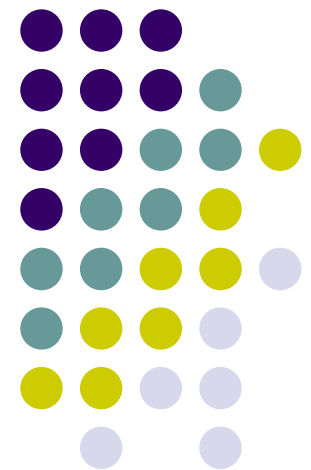
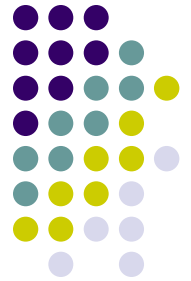


What Does a Behavioral Safety Team Do For you?

Robin Fay
Kay Parker Paul
Liberty Mutual Group

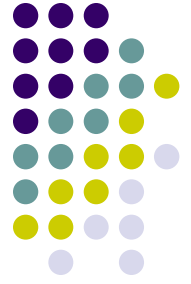


Measuring Success of Team



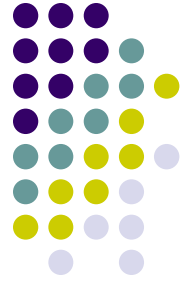
- Roles and responsibilities with regard to the team
- Ability to generate checklists
- Consistency of the data, analysis, and reporting systems
- Use of behavioral change techniques
- Results of selected process and outcome metrics

Team Roles



- Behavioral Safety Team operates independently of the Safety Committee
- One or two people act as liaisons
- Team and Committee work together to address safety concerns
- Safety Team members act as observers and role models

Checklist Formation



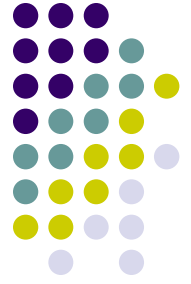
- To sustain a behavior-based safety process long-term, the team must be adept at:
 - Assessing risk
 - Selecting appropriate checklist targets
 - Developing objective checklists
 - Testing checklist reliability
- High % safe checklist items should be retired in favor of new items

Data Collection System



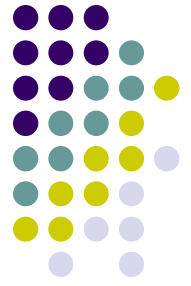
- Training observers to collect reliable data
- Designing the observation strategy to achieve “random-regular” observations
- Identifying the ideal number of observations to conduct each week
- Assuring weekly checklist completion by all trained observers

Data Entry System



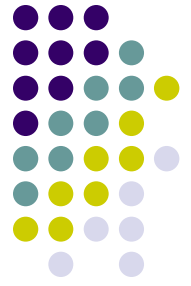
- Team member(s) able to work with a spreadsheet or database program
- All data flowing through one or two people for quality control
- Data entered on a weekly basis

Data Graphing System



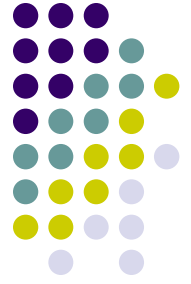
- Graphs of the following can be created weekly for each behavior on a checklist:
 - Percent safe and goal
 - Percent safe and number of observations
 - Percent safe and percent appreciative feedback
 - Percent safe and feedback ratio
- Graphs are easy to read and posted weekly in places where employees can see them

Data Analysis



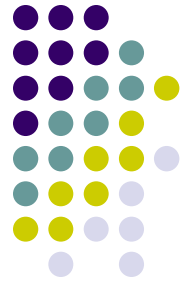
- Team meets weekly to review graphs of each behavior on a checklist
- To ensure percent safe increases, team makes appropriate changes to:
 - Number of observations
 - Amount of appreciative feedback
 - Feedback ratio
 - Antecedents and consequences as dictated by an ABC Analysis

Reporting Systems



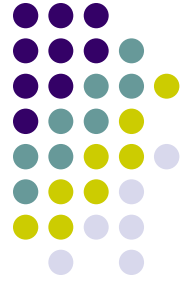
- Team reports progress to employees and management weekly via graphs
- Team reports progress to management monthly or quarterly via written report or verbal presentation
- Managers and supervisors talk about progress in shift meetings or one-on-one with employees

Use Of Behavioral Techniques



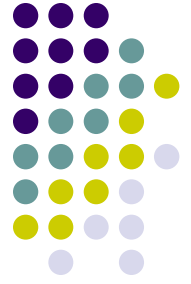
- Goal setting
- Reinforcement of goals achieved
- Appreciative and constructive feedback for safe and at-risk behaviors
- ABC Analyses are performed on behaviors not at desired level of percent safe
- Manager and supervisor accountability for results of Behavior Based Safety

