply chain and revenue cycle has increased in importance. In most provider organizations supply chain management and revenue cycle operations function in silos, occasionally responding to anecdotal evidence to make improvements in the processes linking the two areas. Hospitals and health care systems that become proficient in managing the revenue environment achieve strategic advantage by reaching their financial goals and assuring a stream of revenues to support their clinical efforts. Inventory constitutes an important asset for American hospitals. Much of the clinical inventory used for patient care has the potential to be transformed into revenue through direct billing to third party payors and patients themselves. While the supply chain function has not traditionally been perceived as extending to revenue capture, it is increasingly clear that a linkage between supply chain and those aspects of the hospital that recover money for products used is indispensable for accurate, efficient and consistent cost recovery.

The problem many hospitals face involves the gaps in data between costly supplies and how they are managed in the item master and chargemaster (CDM), and then subsequently how this information is used in the charge capture process. Hospitals risk lost revenue without proper linking, data quality and validation, as well as an acceptable level of visibility among the systems and departments.

Further, without these foundational links and modern systems in place, they lose the ability to perform physician quality outcome assessments and episodic care initiatives that lead to more cost effective and accountable care.

**Operational challenges for improving the supply revenue cycle fall into three main categories:**

- **Reimbursement – compliance and pricing integrity**
- **Rising implant and device costs**
- **Health Information System (HIS) conversions**

**Reimbursement – Compliance and Pricing Integrity**

The overwhelming volume of supplies procured through the OR, cath lab and interventional radiology calls for strategies to ensure focused attention on proper coding, device recall management, and a chargemaster structure specifically set up for successful supplies management. Strategies must be in place to manage supply revenue, ensuring proper reimbursement and compliance throughout the process. Otherwise, your organization is at risk for the perfect storm — lost revenue and non-compliance.

The expanding use of statistical sampling and extrapolation methods by OIG is an area of concern for hospital materials management and revenue cycle leaders overseeing high-cost devices and implants.

**Rising Implant and Device Costs**

The supply chain represents 40-45% of the entire hospital or healthcare system operating cost, and that percentage is rising each year. Implantable devices are a significant and often hidden component of the overall supply chain costs. In particular, physician preference items, such as cardiac stents, cardiac rhythm devices, and orthopedic implants often represent 40 percent of a hospital’s supply budget.\(^1\) The challenge for hospitals

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will be to develop and sustain systems that capture accurate data about implants and supplies in order to drive efficiency, compliance, and revenue integrity. The good news according to Gartner Research is that many providers can reduce supply chain costs by 5-15% if they can better analyze, plan, and control the purchase and use of goods and services. Hospitals achieving that level of cost reduction are likely to experience a 2-7% margin increase.3

The annual implantable device spend in the United States is estimated to be $125 billion. The health plan projected spend on implantable devices was more than $50 billion in the United States in 2011, with an additional $75 billion in procedure work paid to providers for implanting those devices.4 The market is expected to reach $73.9 billion in 2018, growing at an annual compounded rate of 8% from 2011 to 2018 according to a January 2013 report by Transparency Market Research.5 Additionally, an estimated half of orthopedic surgical procedures use an implantable device.

Health Information System (HIS) Conversions
While a conversion process carries potential system-to-system data flow challenges, it also is an opportunity to validate data and move forward with a clean slate, keeping “cost to charge” transparency intact. From an operational standpoint, it is critical to consider how items are added to the chargemaster and the item master in order to improve charge capture and avoid loss of revenue. Sustainable success will depend on end-to-end process improvements to better manage the supplies data flow from purchase to billing in order to understand costs as they relate to quality of care.

Industry Trends Drive Integration of Supply Chain and Revenue Cycle Data
Over and above operational challenges for improved management and results of the supply revenue cycle, there are a number of industry trends that are driving toward supply chain and revenue cycle data integration:

■ Enterprise Resource Planning system conversions
■ Shifts in payment models:
  ■ Fee-for-services to pay-for-performance
  ■ Bundled payments
  ■ Linking quality of care to cost containment

Enterprise Resource Planning Systems and Integrated Supplies Data Analysis
Many hospitals and health networks are realizing how supply chain data quality and cost containment practices affect the way they analyze and evaluate procedural costs. Proper statistical analysis of procedural costs relies on accurate foundational data. With the current explosion of system conversions to consolidate and upgrade enterprise resource planning (ERP) systems, the awareness of data inaccuracies and complexities for reporting on this data creates opportunities to address data quality and integrity to support quality-of-care initiatives.

