

Quality and Productivity Commission
30th Annual Productivity and Quality Awards Program
“Heritage of Excellence”

2016 APPLICATION

Title of Project (Limited to 50 characters, including spaces, using Arial 12 point font):

I. NAME OF PROJECT: “TIME IS MORE THAN MONEY IN HEALTHCARE”

89

DATE OF IMPLEMENTATION/ADOPTION: **AUGUST 25, 2014**
 (Must have been implemented at least one year - on or before July 1, 2015)

PROJECT STATUS: Ongoing One-time only

HAS YOUR DEPARTMENT PREVIOUSLY SUBMITTED THIS PROJECT? Yes No

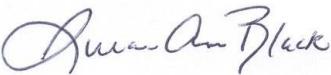
EXECUTIVE SUMMARY: Describe the project in 15 lines or less using Arial 12 point font. State clearly and concisely what difference the project has made.

1 We have all heard the old adage that “time is money”. In healthcare, time can mean the
 2 difference between good and bad clinical outcomes- it can even mean the difference
 3 between life and death. Too often, clinical staff spend valuable time tracking down
 4 supplies needed to do their job- time that takes them away from the patient’s bedside.
 5 The challenge then, is to find creative ways to increase the time clinical staff have to
 6 spend with the patient. Utilizing a simple tool called 5-S, multidisciplinary teams have
 7 worked to create well organized work spaces where staff have easy access to all the
 8 supplies and equipment they need to do their job. Using low cost/low technological
 9 solutions such as improved labeling, color coding, collating supplies by body system,
 10 and creating “parking lots” for equipment, the time staff spend searching for supplies
 11 has been reduced by 23,027 hours. This improvement resulted in over \$560,000 in cost
 12 avoidance annually. Additionally, we achieved a one-time cost savings of over \$60,000
 13 in reallocation of overstock supplies. The time saved allowed clinical staff to spend more
 14 time at the patient’s bedside. As a result, we are encouraged to see a decreasing trend
 15 in avoidable patient harm and staff perceptions of teamwork and morale has improved.

BENEFITS TO THE COUNTY

(1) ACTUAL/ESTIMATED ANNUAL COST AVOIDANCE	(2) ACTUAL/ESTIMATED ANNUAL COST SAVINGS	(3) ACTUAL/ESTIMATED ANNUAL REVENUE	(1) + (2) + (3) = TOTAL ANNUAL ACTUAL/ESTIMATED BENEFIT	SERVICE ENHANCEMENT PROJECT
\$ 561,779.63	\$62,010.91	\$	\$ 623,790.55	<input type="checkbox"/>

ANNUAL = 12 MONTHS ONLY

SUBMITTING DEPARTMENT NAME AND COMPLETE ADDRESS Department of Health Services, Harbor-UCLA Medical Center 1000 West Carson Street Torrance, CA 90509		TELEPHONE NUMBER 310 222-2101
PROGRAM MANAGER’S NAME Susan Black 		TELEPHONE NUMBER 310 222-6870 EMAIL sblack@dhs.lacounty.gov
PRODUCTIVITY MANAGER’S NAME AND SIGNATURE (PLEASE CALL (213) 893-0322 IF YOU DO NOT KNOW YOUR PRODUCTIVITY MANAGER’S NAME) Gerardo Pinedo SIGNATURE ON FILE		TELEPHONE NUMBER 213-240-8104 EMAIL gpinedo@dhs.lacounty.gov
DEPARTMENT HEAD’S NAME AND SIGNATURE Mitchell H. Katz, M.D. SIGNATURE ON FILE		TELEPHONE NUMBER 213-240-8101

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1st FACT SHEET – LIMITED TO 3 PAGES ONLY:

Challenge: The old adage of “time is money”, originally attributed to Benjamin Franklin, remains true to this day in the business world. But this concept takes on a deeper meaning in healthcare because in our world, time is not only money, it can mean the difference between good and bad clinical outcomes.

Too often, clinical staff spend valuable time tracking down supplies needed to do their jobs. According to the Institute for Healthcare Improvement (IHI), nurses spend less than half of their working hours providing direct patient care¹. In another study, it was estimated that less than 3% of nurses’ time was spent at the bedside and for other clinical care givers it was even less². Yet, studies show that when clinical staff spend more time at the bedside, patients are less likely to fall or suffer from infections, medication errors or other adverse outcomes including death³. The challenge then, is to find creative ways to increase the time clinical staff have to spend at the bedside.

