ABSTRACT

Healthcare workplaces are among the most hazardous in the nation. In 2010 health care employees reported 653,900 workplace injuries and illnesses, more than 152,000 more than the next most afflicted sector, manufacturing. In 2013 we adapted and launched in the East OR a technique and tool used in industry, Job Safety Behavioral Observations (JSBO), to make it a safer place to work through observations of work performed and subsequent mitigation of hazards recognized. By doing so, we reduced employee injury by 68% as measured by days away from work due to injury on the job. In this project we spread to EVS the learning we developed and deployed in the East OR with the goal to reduce days lost due to injury on the job in EVS East by 10%.

RESULTS

1. Determined lost workdays for EVS in 2014. Categorize injuries appropriately (i.e.: sharps, MSK, slips & falls, etc.)
2. Provided an overview of JSBO to the team and EVS staff
3. Developed and launch a survey for EVS staff to solicit their input on causes of injuries
4. Performed a Cause & Effect Analysis to help brainstorm causes of injury
5. Prepared Job Safety Analyses of key procedures, starting with linen processing to specify hazard(s) associated with process steps of key procedures and a means to mitigate those hazards
6. Augmented the JSBO Observation Form to be suitable for use in EVS, if necessary
7. Performed observations; created a schedule to include the following
   - Linen Processing
   - Trash Processing
   - House Keeping
8. Utilized OSHA Occupational Safety and Health Standards as they apply to this project
9. Utilized EVS weekly huddles as a forum for safety call-outs, specifically near misses and injuries

STRATEGY

1. Paul Amaral; Fausto Anadrade; Frank Barberian; Jesse Cabrera; Mike Drew; Jack Fernanadez; Lisa Foster, CNP, MS; Edgardo Lopez; Domingus Miranda; Michael Passe, EMCSA; Christina Prew; Ross Simon, BA; Terry Snyder; Kristine Viale

ANALYSIS

Job Safety Analysis (JSA) for handling soiled linen to methodically identify and eliminate hazards

Staff Survey

What are the environmental hazards?

Where do most injuries occur?

Viale

EVS Injuries by Type 2014

EVS East - Cumulative Total of Lost Work Days

LWO: from carry over 1 exposure. Employee was placing chemical in to bucket where it splashed into her left eye

Mar: 23 days - LIF from pushing, auto crumber + 3 days - struck upper back on bottom of sink

May 2/20: LWO - left ankle (excluded)

Aug: 3 days - Chemical Exposure to floor cleaner - 1 day - back strain after lifting heavy linen bag

July: 18 LWO from carry over. 2 new injuries, no LWO. - arm crushed by linen door. - Needle stick from picking up debris on floor

Nov: 20 LWO's from carry over. - digit injured while cleaning job

Jun: 10/20: Days - Slipped on soap, fell on R knee/foot - 4 days - left ankle (excluded)

Oct: 7 days - Slipped on soap, fell on R knee, foot - 2 days - R shoulder/neck - 5 days - R wrist/forearm

Apr: 6 LWO's from carry over. - 1 exposure. Employee was placing chemical in to bucket where it splashed into her left eye

Sep: No Injuries

Aug: 10 LWO's - R arm struck by falling lower half of bed

Aug: 10 LWO's - R arm struck by falling lower half of bed

Jan

Mar

Apr

May

Jun

Jul

Aug

Sep

Oct

Nov

Dec

No of Lost Work Days

0

20

40

60

80

100

120

140

LWO Cumulative Trend

LWO: from carry over 1 exposure. Employee was placing chemical in to bucket where it splashed into her left eye

Mar: 23 days - LIF from pushing, auto crumber + 3 days - struck upper back on bottom of sink

May 2/20: LWO - left ankle (excluded)

Aug: 3 days - Chemical Exposure to floor cleaner - 1 day - back strain after lifting heavy linen bag

July: 18 LWO from carry over. 2 new injuries, no LWO. - arm crushed by linen door. - Needle stick from picking up debris on floor

Nov: 20 LWO's from carry over. - digit injured while cleaning job

Jun: 10/20: Days - Slipped on soap, fell on R knee/foot - 4 days - left ankle (excluded)