Shifts in payment models
Healthcare reform has driven many of the larger integrated delivery networks (IDNs) to pursue accountable care organization (ACO) models and expand their investment in new technological solutions. As technology continues to adapt and change, data synchronization, standardization and governance will provide the capacity for successful operational reporting and benefits.

“An estimated $5 billion is lost annually in the implantable device supply chain as a result of waste, inefficiency and lack of visibility. — Bruce Johnson
CEO, GHX


The Freedonia Group, "Study #2255 - Implantable Medical Devices to 2011 “ (presented in U.S. Senate by Senator Charles E. Grassley).

Fee-for-service to pay-for-performance
A key component in healthcare reform is the shift away from the traditional fee-for-service model and the implementation of new payment models designed to reward innovative service delivery and shared risk. Pay-for-performance is one such model that associates payments with incentives for defined and measurable outcomes, patient experience, cost control, resource usage, and other factors. Operational challenges relating to high-cost supplies hinge on the ability to capture and analyze the data necessary to measure costs and outcomes. Because the supplies systems are costly and complex, organizations will be challenged to fund and implement data management and analysis systems during this payment model transition.

Bundled Payments
Hospitals participating in the CMS Bundled Payments for Care Improvement Initiative entered into payment arrangements that include financial and performance accountability for episodes of care. In order for hospitals to succeed with this innovative model, they need to improve the overall data quality and flow between materials management and the revenue cycle systems. It becomes imperative for supply chain management to pursue cost controls in critical areas, as well as strategic alignment of these activities with the revenue integrity stakeholders. While bundled payments are not new, the overall reporting mechanism between supplies and revenue is the chargemaster. The data relationships between the chargemaster and the supply ERP systems are a critical link for the bundled payment model to perform accurately.

Linking Quality of Care to Cost Containment
Incorporating best practice process standards and cross-collaborative performance metrics between revenue cycle and supply chain can significantly improve charge capture for supplies, thereby improving cost containment and quality-of-care outcomes.

The collaborative performance metrics require integrated data between departments. A recent study indicates that 74% of organizations have had limited success at integrating analytics capabilities and results, and 67% of organizations plan to provide education and training opportunities for internal analytical staff.6

An important operational issue centers on the surge in consignment inventories that assist organizations with managing assets and lowering expenses. With these non-standard inventories, it is vital for hospitals to establish best practice intra-departmental procedures for capturing revenue tied to purchases of specific physician preference items. This ‘capture of clarity’ on these consignment preference items will enable hospitals to maintain cost compression and vendor control, and to achieve and sustain organizational and global standards. Without a plan to address and understand the data, organizational silos will persist and the desired link between quality and cost cannot be made.

Addressing Challenges – Moving Ahead with Integration
Initiatives to integrate supply chain and revenue cycle data are gaining momentum because they can positively impact an organization’s revenue, strategic decision-making, and compliance with charge regulations. The main obstacle to this goal is the inability to secure resources to support the oversight required to manage the data governance programs for supply-to-revenue synchronization. New technology and conversions across supply chain and revenue cycle typically fall short of managing compliance content and auditing for reimbursement accuracy during the supply claim adjudication process.

Apart from the type of supply chain technology purchased to help manage supplies, if accurate data synchronization between supply items and revenue cycle is not audited prior to the conversion process, then

the risk remains for automating transmission of supply charge capture with bad data and a compromised revenue stream. Regular maintenance in reviewing the supply-to-charge link is needed to ensure pricing is aligned with changing costs.

Ensuring data integrity and the ability to report on patient satisfaction, quality standards, and cost of care is critical. With that in mind, hospitals should consider key questions:

- How accurate is our supplies data?
- What resources maintain the integrity of our data, not just the database architecture?
- Are we able to audit the data warehouse for standardized benchmarks on cost, quality, and outcomes (CQO)?
- How are we capturing and reporting data to show we’re meeting quality requirements?
- What tools do we need to provide timely, complete data to identify and address problems?
- How do we manage device recall and replacement?
- What are the risks and implications of non-compliance?
- What are the complex data elements that we will need to gather in order to monitor clinical effectiveness, and how will our systems stay current with the changing healthcare landscape?
- What processes and practices do we have in place to manage our data, assess the financial health of our organization, and report on quality and cost of care?