Solution: Lean methodology is used to better understand work flow processes to drive out waste so that staff can spend more time at the bedside. One tool used in Lean is called 5-S. 5-S stands for Sort, Set In Order, Shine, Standardize, and Sustain. It is a tool that helps create a well-organized work environment where staff have easy access to all the supplies and equipment they need to do their job.

Our first experience utilizing the 5-S tool was in our emergency department. A multidisciplinary team including clinical caregivers, supply chain operations/warehouse, environmental services, and facilities management staff was formed. While the Surgical/ Emergency Building was a new space which opened in April 2014, the supply areas were unorganized. Staff found it difficult to find supplies and equipment to care for their patients and often had to run through several supply rooms searching to find and gather what they needed. Within the supply room, staff could not easily identify the correct locations for supplies due to small labels and general disorder within the supply bins. Supplies were overstocked above necessary levels causing overflow to spill into other bins. This led to a higher risk for expired supplies and it limited space for other critically needed supplies.

To address these concerns, the team followed the 5-S steps:

- **Sort-** The team sorted through their supplies by separating out what they needed from what they did not need in their unit/area.
- **Set In Order-** The team collated supplies and equipment by use and considered placement based on ergonomics placing frequently used items at eye level for

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easy visibility and reach, while placing less frequently used items on higher or lower shelves. “Parking lots” were created for equipment to provide a designated space for storage when not in use.

- **Shine-** The team inspected and ensured all equipment was not damage and was fully functioning. The area was thoroughly cleaned.
- **Standardize-** The team developed a standardized color coding legend for supplies based on body systems. Supplies were labeled based on their specific color code with readable font for staff to easily identify each supply. Also, the team decided on ways to maintain the improvement and created a document which listed the standardized work duties that were required on each shift to sustain the positive changes.
- **Sustain-** The team understood the only way to sustain their improvement was through shared accountability. The following process was developed by the team for managers, supervisors, and line staff: managers and supervisors assigned daily a staff member to complete the standardized work duties; staff spend 5 minutes each shift completing the standardized work duties; weekly audits were performed and results were shared with their clinical director and placed on their unit quality board for everyone to see; and results were shared with senior leadership weekly.

Benefits: The results from the emergency department were remarkable. The supply room was transformed. It is now color coded by body systems where supplies are collated together making it easier for staff to quickly find what they need to do their job. The team established the correct number of supplies needed for their unit/area and were able to add additional needed supplies as space was created by the removal of overstocked items. After this success, the 5-S tool was implemented in 22 inpatient supply/equipment areas involving almost 100 line staff directly in their individual unit’s/area’s transformation.

To quantify the time and money savings, time studies were performed. Varied levels of staff (nursing attendants, registered nurses, and resident/providers) were timed before and after 5-S as they searched for a list of most commonly used supplies.

Time: Results revealed a 44% reduction in the time clinical staff spent searching for a supply item. Additionally, time studies of the warehouse restocking process showed a 29% decrease in the total restocking time. A questionnaire was sent to 97 staff who participated in a unit/area 5-S event. 89/97 (93%) of staff responded. Results showed that 96% (85/89) of the staff agreed or strongly agreed that 5-S made it easier for them to find everything they needed to do their job, and 93% (82/89) agreed or strongly agreed that 5-S saved them valuable time looking for supplies-time which could be better spent at the patient bedside

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LINKAGE TO THE COUNTY STRATEGIC PLAN (DETAIL IS REQUIRED FOR COUNTY DEPARTMENTS): Use Arial 12 point font

Money: Time study results revealed an annual cost avoidance of \$46,814.97 for one unit. Time studies were not conducted for all units/areas due to the amount of time and resources required to collect all the information. However, if the other 22 units/areas achieved a conservative minimum of 50% of the same improvements, it is estimated that the hospital saved about 23,027 work hours equaling over \$560,000 in cost avoidance annually. Additionally, in one unit, overstock items costing \$5,167.58 were reallocated to the rest of the hospital. If the other 22 units/areas achieved a conserved minimum of 50% of the same improvements, it is estimated that the hospital achieved a one-time cost savings of \$62,010.

