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Eliminating workplace hazards in the OR

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ABSTRACT

Healthcare workplaces are among the most hazardous in the nation. In 2010, the Department of Labor reported 653,900 workplace injuries/illnesses occurred in healthcare, 152,000 more than the next most afflicted industry sector, manufacturing. A team from Beth Israel Deaconess Medical Center, Boston, MA adapted techniques used in industry to make the OR a safer place to work through formal observations of work performed and subsequent mitigation of recognized hazards. To help guide observations, the team identified critical safe behaviors and hazardous conditions in the OR using injury data, input from a staff survey, job safety analysis, direct observation and cause and effect analysis. An observation tool from industry was customized to address hazards unique to the healthcare environment such as sharps safety. Implementation of the process has been so successful in reducing or eliminating identified hazards, which led to a 68% reduction in days away from work due to injury in the east campus operating suite, that it is being spread to other areas of the hospital including Central Processing and Environmental Services.

1. Introduction

Too many people who work in operating rooms are injured every day. In fact, healthcare workplaces are more hazardous than those in manufacturing.[1] The operating room environment is filled with hazards, many of which can be eliminated without incurring great expense. Compared with the cost of implementing solutions to mitigate hazards, the cost of injuries is staggering. A report from the American Society of Safety Engineers, published in October, 2013 cites a cost of $13.1 billion dollars with 2 million lost work days associated with work place injuries to healthcare workers.[2] The cost a blood and body fluid exposure can range from $71 to $4838 depending on the type of exposure and infectious status of the source patient.[3] These costs do not take into account the cost of care and lost wages that would be incurred for a healthcare worker who developed HBV, HCV or HIV due to a workplace exposure.

Lucian Leape, links workplace safety to patient safety particularly as the unhealthy work environment leads to dysfunctional team behaviors. Leape, states, “A first principle [of respect] is to guarantee the workers’ physical safety and psychological safety.[4(p4)] Bonacum described

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the experience at Kaiser Permanente related to eliminating pressure ulcers in our patients, while addressing at the same time the potential for back injuries to staff who have to continually lift the patient to prevent those pressure ulcers. He concludes worker safety may indeed be a pre-condition of patient safety.[5(p4)]

The purpose of this article is to describe the Job Safety Behavioral Observation (JSBO) process, explain how it was modified from use in industry, implemented in an OR setting and quantify the results to reduce workplace injury. A literature search was conducted using the key terms job safety behavioral observations, JSBO, safety in OR, safety observations in healthcare. We found no evidence that hospital (s) have applied this methodology to reduce injury in the operating room.

2. Discussion

Beth Israel Deaconess Medical Center (BIDMC) is a 621 bed, academic, level 1 trauma center located in Boston, MA. We have 39 operating rooms located on two campuses in which 26,000 surgical procedures are performed annually.

Statistically, 1.7% of the 12,000 employees at BIDMC work in the ORs. This subset of employees incurred 7.8% of all reported workplace injuries. Paid and planned costs for medical care and income replacement in FY 2012 was nearly half a million dollars ($428,577); not included are the cost of staff replacement and the stress inflicted upon staff as a result of a heavier workload.

Prior to the beginning this project, the institution responded to workforce injuries in a reactive manner. An injured employee would report the incident to Employee Occupational Health Services (EOHS) and a response was initiated that most often focused on the individual event with less engagement of the system problem that led to the event. Rather than seeking solutions to eliminate the root cause of the hazard that caused the injury, experienced employees generally found a work-a-round to avoid hurting themselves.

The greatest number of reported incidents in the OR was blood and body fluid (BBF) sharps injuries (Fig. 1). Over a 1-year period beginning in February 2012, there were 41 sharps injuries at BIDMC suffered by OR employees, attending surgeons and anesthesiologists, residents and medical students. Musculoskeletal (MSK) injuries are the next most frequent type of injury in the OR followed by trips and falls (T&F), BBF splash and then concussions.

BIDMC's Operating Plan integrates four strategic initiatives two of which are a "Committed workforce" and "Financial health". The committed workforce priority has two (2) areas of focus which are stable and engaged workforce and a safe work environment. The importance of using a proactive approach to preventing employee injury is expressed in this priority.

An employee with prior experience implementing JSBO in a manufacturing setting explained that after implementing the process at the manufacturing plant, the number of incidents decreased by an order of magnitude from greater than 10 per year to one per year; he proposed it be implemented at the hospital. With a burning platform to reduce employee injury in the area of the hospital with the highest injury rate, we had an intervention to do so using an innovative methodology that has proven success in industry.

The initial project was targeted in the OR suite on the east campus where the highest number of reported incidences occurred. A team was formed and the work commenced in February 2013 with a goal to reduce workplace injuries in the east campus OR by 20% as measured by the number of days that injured employees are away from work. The team was carefully structured by the co-leaders and sponsor to include a blend of leadership, clinical staff and experts in EOHS who helped us perform observations. The titles of each team member, the departments they represented and their roles on the team are presented in

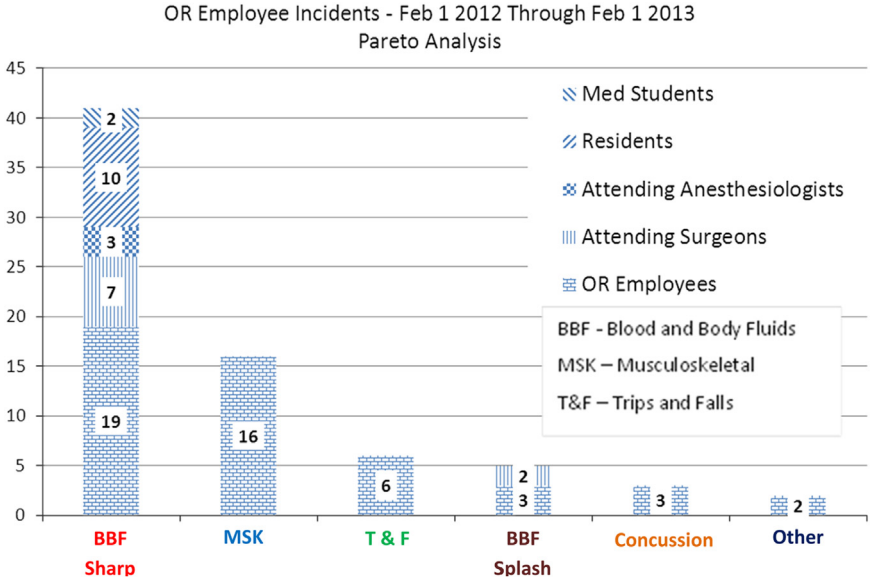

Fig. 1. OR employee incidents Feb 1, 2012–Feb 1, 2013.