Experts agree that while connecting revenue cycle and supply chain makes sense, hospital executives recognize they face a challenge that hinges on priorities and resource availability, allocation and investment—financial, human and technology. Yet the effort required for item master and chargemaster linkage is well worth pursuing.  

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### Best Practices for Improving Supply Revenue Capture

Materials management leaders and hospital supply professionals may recognize that there are revenue losses from missed reimbursable supply charges that could be reduced with improved data quality and flow between the item master and the chargemaster. The real question is: where to focus efforts to begin to make improvements and solve the problem?

Beyond the initial steps of relating the data between the item master and chargemaster, linking the two systems requires automating vital maintenance functions, such as updating the chargemaster when acquisition costs change, and performing comparative analyses across departments and facilities to determine:

- Chargeable supplies missing from the chargemaster
- Issues on claims prior to billing to ensure proper pricing, charging and coding
- Reimbursement that is inadequate to cover the acquisition cost of supply items
- Material discrepancies between purchased and billed volumes caused by operational breakdowns or items brought into the hospital without the knowledge of the purchasing department (volume reconciliation)
- Operational errors, including items that are correct in the chargemaster but are not being billed, with a priority on high-cost items
- Compliance with facility policies, particularly those related to internal mark-up policies and approved patient charges, non-catalog purchasing, and defining what constitutes a patient chargeable supply

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While being aware of the challenges is important in planning and preparing for integration of supply chain and revenue cycle, those who are considering the process can benefit from lessons learned by leading organizations that have progressed through the challenges and established these best practices:

Establish guiding principles to support the supplies CDM structure you have in place.

Proper linking and integration begins with a look at the existing charge code categories in the chargemaster:

- Routine versus non-routine
- Chargeable versus non-chargeable
- Cost or price thresholds
- New charge code establishment

A standardized approach is needed for setting up supply items regardless of the department in which they are used. It is also important to be aware of your organization’s cost or price thresholds and the process for establishing new charge codes to make sure all involved—clinical, financial, supplies management—follow pricing policies and are informed of changes. For example, if the OR sets up a new charge code, how will that information be conveyed to the revenue side to ensure proper charging and billing? Lack of communication and visibility between departments and systems can lead to missing or incorrect charges and lost revenue.

Build an intuitive supply CDM – synching the item master and chargemaster.

A thorough evaluation of your current supply CDM can help determine the best approach for integrating the item master and chargemaster:

- 1:1 – For every item in the item master, there is a matching line item in the chargemaster. Though managing this method for all items is resource intensive, it can be a viable option for high-dollar supplies and cost accounting standards
- 1: Many – Each item in the item master is linked with a group of related items in the chargemaster. This option can be a “catch all” across departments, but lacks the ability to manage cost and price variances.
- Many to Many – A group of related items in the item master are linked with a group of related items in the chargemaster. This option requires much oversight to avoid duplication of like items and to manage price variances.
- Price Banding – A single charge code is set up for a specific cost range. This option can be easier to manage but requires periodic re-evaluation of bands to accommodate cost changes and monitoring of revenue leakage.

Proper linking and integration, with emphasis on high-dollar items such as implants and devices, drives improved revenue and compliance.

Risks associated with not integrating supply chain and revenue cycle:

- Decreased and inaccurate reimbursements
- Hindered contract negotiations and decreased contract compliance
- Compromised clinical quality of care analytics
- Decreased transparency
- Difficulties in monitoring supply revenue and usage, and inability to cross-check use of supplies
- Inability to audit and adjust systems properly to capture cost-to-charge data visibility
- Inaccurate billing
- Excessive use of labor
Create a multidisciplinary team to encourage collaboration and communication.

For successful program oversight and maintenance, engage key stakeholders from the following areas:
- Patient financial services
- Revenue cycle/revenue integrity
- Supply chain
- Decision support
- Clinical quality leadership
- Compliance
- Core clinical departments

Revenue usually works closely with clinical and supply chain as part of the process for managing the chargemaster. However, healthcare reform requires a more comprehensive data picture, which means more stakeholders collaborating to understand the impact of changing supply structures and pricing policies. The chargemaster is pivotal for statistical and operational analysis for cost and quality of care. All must be involved in creating strategies to support quality-of-care measurement and reporting initiatives.