Oct: 7 days - Slipped on soap, fell on R knee, foot - 2 days - R shoulder/neck - 5 days - R wrist/forearm

Apr: 6 LWO's from carry over. - 1 exposure. Employee was placing chemical in to bucket where it splashed into her left eye

Sep: No Injuries

Aug: 10 LWO's - R arm struck by falling lower half of bed

Apr

Feb

Mar

Apr

May

Jun

Jul

Aug

Sep

Oct

Nov

Dec

EVS Injuries by Type 2014

EVS East - Cumulative Total of Lost Work Days

LWO: from carry over 1 exposure. Employee was placing chemical in to bucket where it splashed into her left eye

Mar: 23 days - LIF from pushing, auto crumber + 3 days - struck upper back on bottom of sink

May 2/20: LWO - left ankle (excluded)

Aug: 3 days - Chemical Exposure to floor cleaner - 1 day - back strain after lifting heavy linen bag

July: 18 LWO from carry over. 2 new injuries, no LWO. - arm crushed by linen door. - Needle stick from picking up debris on floor

Nov: 20 LWO's from carry over. - digit injured while cleaning job

Jun: 10/20: Days - Slipped on soap, fell on R knee/foot - 4 days - left ankle (excluded)

Oct: 7 days - Slipped on soap, fell on R knee, foot - 2 days - R shoulder/neck - 5 days - R wrist/forearm

Apr: 6 LWO's from carry over. - 1 exposure. Employee was placing chemical in to bucket where it splashed into her left eye

Sep: No Injuries

Aug: 10 LWO's - R arm struck by falling lower half of bed

Apr

Feb

Mar

Apr

May

Jun

Jul

Aug

Sep

Oct

Nov

Dec

LWO Cumulative Trend
**ACCOMPLISHMENTS**

**Trained employees to not overfill linen bags**

**Trained EVS employees using pictorial displays to package and transport hazardous waste safely**

**Created/enforced Policy for Eye Protection**

**Next Steps**

- Continue this effort in EVS in 2016
- Launch another JSBO Team in a high-risk area of the medical center in 2016

**Conclusions**

- In this first year of applying JSBO methodology to reduce injury in EVS we identified and mitigated a plethora of hazards; some work requested to eliminate the hazards has not yet been completed. Like the JSBO OR Team, we expect to realize reduction in injury in the second year (2016) of this effort in EVS.

**Accomplishments**

- Performed ten (10) JSBO Observations of EVS tasks: stripping floors, removing trash, filling bucket with cleaning solution, discharge room cleaning, battery disposal recycling, biohazard waste removal, autoclave, walking through service elevators with trash barrels & carts, linen chute collection and set-up, large banquet tables
- Developed and delivered comprehensive ergonomic training to all EVS employees
- Defined/communicated safer way to prepare cleaning chemicals using safety eyewear
- Repaired/replaced trash carts with torn metal having sharp edges presenting a laceration hazard
- To address injuries caused by overfilling linen bags, added another laundry pick-up event at 1440 hrs using existing resources bringing the total number of laundry bag pick-up to 3/day
- Prepared and posted a visual depiction of proper lifting techniques vs. bad technique and trained staff accordingly
- Changed method of cleaning rooms by coiling the telephone cord and move out of the way before handling linen to prevent reoccurrence of injury caused by tripping over telephone cord
- Updated procedure for use of floor cleaning machine (Autoscrubber) to require use of PPE. To prevent slip/fall injuries, had vendor adjust squeegees and train operators to same; added squeegee adjustment step to the Autoscrubber procedure
- To prevent strain injuries due to pushing/pulling, replaced worn casters on all linen carts so they roll freely
- To prevent injury to EVS staff (and others) when maneuver 2 or more trash carts simultaneously, eliminated the need to handle more than 1 cart by picking up trash more frequently using existing resources
- Segregated clean vs. dirty linen carts to prevent struck-by injuries when removing shelving (for use as dirty linen cart) and strain injuries when having to lift laundry over sides of carts
- Had biohazard collection area pressure-washed to eliminate foul odor
- Added “Safety Call-Out” to standing agenda for EVS Staff Meetings in order to tap into the knowledge of the entire EVS workforce to identify near hits and injuries that have not been reported so hazards identified can be mitigated
- Established communication channel with Facilities Dept. so EVS is notified of anticipated changes to the hospital that could affect safety of EVS employees
- Developed internal audits and performed audits for sustainability of improvements implemented
- Developed refresher training plan for staff
- Partnered with Interpreter Services to translate a training session on ergonomics; most EVS employees are non-English speaking