Reducing Harm/Improving Outcomes: While there have been multiple initiatives implemented to reduce *avoidable harm to patients over the past year, if the current trend continues, a 13% decrease in harm for FY 2015-2016 compared to the FY 2014/2015 baseline will be achieved. While we cannot directly attribute this positive finding solely to 5-S, we are encouraged by this trend.

Building teamwork and improving morale: Key lean principles include building teamwork and engaging line staff in all improvement work. The majority 77% (67/89) of line staff agreed or strongly agreed that the 5-S event helped to build teamwork in their unit/area and 78% (69/89) noted that morale improved as a result. 5-S is considered a foundational tool used in Lean that helps prepare individuals and teams for additional improvement work. 87% (76/89) of staff agreed or strongly agreed that they would like to be involved in future Lean activities.

This submission is consistent with the County of Los Angeles Strategic Plan Goal of Operational Effectiveness/Fiscal Sustainability (Goal 1).

*Avoidable harm: Catheter-Associated Urinary Tract Infections (CAUTI), Central Line-Associated Blood Stream Infection (CLABSI), Surgical Site Infection (SSI), Ventilator-Associated Pneumonia (VAP), Falls, Hospital-Associated Pressure Ulcers (HAPU), and Medication errors.

References:

¹ Brackett, T., Comer, L., & Whichello, R. (2013). Do Lean Practices Lead to More Time at the Bedside?. *Journal For Healthcare Quality: Promoting Excellence In Healthcare*, 35(2), 7-14 8p. doi:10.1111/j.1945-1474.2011.00169.

² Collins, R. (2015). Bring Nurses Back to the Bedside. *For The Record (Great Valley Publishing Company, Inc.)*, 27(9), 10-11 2p.

³ Hendrich, A., Chow, M. P., Skierczynski, B. A., & Lu, Z. (2008). A 36-Hospital Time and Motion Study: How Do Medical-Surgical Nurses Spend Their Time? *The Permanente Journal*, 12(3), 25–34.

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COST AVOIDANCE, COST SAVINGS, AND REVENUE GENERATED (ESTIMATED BENEFITS TO THE COUNTY): If you are claiming cost benefits, include a calculation on this page. You must include an explanation of the County cost savings, cost avoidance or new revenue that matches the numbers in the box. Remember to keep your supporting documentation. Use Arial 12 point font

Cost Avoidance: Costs that are eliminated or not incurred as a result of program outcomes.

Cost Savings: A reduction or lessening of expenditures as a result of program outcomes.

Revenue: Increases in existing revenue streams or new revenue sources to the County as a result of program outcomes.

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(1) Cost Avoidance: Staff were timed searching for and restocking supplies in one unit before and after a 5S event. Results showed an estimated cost avoidance of \$46,814.97 for one unit. If all other 22 completed units/areas achieved a conservative minimum of 50% of the same improvements as the observed unit, it is estimated that the hospital saved about 23,027 hours annually and achieved over \$561,779.63 in cost avoidance annually.

Cost avoidance from staff time saved was calculated using a summation of the following for each staff type (nursing attendants, registered nurses, and resident/providers): the weighted average salary per second multiplied by the number of seconds saved per item and multiplied by the estimated number of items staff used per year. Weighted average salary is the summation of the weighted salary rates per second for each staff level within a staff type (e.g. for registered nurses-RNI, RNII, RNIII, etc.) multiplied by the percent of each staff level budgeted on the unit. Weighted salary rates reflect current plus October 2016 Cost of Living Adjustments-Salary Increases and were obtained by the finance department. Weighted salary per second was calculated using the weighted monthly salary rate divided by the number of seconds per month (626,400 seconds). Number of seconds per month was calculated using County of Los Angeles rule of one annual FTE is equivalent to 2,088 hours.

(2) Cost Savings: The total cost of the overstock items during one 5S event was \$5,167.58 in one unit/area. If all other 22 completed units/areas achieved a conservative minimum of 50% of the same improvements as the observed unit, it is estimated that the hospital achieved a one-time cost savings of \$62,010.91 from reallocating overstock items to the rest of the hospital.

The total actual/estimated benefit of this project is \$623,790.55 annually.