Case Study

Title: Improving Soil to Clean Ratio Reduces Linen Replacement Costs

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BACKGROUND

The case study Hospital is one of ten regional hospitals in a Midwest region Health System. Founded in the early 1900’s, the Hospital is an acute care, community-oriented hospital. The Hospital's strong clinical Centers of Excellence include: Diabetes and Endocrine Center, Neuroscience, SeniorCare and Orthopedics.

In 2005, the Health System closed all of their on-premise laundries, and centralized the linen processing operation for the entire health system utilizing a newly built Coop Laundry and a common linen pool. To equitably distribute replacement costs based on the performance of the hospitals, the new laundry closely tracked the monthly soil to clean ratios for each facility. The cost of the linen injection incurred each month would be assessed to each facility based on overall volume and soil to clean ratio performance. Facilities with lower soil to clean ratios would be assessed more of the replacement cost vs. facilities with higher soil to clean ratios. The theory being, facilities with lower soil to clean ratio were losing more linen.

Over the past several years, Standard Textile has been actively working with the Hospital on various initiatives to reduce linen related costs and improve service quality to the end users in the system. This case study will focus on the initiatives implemented to improve soil to clean ratios at the Hospital and reduce overall linen replacement costs.

OBJECTIVE

The Hospital wanted to develop a systematic approach to improve their overall soil to clean ratio and reduce linen replacement costs. The multi-faceted approach would not only include improving internal practices and procedures for handling, tracking and monitoring linen but also improving the linen utilization practices of the end users of linen in the facility.
STRATEGY

Standard Textile started actively working with the Hospital in 2005 to achieve the objective of improving soil to clean ratio and reducing linen related costs. The objective was achieved through a combined strategy of improving linen distribution management practices and improving the linen utilization practices of the linen end users.

Phase I – Improving Linen Distribution Management Practices
- Develop an internal system/procedures to monitor daily clean linen poundage delivered from the laundry and soiled linen sent to the laundry.
- Implement a linen management system to monitor daily linen utilization for each linen distribution point within the facility, establish accurate par levels and adjust par levels to match supply with demand.

Phase II - Improving End User Linen Utilization Practices
- Assess opportunities for improvement within the facility and implement corrective action plans.
- Communicate/Educate nursing about linen utilization best practices that will reduce linen loss, improve overall soil to clean ratios, and reduce linen replacement costs.

During Phase I the linen distribution staff at the Hospital established the practices and procedures to effectively track and monitor clean poundage delivered from the laundry and soiled poundage sent to the laundry. Standard Textile worked to develop a soil and clean tracking spreadsheet for the linen staff. The spreadsheet contained inputs for soiled and clean poundage and would automatically calculate daily, monthly and annual soil to clean ratios. Procedures were established to weigh clean and soiled linen going back and forth between the laundry and the Hospital. Monitoring daily poundage figures and comparing the facility figures to shipping manifests would insure the accuracy of the soil and clean poundage figures. In addition, missing carts would occasionally be identified during the daily review of the shipping manifest sent from the laundry.

A second initiative achieved during Phase I was the setup and implementation of the ControlTex® Linen Management System. ControlTex gave the linen staff complete visibility of the linen utilization practices within the Hospital for each distribution point. With accurate daily usage figures, accurate par levels were established for each distribution point within the facility by using the Stock Level Report by Cart/Closet in ControlTex. Accurate par levels matched the linen supply with the demand and improved the flow of linen between the Hospital and the laundry. Running Facility Usage By Day Reports in ControlTex also gave the linen distribution supervisor the information needed to effectively adjust daily linen orders received from the laundry. This prevented an excessive buildup of inventory within the Hospital which also improved soil to clean ratios.

During Phase II the focus was on improving the linen utilization practices of the linen end users. The first step was assessing the current linen utilization practices and identifying opportunities within the system. A full facility audit consisting of surveys to assess linen utilization practices, interviews with linen end users and onsite observations was conducted. The results of the audit
were compiled and reviewed with linen distribution and materials management staff at the Hospital. The opportunities identified for improvement within the report were prioritized and an action plan was developed to improve current linen utilization practices. The improvements identified focused on the following areas of potential linen loss in the system:

- Premature disposal of linen in trash or bio-hazard containers
- Linen loss during patient transfers
- Linen loss in the ER
- Improving linen security within the facility

Once the areas of potential linen loss were identified, a variety of linen education techniques were utilized to improve the linen utilization practices of the end users. The linen education/awareness techniques utilized included:

- Presenting best practices during nurse management and leadership committee meetings
- One on one meetings with nursing managers to discuss opportunities
- Standard Textile’s Linen Tips of the Month displayed in prominent areas (break rooms, conference rooms, etc…). The tips of month are sent out to all customers that have valid access to Standard Textile’s Texknowlogy website.
- Memos sent to nursing staff addressing specific issues

RESULTS

In 2005, the Hospital had a soil to clean ratio of 2.66% for the year. The combined of improved linen management practices and end user education has resulted in a dramatic improvement in their soil to clean ratio and significant savings in linen replacement costs. The table below identifies the savings achieved since 2005 with the improved soil to clean ratio and resulting reduction in linen replacement costs.

<table>
<thead>
<tr>
<th>Category</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009 (Jan – Oct)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hospital Soil to Clean Ratio</strong></td>
<td>8.66%</td>
<td>11.23%</td>
<td>12.79%</td>
<td>10.98%</td>
</tr>
<tr>
<td><strong>System Average Soil to Clean Ratio</strong></td>
<td>5.06%</td>
<td>6.13%</td>
<td>5.21%</td>
<td>3.09%</td>
</tr>
<tr>
<td><strong>Reduction in Linen Replacement Cost/Lb at Hospital Due to Soil to Clean Ratio</strong></td>
<td>$.0048</td>
<td>$.0059</td>
<td>$.0089</td>
<td>$.0150</td>
</tr>
<tr>
<td><strong>Hospital Clean Poundage</strong></td>
<td>1,224,124</td>
<td>1,183,468</td>
<td>1,079,249</td>
<td>886,806</td>
</tr>
<tr>
<td><strong>Savings Achieved</strong></td>
<td>$5,875.80</td>
<td>$6,982.46</td>
<td>$9,605.32</td>
<td>$13,302.09</td>
</tr>
</tbody>
</table>

The improvement in the soil to clean ratio over the past can be attributed to the dedication of the linen distribution staff at the Hospital. Their dedication to improve soil and clean poundage tracking procedures, improve par level management to match linen supplies with demand, identify and correct areas of potential linen loss in the facility, and educate nursing on a regular basis about linen utilization best practice has resulted in a four year tangible savings of $35,766 in linen replacement costs.