Results Of Process Metrics

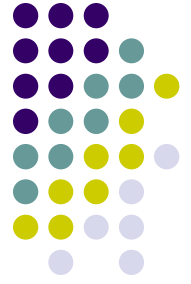


- Percent safe for all measured behaviors has increased over baseline
- Number of observation targets are met weekly
- Percent appreciative feedback targets are met weekly
- Feedback ratio targets are met weekly
- Q&A sessions taking place regularly

Results Of Outcome Metrics



- Safety concerns highlighted in ABC analyses have been sent to management and addressed
- Employees are participating in safety at record levels
- Near misses and first aid cases have decreased
- Accident frequency and cost have declined

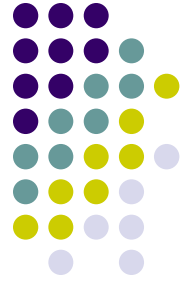


Case Study

Problem – A plant safety committee analyzed their incidents and discovered that the highest frequency of injuries occurred while associates were ascending and descending steps from the plant floor to the offices.

After investigating the stairs for adequate handrails, lighting and cleanliness, the SC turned over the concern to the Behavioral Safety team for a behavioral project.

Behavior Expectations



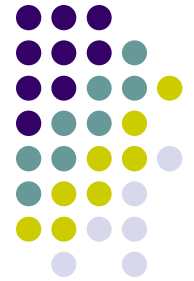
- Associate uses handrails when ascending stairs to office.
- Associate uses handrail when descending stairs to plant floor.



Performance Gap Analysis Worksheet

| At-Risk (Or Undesired) Behavior: Not using handrails on stairs | | | | | |
|---|---|------------------------------|---------------------------|--------------------------------|-------------------|
| Antecedents | Consequences | Positive or Negative? | Prompt or Delayed? | Probable or Improbable? | Pertinent? |
| Hands full – Carries a load | Maintain clean hands | P | P | P | P |
| Germs on handrails | No contact with germs | P | P | P | P |
| Handrails dirty | Faster to go up and down stairs | P | P | P | P |
| Never fallen before | Does not fall | P | P | P | P |
| In a hurry | Falls/Slip Down | N | P | I | P |
| Not trained to use handrails | Use two hands to carry more stuff up the stairs | P | P | P | P |
| More than one person | Not getting caught | P | P | P | P |
| No disciplinary action | No disciplinary action | P | P | P | P |
| Just don't want to use them | | | | | |

