Case Study

Title: Implementation of True Exchange Cart Program and Centralization of Linen Distribution and Data Collection Process Reduces Labor Costs and Improves Efficiency (Part I of II)

Facility: Carolinas HealthCare System – Charlotte, NC

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BACKGROUND

Carolinas HealthCare System (CHS) is one of the premier healthcare systems in the United States. The system processes approximately 15 million pounds annually amongst the 150 plus facilities represented in the network.

In 2011 the central laundry was closed, presenting challenges maintaining product specifications without converting to a rental model. Additionally, CHS was faced with distribution efficiency concerns and the ability to manage the linen supply chain moving forward given the large number of medical offices in addition to the main campuses.

Carolinas HealthCare System approached Standard Textile to develop a method to maintain the COG (Customer Owned Goods) linen model and provide innovative solutions to redesign the distribution process to better control inventory.

Linen distribution varied by facility and no daily utilization data was recorded. The former laundry delivered bulk carts to each hospital between 5 and 7 days a week, and there was no documentation of inventory levels in the linen room at the facility.

Standard Textile assisted the healthcare system with putting together a plan that would redesign the existing distribution model, increase efficiencies in the linen supply chain, and capture data for utilization management.
OBJECTIVE

Standard Textile visited four healthcare facilities, CMC Main, CMC Mercy, CMC Union and CMC Pineville as well as and the Distribution Center (former laundry) to identify areas of opportunity. The consultants put together an assessment of the current system with a proposal to convert each of the facilities to a true exchange cart distribution program with the carts built and data collected on site at the Distribution Center (DC). The proposal also included:

- A proposed layout at the DC to maximize space for the cart build process and provide a means to eliminate cross-contamination of linen
- A proposed data collection method to collect usage/shipping records with single entry point (handheld usage via Wi-Fi connection at DC)
- A seven day a week delivery to each facility to maximize linen inventory and reduce excess quantities on site
- Design, customization, and implementation plan for OneBill accounting export
  - Provided an ability to export single file for monthly invoicing

CHS agreed to move forward as partners with Standard Textile to revamp the distribution process, design the Distribution Center layout, and provide a method to collect data for utilization management.

IMPLEMENTATION STRATEGY

Working closely with Linen Services, the Consultative Services team developed an implementation plan to:

- Convert each of the facilities to a true exchange cart system
- Modify the existing ControlTex® software to conform to the new system
- Design a new layout for the Distribution Center to provide the most efficient methodology for the new distribution/cart build process and create a soiled and clean linen separation.
PHASE I

1.) Redesign layout at Distribution Center.

2.) Begin ordering exchange carts and barcodes and work to determine exchange cart requirements based on proposed PAR levels and delivery schedules

PHASE II

1.) Data collection process at each facility to determine proposed exchange cart PAR levels

2.) Verify proposed PAR levels based on historical pieces delivered

3.) Determine linen room needs to accommodate calls for extras (1/2 PAR)

4.) Update ControlTex software with unit information, delivery schedules, and PAR levels
PHASE III

1.) Installation of Wi-Fi handheld units at facility with corresponding training

2.) Cart barcodes installed, recorded in ControlTex

3.) Print exchange cart tickets, display on cart (2 sets)

4.) Confirmation of delivery times to facility/delivery to floors, coordinate with Linen Services and Transportation

5.) Develop transportation schedule based on delivery schedules and max cart requirements per truck (21)

PHASE IV

1.) Monitor usage for each area and adjust PAR levels accordingly

2.) Distribute end-user utilization/cost reports to compare to benchmarks and tailor linen awareness programs

PHASE V

1.) Each unit is billed for monthly linen usage

2.) Continue to monitor/manage cart build performance standards at Distribution Center

RESULTS

With the successful conversion to a true exchange cart program for the healthcare system, the linen supply chain and data collection process have been streamlined. Some of the additional benefits realized include:

- **Data for Utilization Management** – Linen managers are utilizing usage data by piece and pound to focus on reducing utilization and implementing unit-specific linen awareness programs.
  - Handhelds provided to collect poundage and piece data at single point of entry

- **Ability to Develop Procurement Plan** – Linen Services has the ability to plan purchases based on established PAR levels.

- **Improvement in Long Term Service Quality** – Reduction in calls for extras and unit-specific monthly reporting compared to national averages.
• **Focused Delivery Times and Product Quantities** – 24 hour exchange carts designed to accommodate individual units.

• **Transportation Schedules** – Established schedules for clean linen deliveries and soiled collection by facility.

• **Increase Efficiencies** – Ability to implement and monitor production standards for cart build at Distribution Center.

**Calls for Extras**

As part of the transition, calls for extras to linen rooms have decreased by 80% amongst the converted facilities to date.

**Labor Savings**

As part of the overall transition, FTE responsibilities at each of the transitioned facilities have been reallocated as cart building is no longer required at the facility.

**Future Impacts**

As the system is fully converted to a true exchange cart program for the main campuses, Carolinas HealthCare System will have full control of linen utilization data and cost impacts on the system. This linen utilization data will allow CHS to manage and develop linen management programs and quantify cost-savings moving forward. These utilization and service quality impacts will be highlighted in Part II of the Case Study.
CONCLUSION

During the past three years, Standard Textile and the CHS management team have worked hard to manage the transition and continue to improve the linen services and transportation operation for the converted facilities.

Linen Services aimed to improve the utilization metrics basis, and they connected with consultants from Standard Textile to take advantage of value-added services. Using ControlTex® to gather accurate data and generating Stock Level Reports, Utilization by Day Reports, and Distribution Point Usage/Cost Summary Reports allowed the Distribution Center and each facility to modify and decrease linen cart standards for a number of units. This initiative indirectly helped to “free up” some linen inventory and also reduced staff’s ability to hoard excess linen or take it into rooms.

By thoroughly communicating the cart standard changes and other linen management best practices to staff, linen staff is able to work towards achieving optimization in the linen supply chain. By using the ControlTex® linen management software reports for decision support, conducting linen awareness presentations, and committing to continuous improvement, the system will continue to grow during the exchange cart transitions and continue to improve service quality and reduce costs in the linen supply chain.