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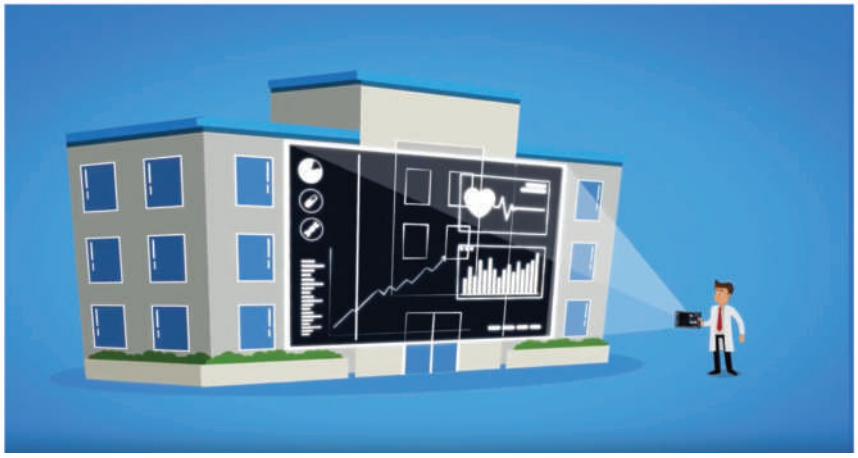
Connecting Supply Chain with Clinical Practice: A How-To Guide



LOOKING BEYOND PRICE

The supply chain team plays a critical role in the overall financial health of a healthcare organization. As non-labor supply expenses continue to rise, mostly due to new product technology, organizations must look for ways to control costs and combat pricing variations of up to 300% for the same products, as seen from our comparative analytics[1]. The continuous renegotiation of supply pricing has been the most common weapon of the supply chain team, but price is just one factor; utilization is also driving costs. Identifying and reducing unwanted variation in utilization practices can have a major impact on the bottom line.

DATA ROADBLOCKS

Historically, many supply chain teams haven't had access to the data needed to research utilization variation. Disparate data sets across multiple systems has been the primary hindrance in studying utilization differences. The supply chain team's primary software package, their Enterprise Resource Planning (ERP) system, is where purchase orders and invoices are generated. That system is typically isolated from the tools used by clinicians, chiefly the Electronic Health Records (EHR) system. Thankfully, the industry has seen advances in software integration and increased adoption rates for EHRs, in part due to the Health Information Technology for Economic and Clinical Health Act (HITECH Act) with its concept of Meaningful Use[2,3] of Electronic Health Records. These advances have opened the possibilities for data analytics across both systems.

Once the data can be identified, tools or services that can normalize data, so it can be 'joined together', add significant value. Most EHR systems are still not fully integrated into a hospital's item master, meaning clinicians will still utilize non-standard 'free-form' records if they cannot find the product to add. The ability to account for, recognize and normalize free-form data is significant for hospitals with little integration between systems. Free-form data can represent more than 20% of a hospital's purchases[1].

Finally, implementing data best practices in both ERP and EHR data systems can be a major factor in the ability to pull the data together. For EHR data, best practices in materials management, such as tracking all supplies used and wasted, regardless of chargeability, will give the hospital the best data regarding financial health and true utilization patterns. Additionally, the ability to 'sync' a hospital's ERP and EHR item masters is a valuable feature where available.

SCIENCE BEHIND MEASURING VARIATION

Clinical data itself is hard to analyze given the complexity and number of variables, along with the required use of statistical analysis. The data must be formatted, removing outliers and identifying meaningful baseline measures. Once it's in a usable format, mathematical formulas for normalizing the data-set need to be applied.

A defined profile of a procedure can be constructed when looking at supply cost data at the physician level. To compile this report, the physician or group is expressed as a rate, or some measure of the use of resources during a defined period for the population served. The resulting profile can then be compared with a baseline that's either based on practice (such as profiles of other physicians) or on standards (such as practice guidelines)[4]. A good procedure physician profile will allow supply chain to measure statistical costs by physician, procedure, location, or manufacturer, as well as analyze indicators regarding outcomes (length of stay, discharge status, readmissions). Once profiles are built, variation in supply use can be researched and bucketed into three basic categories: Underuse, Misuse and Overuse[5].

MAKING IT ACTIONABLE

Supply chain, financial and clinical teams want to understand the factors that drive variation in clinical utilization of products. To build data models, they must have access to normalized, standardized data from both their purchasing and electronic health record systems, either directly or through a technology partner. They also need access to analysts or technology that understands statistical modeling and can build procedural reports to be shared with physicians. Once those profiles are built, variances can be detected and discussions on practice changes can occur. The data should be consistently updated and shared between all necessary parties. This gives them access to actionable information with which to track progress in processes and pricing, while continuing to improve patient care. Peer institution profiles and benchmarks should be made available to all stakeholders to help measure progress not only internally, but in comparison to the market.

ABOUT THE AUTHOR:

Greg Corban has spent his 19-year career in various healthcare supply chain roles. Before joining BroadJump, LLC, he served as the Director of Operations for MedAssets Capital and Construction Program. He started his career at Allegiance Healthcare and was part of their integration with Cardinal Health in 1999.

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FOOTNOTES

1. BroadJump / Author Research
2. Blumenthal D. Launching HITECH. N Engl J Med. 2010 Feb 4;362(5):382–5. [PubMed]
3. Blumenthal D, Tavenner M. The "Meaningful Use" Regulation for Electronic Health Records. N Engl J Med. 2010 Aug 5;363(6):501–4. [PubMed]
4. Sandy, L.G., 1999. The future of physician profiling. The Journal of ambulatory care management, 22(3), pp.11-16.
5. http://www.dartmouthatlas.org/downloads/reports/effective_care.pdf

BroadJump is a comparative analytics company that delivers transparency to healthcare expense management. Using its Web-based applications, BroadJump's clients gain access to comprehensive, unbiased insights that result in improved efficiency and care. For more information, please visit www.BroadJumpLLC.com.