Calculating Behavior Rate

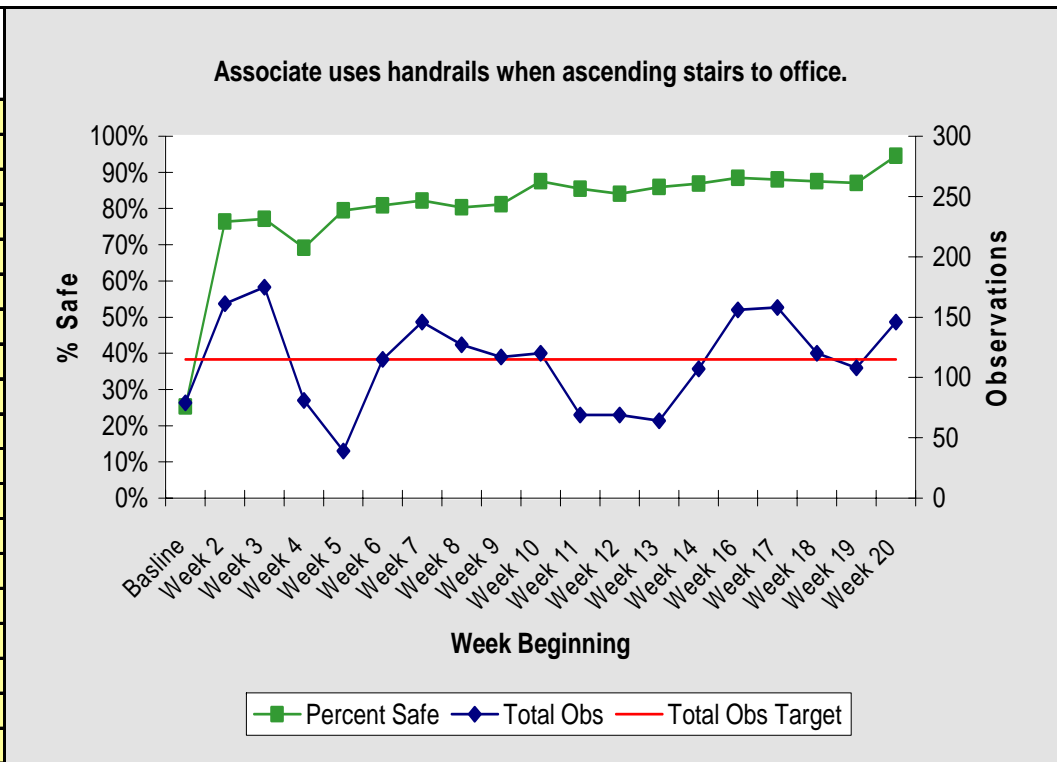


| <u>Area/Department</u> | <u>Number of People Involved</u> | <u>Number of Times performed per day</u> | <u>Number of Days performed per week</u> | <u>Weekly Behavior Rate</u> | <u>Observation percentage Target</u> | <u>Number of Observations Needed by Area</u> | <u>Minutes to make one observation</u> | <u>Observation Time needed per week (Hours)</u> |
|------------------------|----------------------------------|--|--|-----------------------------|--------------------------------------|--|--|---|
| Accessing Stairs | 115 | 4 | 5 | 2300 | 5% | 115 | 0.5 | 0.9 |



Behavioral Observations Results

| Date | Number Safe | Number At-Risk | Percent Safe | Target Percent Safe | Total Obs | Total Obs Target |
|----------|-------------|----------------|--------------|---------------------|-----------|------------------|
| Baseline | 20 | 59 | 25% | 100% | 79 | 115 |
| Week 2 | 123 | 38 | 76% | 100% | 161 | 115 |
| Week 3 | 135 | 40 | 77% | 100% | 175 | 115 |
| Week 4 | 56 | 25 | 69% | 100% | 81 | 115 |
| Week 5 | 31 | 8 | 79% | 100% | 39 | 115 |
| Week 6 | 93 | 22 | 81% | 100% | 115 | 115 |
| Week 7 | 120 | 26 | 82% | 100% | 146 | 115 |
| Week 8 | 102 | 25 | 80% | 100% | 127 | 115 |
| Week 9 | 95 | 22 | 81% | 100% | 117 | 115 |
| Week 10 | 105 | 15 | 88% | 100% | 120 | 115 |
| Week 11 | 59 | 10 | 86% | 100% | 69 | 115 |
| Week 12 | 58 | 11 | 84% | 100% | 69 | 115 |
| Week 13 | 55 | 9 | 86% | 100% | 64 | 115 |
| Week 14 | 93 | 14 | 87% | 100% | 107 | 115 |
| Week 16 | 138 | 18 | 88% | 100% | 156 | 115 |
| Week 17 | 139 | 19 | 88% | 100% | 158 | 115 |
| Week 18 | 105 | 15 | 88% | 100% | 120 | 115 |
| Week 19 | 94 | 14 | 87% | 100% | 108 | 115 |
| Week 20 | 138 | 18 | 95% | 100% | 146 | 115 |





Weekly Summary Report (by Question)

Customer: Test Company
Audit Location: R&K Industries
Audit Name: Climbing Stairs
Audit Date(s): 04/27/2007 To: 08/31/2007
Sections: < All Sections >
 Behavior Based Observations Included
Target Observations: 115

