UVA Health - Supply Change Comparison Study Kanban vs Non Kanban:
Analysis of 6th Floor vs. 4th Floor Distribution of Supply Materials

Thomas Harkins, John Kaufman, Clinical Staff, Terry Reeder, University of Virginia Medical Center

SUMMARY: In 2016 the Health System spent over 170M in Medical Supplies excluding Organ and Pharmaceutical Expenses. Typically, medical supplies attribute to the second largest expense in a Health System. UVA over the last several months has been implementing a Kanban, Two Bin System on it’s inpatient floors. An analysis was required to determine the benefit of utilizing this Lean System of restocking supplies to both Clean Rooms and Alcoves on the respective floors over that of the existing Par Counting system through a Pyxis System.

A process map was created for both the 4th floor distribution (shown in Blue) and the 6th floor distribution (shown in Orange) of supplies as well as that of the 6th floor (shown in Blue). Furthermore, times were captured when supplies were unloaded at the dock, sorted, and transported to the floors. Scanning times were also annotated at the lower floors. As one can see, there were twice as many process steps in the 4th floor distribution.

After the data was gathered and analyzed, it was clear that the 4th floor process took twice as long as the 6th floor process. On the 6th floor there was less confusion in the process as well as an increased ability to rotate stock within both the alcoves and material storage areas. For both studies, the transport time was about the same, but with the 4th floor, more time was required to discard corrugate, counting and searching for stock locations.

Findings and Recommendations:

1. Lessons Learned:
   - Supply Chain wasn’t ready and people didn’t believe in system initially
   - Too long for roll-outs
   - Units believe that Kanban was optional
   - Process was made too complex
   - The more involved the unit team members, the more successful the implementation and on-going maintenance
   - Not all areas had enough space or right configuration of space to implement
   - Lack of adherence to Standard Work

2. Recommendations:
   - Further simplify the process by scanning empty bins on the floors
   - Re-education of new staff as to the benefits of Kanban
   - Re-evaluate needed quantities of product on floors
   - Have the vendor pre-package cases per floor distribution
   - Create a Central UVA Supply other than basement to maintain high used bulk supplies
   - Have the Central Supply do the pick, pack and ship to the respective floors
   - 55 multiple areas where supplies are stored. Use existing inventory systems currently available at UVA HS

For more information, contact: UVA Health Operations and Systems Engineering Group, 434-928-6855