

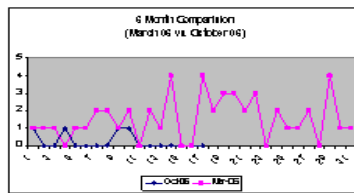
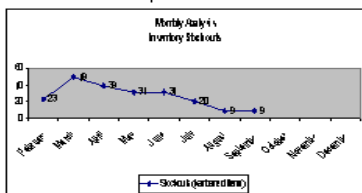


Value Capture Opportunity: Eliminate Medication Errors and Waste

Reorder Card System Goal: Stockout Elimination

During the 6 month period from March to October of 2006, there was an 81% decrease in stockouts of medications in the reorder card process.

In March 2006, there was an average of 1.68 stockouts per day. MTD data for October 2006, shows an average of 0.22 stockouts per day.



Using Value Capture principles, staff save \$753,239 in hard costs (total opportunity \$1.5 million) while stockouts fall 81% at Wellmont Holston Valley



Summary

- Medication errors and waste can be eliminated using system improvement techniques and real-time problem solving with no capital investment, saving patients and your bottom line (an average of \$2 million in hard dollar savings for a 200-bed hospital).
- Eliminating medication problems and waste can create the foundation for your future business case by teaching your hospital how to achieve maximum quality, minimum cost, and minimum lead-time in any service line.
- Value Capture is the leading firm in the world at helping hospital leaders simultaneously eliminate errors and waste in the medication process, while returning the biggest hard dollar gains. We have supported several health systems to simultaneously dramatically reduce medication errors and risk of error, improve clinical quality, eliminate waste of staff time associated with recurrent problems, virtually eliminate stockouts and other indications of system instability, and significantly reduce the spread between the costs of drugs purchased by the hospital and the cost of the drugs the patients actually consume. ROIs for this work as high as 15:1 are possible.

Safety/Quality (↑ 90-100% improvement possible)



Cost (↓ 30-50% savings possible)

Lead Time (↓ = more potential volume)

Business Case Highlights

- **Quality/Safety** – At most hospitals, medication errors and near-misses account for a substantial proportion of reported safety problems and errors that harm patients. Further, the literature shows that at best 30% of actual medication errors are reported, and at worst 3%. Medication delivery is one of the most complex, risky and unstable core care processes at any hospital.
- **Cost** – The same instabilities that produce medication safety problems create large opportunities to capture and return hard dollar savings to the hospital using the Value Capture System (with no capital investment). To cite just one node where rich savings often can be achieved while learning to apply critical system design principles, pharmacies often suffer from regular stockouts of needed medications, and over-ordering of others, resulting in hard-dollar inventory waste and substantial work-around waste, not to mention missed patient need. (Pharmacy teams are dedicated and talented, but most haven't had the benefit of training in the systems design principles that allow the tightest possible linkage to patient need.) By applying Value Capture principles that allow pharmacies to tie their reorder more reliably to actual patient consumption while holding substantially less inventory, one Value Capture partner reduced the spread between their medication costs and actual patient consumption by more than \$753,000 in a single year (the total opportunity was \$1.5 million). During this time, stock-outs of medications that had been subjected to this process fell by 85%. This hospital team also learned how to apply these same ideas to every other supply process.
- **Soft Costs and Lead Time Costs** – Medication problems waste vast amounts of staff time and delay meeting patient needs every day. Via direct observational studies, the average nurse encounters three problems with medication delivery every hour. This creates an average of 11 nursing FTEs in wasted time at the average 200 bed hospital. Eliminating that waste allows for more time at the bedside. The time lost to workarounds is even more profound among

pharmacists. One partner hospital used Value Capture principles (with no capital investment) to reduce the percentage of time order entry pharmacists had to work around problems from 30% to 10%, and they continue to improve. This allowed the hospital to redeploy several pharmacists into more value-added roles on the front line of care where they have increased safety, quality, and patient and clinician satisfaction.

How Value Capture Helps Your Team Eliminate Errors and Waste from The Medication Process

While the exact steps to transform medication delivery will vary based on the specific problems and opportunities observed in the medication system, interventions tend to cascade in the following order:

1. During a first phase, Value Capture helps leaders support employees and medical staff through a detailed characterization of the total opportunity for safety/quality, cost, and lead-time improvements in the medication use pathway. During this phase, we also support you in stabilizing and standardizing the medication inventory to begin to eliminate all stockouts and extract inventory costs from the system. This work creates a clear, agreed upon plan for the total transformation of the process (including financial risk sharing agreements), while quickly reducing purchases to lower the cost base and increase margins.
2. Following this preliminary stabilization work and a decision to perfect the entire process, Value Capture works with leaders to help them move systematically through the following steps:

Opportunity 1 – Eliminate variability in each work process along the pathway and ensure that inventory is matched directly to patient need. Work standardization principles and inventory organization and replenishment tools are taught. (This phase is generally a continuation of improvements from standardization/stabilization work in Phase 1.)

Opportunity 2 – In most hospitals, there are at least eight medication pathways, with more than a dozen steps in each, through which medications can be delivered. We teach leaders and staff how to gain a detailed understanding of these pathways and the problems in them, then to use system principles to simplify and unify them to reduce waste and error.

Opportunity 3 – Generally, the customers and suppliers in the medication process do not benefit from a clear and direct way to make requests for a product and get a clear response as to whether/when it is available. We help leaders and staff design binary connections between all customers and suppliers in the medication pathway and change work elements and how existing technology is used so that missed handoffs do not create error and waste.

Opportunity 4 – As in most delivery processes, medication problems are worked around and constantly recur. We help leaders design and implement a way for problems to be called out and use a “help chain” that extends all the way to the senior leaders of the organization to ensure that problems are solved in real time and don’t repeat.

Opportunity 5 – The demand for medications is uneven and the amount of work to supply drugs has large peaks and valleys. We help leaders and staff understand how to alter lead times and ordering patterns to take stress off the system and level work flow, allowing the system to deliver the same or increased volume at lower cost (due to elimination of non-personnel costs, not people).

Opportunity 6 – Lead times for the delivery of individual doses is highly variable and exceeds the value-added time to actually produce the dose. We teach how to shorten the pathway and make all needed skill sets available at the time they are needed to make near immediate delivery possible.

Opportunity 7 – The process delivers medications according to a prescription which may no longer match the patient’s need based on their condition at the time of administration. We teach how to begin using “pull” principles to better match medication delivery to patient need to make it easier to see and eliminate waste and error.

As a consequence of this work, dramatically better financial results are achievable in any process because your team knows how to design and improve any system. If you would like to learn more about these improvements or to learn how to improve your quality and financial results using the Value Capture System, please contact:

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