| | | Number Safe | Number At Risk | Number Apprec Feedback | Number Constr Feedback | Percent Safe | Total Observation | Total Observations Target | Percent Apprec Feedback | Percent Constr Feedback | Ratio Apprec Constr |
|-------|---|----------------|-------------------|------------------------------|------------------------------|-----------------|----------------------|---------------------------------|-------------------------------|-------------------------------|---------------------------|
| 1-0-1 | Associate uses handrails when ascending stairs to office. | | | | | | | | | | |
| | 2007 Week 17 | 20 | 59 | 0 | 0 | 25.32% | 79 | 115 | 0% | 0% | 0.00 |
| | 2007 Week 18 | 123 | 38 | 13 | 10 | 76.40% | 161 | 115 | 11% | 26% | 1.30 |
| | 2007 Week 19 | 135 | 40 | 15 | 10 | 77.14% | 175 | 115 | 11% | 25% | 1.50 |
| | 2007 Week 20 | 56 | 25 | 10 | 3 | 69.14% | 81 | 115 | 18% | 12% | 3.33 |
| | 2007 Week 21 | 31 | 8 | 6 | 5 | 79.49% | 39 | 115 | 19% | 63% | 1.20 |
| | 2007 Week 22 | 93 | 22 | 13 | 5 | 80.87% | 115 | 115 | 14% | 23% | 2.60 |
| | 2007 Week 23 | 120 | 26 | 6 | 4 | 82.19% | 146 | 115 | 5% | 15% | 1.50 |
| | 2007 Week 24 | 102 | 25 | 17 | 15 | 80.31% | 127 | 115 | 17% | 60% | 1.13 |
| | 2007 Week 25 | 95 | 22 | 14 | 3 | 81.20% | 117 | 115 | 15% | 14% | 4.67 |
| | 2007 Week 26 | 105 | 15 | 13 | 3 | 87.50% | 120 | 115 | 12% | 20% | 4.33 |
| | 2007 Week 27 | 59 | 10 | 3 | 1 | 85.51% | 69 | 115 | 5% | 10% | 3.00 |
| | 2007 Week 28 | 58 | 11 | 3 | 1 | 84.06% | 69 | 115 | 5% | 9% | 3.00 |
| | 2007 Week 29 | 55 | 9 | 5 | 1 | 85.94% | 64 | 115 | 9% | 11% | 5.00 |
| | 2007 Week 30 | 93 | 14 | 5 | 6 | 86.92% | 107 | 115 | 5% | 43% | 0.83 |
| | 2007 Week 31 | 138 | 18 | 15 | 4 | 88.46% | 156 | 115 | 11% | 22% | 3.75 |
| | 2007 Week 32 | 139 | 19 | 17 | 3 | 87.97% | 158 | 115 | 12% | 16% | 5.67 |
| | 2007 Week 33 | 105 | 15 | 13 | 3 | 87.50% | 120 | 115 | 12% | 20% | 4.33 |
| | 2007 Week 34 | 94 | 14 | 5 | 6 | 87.04% | 108 | 115 | 5% | 43% | 0.83 |
| | 2007 Week 35 | 138 | 18 | 15 | 4 | 88.46% | 156 | 115 | 11% | 22% | 3.75 |

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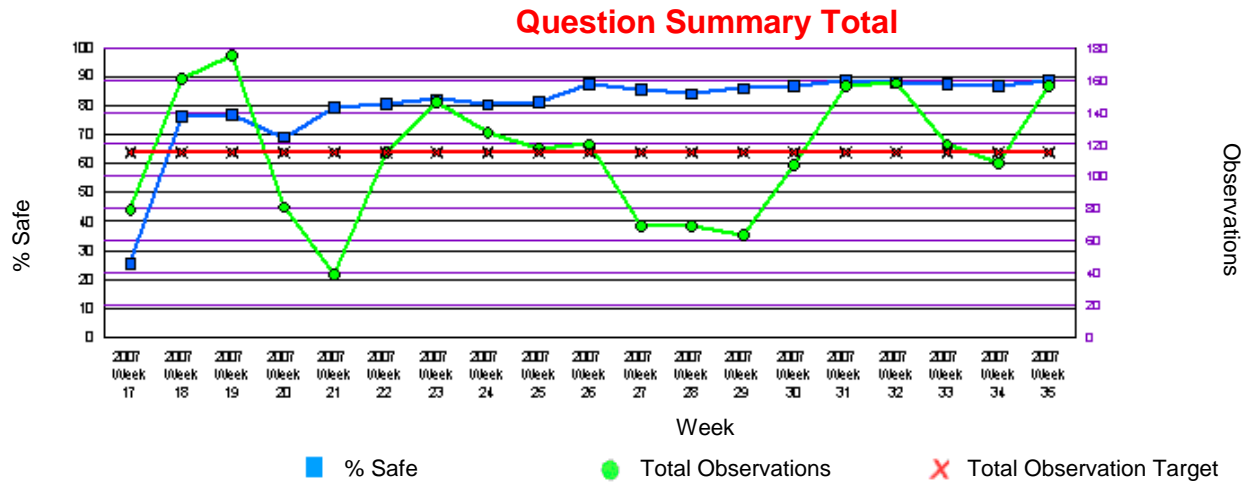


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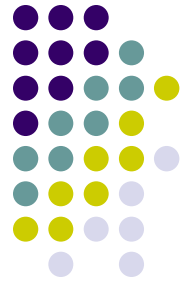
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|-------------|----------------|------------------------|------------------------|--------------|-------------------|---------------------------|-------------------------|-------------------------|---------------------|
|-------------|----------------|------------------------|------------------------|--------------|-------------------|---------------------------|-------------------------|-------------------------|---------------------|

1-0-1 Associate uses handrails when ascending stairs to office.



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Summary



- The Behavioral Safety Team has many responsibilities and members are typically volunteers
- A well-functioning team's behaviors will be reinforced at the organizational level, managerial level, and peer level
- When this occurs, an organization has achieved a true safety culture

Thank You!

