Case Study

Title: Ambulance Linen Retrieval and Return

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BACKGROUND

This Health System operates six acute care hospitals in the Midwest, along with a comprehensive range of outpatient centers and services. Three acute care hospitals together have over 32,000 inpatient admissions per year. These combined facilities receive 138,400 emergency department visits annually.

The Health System owns an Ambulance Service, a full-service emergency and non-emergency transportation service. The Ambulance Service has eight stations housing its EMS squads, with nine ambulance units servicing the greater Metropolitan area.

To curb loss of linen, primarily to extended care facilities when patients were transported from the Health System hospitals, the Ambulance Service was enlisted to help with linen control.

OBJECTIVE

The goal was to measurably reduce hospital linen loss. It was known that ambulance services, including the Health System owned Ambulance Service, took Health System linen and left it wherever the destination happened to be. In a non-emergency setting and with no linen “exchange” taking place, such linen loss appeared unjustifiable.

STRATEGY

With the Ambulance Service being a cooperative partner of the Health System hospitals, the decision was made to ask the Ambulance Service personnel to not leave linen at non-Health System facilities. Hamper bags were distributed to the Ambulance Service, with the instruction that Health System linen be transported back to the Ambulance Service station, rather than being left at the destination facility.
Implementation: Each ambulance unit now carries with it a supply of hamper bags, of hooded chair-back type. Health System linen is placed in the bag when leaving a patient at a non-Health System facility, and the bag flap is re-closed. The same bag is used until full, rather than having multiple, under-filled bags. When full, the bag is left at the ambulance unit’s station, where supplies of new bags are kept.

An Ambulance Service employee from the main station visits each satellite station daily to re-stock all supplies. His duties also include picking up the full, soiled linen bag. They are taken to the Medical Center, the final station on the schedule. After re-stocking the EMS supplies, bags are taken to the hospital’s nearby soiled linen holding area. From there, they are picked up by the outside laundry service along with the hospital’s daily soiled linen. Clean bags are taken from the linen room to replenish supply at the satellite stations and the loop is completed.

Ambulance Service EMS staff report the system works with no problems or inconvenience. The retrieval does not add time or notable work and does not interfere in any way with normal operations or responsibilities. The only exception to this process is that if linen is heavily soiled, as perhaps during an emergency run, the Ambulance Service is not expected to handle and carry it on the vehicle. In such cases, it is left at the destination facility.

RESULTS

There has been positive, measurable impact from implementation of this procedure.

- An average of 90 full bags is being returned to the Medical Center every month. Based on the average value of the linen in each bag, varying by season and use of thermal blankets, the retrieval savings range from $40,000 minimum, to potentially over $50,000 annually. Direct data as well as circumstantial evidence point to substantial savings being achieved immediately and likely to continue.

- This linen is from approximately 3,600 annual transfers from the three Health System hospitals to facilities outside its own system. The largest portion of these is to nursing homes, many to non-Health System hospitals, and the remainder to patient homes and other medical care facilities. This averages to about $13.30 in savings per transfer.

- Validating and complementing the retrieval data is linen purchase data. Purchases declined immediately upon implementation of the bag retrieval program. Though other factors may always impact purchases, there were no other substantive changes in the system’s linen usage or linen control system. Every item type commonly found in the retrieval bag experienced lower purchases following project implementation. The same is not true of all items in the linen system.
## Purchase Evaluation:

<table>
<thead>
<tr>
<th>Item:</th>
<th>Average Monthly Purchases – Actual (7 months)</th>
<th>Annual Savings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre-Project Year</td>
<td>Post-Implementation</td>
</tr>
<tr>
<td>Flat Sheets</td>
<td>$ 5,630</td>
<td>$ 3,945</td>
</tr>
<tr>
<td>Bath Blankets</td>
<td>$ 5,599</td>
<td>$ 4,118</td>
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<tr>
<td>Thermal Blankets *</td>
<td>$2,307</td>
<td>$ 1,486</td>
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<tr>
<td>Pillowcase</td>
<td>$ 735</td>
<td>$ 427</td>
</tr>
<tr>
<td>Bath Towel</td>
<td>$ 3,909</td>
<td>$ 3,733</td>
</tr>
</tbody>
</table>

* EMS Usage Highly Variable Based On Season

## CONCLUSION

It is often considered common knowledge that hospitals lose linen in the ambulance transfer of patients to other facilities. This case documents such loss by means of actually retrieving it before it is lost. More importantly, the program at the Health System is conclusively saving money and will continue to do so.

The inherent advantage in this case is an ambulance service owned by the health system. However, it would appear possible for any hospital to work with an ambulance service and depending upon local circumstances, collect and retrieve its soiled linen. Variations on this case can be envisioned, given the ease with which it can be done and the basic equity motivating it.