**Conclusions**

- In this first year of applying JSBO methodology to reduce injury in EVS we identified and mitigated a plethora of hazards; some work requested to eliminate the hazards has not yet been completed. Like the JSBO OR Team, we expect to realize reduction in injury in the second year (2016) of this effort in EVS.

- Using the Job Safety Behavioral Observation methodology in a cross-functional team setting can significantly reduce injury to employees

- All accidents are preventable

**NEXT STEPS**

- Continue this effort in EVS in 2016
- Launch another JSBO Team in a high-risk area of the medical center in 2016

**Paul Amaral; Fausto Anadrade; Frank Barberian; Jesse Cabrera; Mike Drew; Jack Fernandez; Lisa Foster, CNP, MS; Edgardo Lopez; Domingus Miranda; Michael Passe, EMCSA; Christina Prew; Ross Simon, BA; Terry Snyder; Kristine Viale**

---

**JSBO EVS Team**

**ACCOMPLISHMENTS**

- Created/deployed training - How to Safely Hang Curtains
- Trained EVS employees using pictorial displays to package and transport hazardous waste safely
- Increased frequency of swapping-out sharps containers which were overflowing
- Created/deployed training - How to Safely Hang Curtains
- Accomplishments:
  - Performed ten (10) JSBO Observations of EVS tasks: stripping floors, removing trash, filling bucket with cleaning solution, discharge room cleaning, battery disposal recycling, biohazard waste removal, autoclave, walking through service elevators with trash barrels & carts, linen chute collection and set-up, large banquet tables
  - Developed and delivered comprehensive ergonomic training to all EVS employees
  - Defined/communicated safer way to prepare cleaning chemicals using safety eyewear
  - Repaired/replaced trash carts with torn metal having sharp edges presenting a laceration hazard
  - To address injuries caused by overfilling linen bags, added another laundry pick-up event at 1440 hrs using existing resources bringing the total number of laundry bag pick-up to 3/day
  - Prepared and posted a visual depiction of proper lifting techniques vs. bad technique and trained staff accordingly
  - Changed method of cleaning rooms by coiling the telephone cord and move out of the way before handling linen to prevent reoccurrence of injury caused by tripping over telephone cord
  - Updated procedure for use of floor cleaning machine (Autoscrubber) to require use of PPE. To prevent slip/fall injuries, had vendor adjust squeegees and train operators to same; added squeegee adjustment step to the Autoscrubber procedure
  - To prevent strain injuries due to pushing/pulling, replaced worn casters on all linen carts so they roll freely
  - To prevent injury to EVS staff (and others) when maneuver 2 or more trash carts simultaneously, eliminated the need to handle more than 1 cart by picking up trash more frequently using existing resources
  - Segregated clean vs. dirty linen carts to prevent struck-by injuries when removing shelving (for use as dirty linen cart) and strain injuries when having to lift laundry over sides of carts
  - Had biohazard collection area pressure-washed to eliminate foul odor
  - Added “Safety Call-Out” to standing agenda for EVS Staff Meetings in order to tap into the knowledge of the entire EVS workforce to identify near hits and injuries that have not been reported so hazards identified can be mitigated
  - Established communication channel with Facilities Dept. so EVS is notified of anticipated changes to the hospital that could affect safety of EVS employees
  - Developed internal audits and performed audits for sustainability of improvements implemented
  - Developed refresher training plan for staff
  - Partnered with Interpreter Services to translate a training session on ergonomics; most EVS employees are non-English speaking