

THE USE OF LEAN METHODOLOGY THE TOYOTA WAY TO REDUCE COSTS AND ENHANCE PATIENT CARE IN PRESSURE REDUCTION MATTRESS FLOW

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Background: Due to the successful application of a new type of pressure reduction mattress the demand for specialty mattresses in acute care has greatly increased the current system to monitor these mattresses is not adequate to accommodate the increased demand. The mattresses are rented from an outside company and specialty mattress loss in acute care averages one per month thus resulting in excess rental fees and unnecessary increase in staff workload.

Aim:

1. To reduce costs for specialty mattress demand in acute care
2. To reduce nursing and manager workload
3. To develop an approach to reduce rental mattress loss within the system
4. To prevent skin breakdown
5. To have the right patient on the right mattress at the right time

Methods:

- Developed a team of key stakeholders
- Value stream mapped the specialty mattress process
- Tracked mattress flow for a 6 month period
- Identified MUDA (waste) in primary flows from delivery of mattress to return to company and the ordering system through accounts payable to payment.
- Applied A3 problem solving process with staff and team to determine root cause of problems and issue resolution.
- Cost analysis of usage of a particular mattress for the past year

Results:

- Streamlined the rental process by reducing 3 systems to 2
 - Reduced 14 documents to 6
 - Redirected 198 hours of clinical time per year back to the bedside
 - 48 hours of manager time be saved per year.
 - Provided time for manageable assessments of patients requiring specialty mattress treatment
- The mean average was 21 mattresses being rented on a consistent basis. It was found to be more cost effective to buy 21 mattresses with a warranty of 5 years and rent remaining demand. This would provide a savings of \$ 846,210 over a 5-years.

Discussion: After purchasing 21-pressure reduction mattresses and streamlining rental process a three-month trial reveals 0 missing mattresses and 0 time wasted.

Ongoing monitoring will be reported over the next 6 months