Monitor and maintain programs to promote accurate pricing.

Improved management of audit and maintenance programs to account for pricing changes is critical for compliant coding. For example, when a device is recalled by a manufacturer, protocols must be in place to make sure the patient is not “double charged” for a replacement. Such cases are easy targets for auditors. Visibility into departments and systems is needed to track and trace for patient safety communications and recalls, as well as for access to real-time purchase data and reporting capabilities.

Strategies for monitoring and maintenance:
- Establish key reporting metrics and performance standards
- Monitor for exceptions – potential charge capture issues
- Improve turnaround time and accuracy for new charge code creation
- Install technology to assist with process re-engineering

Craneware’s Supplies Assistant provides users a practical, yet effective way to instantly find supply coding information that in the past required untold hours of contacting manufacturers and navigating their websites. Allowing users a window into their vast supplies coding database frees up invaluable time and resources all organizations can use more of.

— Supplies ChargeLink® client
Establish key performance indicators (KPIs) and a scorecard for managing charge capture metrics.

Determining true procedure costs can be daunting. Focusing on the supply to chargemaster relationship is part of determining the cost of care and being able to identify performance standards for different surgeons, as well as the types of supplies they are using, and to show comparisons within your organization.

These are a suggested set of benchmarks that should be tracked and monitored over time which are achievable with consistent execution of best practices:

- **Compliance Integrity**
  - Medical device recall / replacement
  - Invoice cost for claim adjudication

- **Data Integrity**
  - Unit of measure accuracy
  - Number of purchases not in the item master
  - Unaccounted implant / device spend
  - Number of service codes not in the item master
  - Gross revenue tied to misc. charge codes

- **Revenue Integrity**
  - Missing HCPCS codes
  - Pricing policy compliance
  - Acquisition cost accuracy
  - Charge capture variances where purchases < billed
  - Charge capture variances where purchases > billed
  - Device cost > procedure on chargemaster

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**People, Processes and Technology**

Data governance and quality control requires connecting key people and processes, resulting in shared information and collaborative decision making. In addition, technology can assist with combining disparate data points into an easy interface that brings relevant consolidated information for supply chain and revenue cycle into the same place. A seamless workflow between supply chain, revenue cycle, and clinical operations provides all stakeholders with access to consolidated and timely information so that the goal of sustainable supply revenue integrity can be achieved.

To achieve success, leadership at the executive level must implement and support processes that leverage tools and best practices—decision-support technologies, strategic contract negotiations, optimization of supply chain roles, multidisciplinary teams—that lead to optimized revenue recovery. In doing so, innovative organizations effectively combine people, processes and technology to manage supplies as assets, creating competitive advantages that improve margin management.

Automating the manual processes used to align supply chain, charge capture and billing procedures provides visibility into the substantial amounts of reimbursable supply charges that hospitals can and should be capturing and provides the necessary oversight for data integrity and governance.
About Craneware

Craneware is the leader in automated revenue integrity solutions that improve financial performance for healthcare organizations. One quarter of registered U.S. hospitals use Craneware Revenue Integrity Solutions\textsuperscript{®}. In 1999, Craneware introduced the industry’s first effective chargemaster management solution. Today, Craneware’s flagship product, Chargemaster Toolkit\textsuperscript{®}, has achieved HFMA Peer Review status for ten consecutive years and for the last eight years, Chargemaster Toolkit ranked number one in the KLAS Revenue Cycle – Chargemaster Management market category in the “2013 Best in KLAS Awards: Software & Services” report.

Craneware is dedicated to helping healthcare organizations achieve revenue integrity. We believe in the success of the healthcare industry. For additional information on Craneware Revenue Integrity Solutions that optimize reimbursement, increase operational efficiency and minimize compliance risk, we invite you to contact us by calling 877-624-2792 or sending an email to info@craneware.com.
About Craneware

Craneware (AIM: CRW.L) is the leader in automated revenue integrity solutions that improve financial performance for healthcare organizations. Craneware’s market-driven, SaaS solutions help hospitals and other healthcare providers more effectively price, charge, code and retain earned revenue for patient care services and supplies. This optimizes reimbursement, increases operational efficiency and minimizes compliance risk. By partnering with Craneware, clients achieve the visibility required to identify, address and prevent revenue leakage. To learn more, visit craneware.com and thevaluecycle.com.