Indicators of Performance in Health and Safety Management

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EHS Director EMEA Houghton International
What is to come

– Why bother with indicators
  – what use are they ?
– The main types of indicators
– Pros and cons of some well known indicators
– Presenting data and benchmarking
– Health and Process Safety
– Summary
But Before I start

Where is North?
What are Indicators of Performance for?
- Why Bother?

- to monitor how well the business is performing (to show the right direction)

- to raise awareness or to focus attention on a particular issue

- to be used as part of an incentive programme

- to educate staff

Each of these purposes will require different characteristics
Using Indicators - Monitoring

- Linked to activities
- Looking for trends
- Moving annual totals
- Rates
- Yardstick – good or bad
Using Indicators
Creating Awareness / Focus

– Frequency of report
– Focusing a spotlight on an issue
– Comparison
– Understand ability
What would you estimate the top ten insurance issues to be for an Engineering Company?
<table>
<thead>
<tr>
<th>Issue</th>
<th>Costs</th>
<th>No of Cases</th>
<th>Cost per Case</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deafness</td>
<td>2500</td>
<td>6</td>
<td>417</td>
</tr>
<tr>
<td>Cuts</td>
<td>9421</td>
<td>10</td>
<td>942</td>
</tr>
<tr>
<td>Slips Trips and Falls</td>
<td>82394</td>
<td>32</td>
<td>2575</td>
</tr>
<tr>
<td>Trapping</td>
<td>37893</td>
<td>14</td>
<td>2707</td>
</tr>
<tr>
<td>Burn</td>
<td>32979</td>
<td>8</td>
<td>4122</td>
</tr>
<tr>
<td>Dermatitis</td>
<td>59530</td>
<td>11</td>
<td>5412</td>
</tr>
<tr>
<td>Asthma</td>
<td>38250</td>
<td>5</td>
<td>7650</td>
</tr>
<tr>
<td>Manual Handling</td>
<td>146629</td>
<td>16</td>
<td>9164</td>
</tr>
</tbody>
</table>
Total Insurance Costs By Category

- ULD
- Slips/Trips
- Machinery
- Dermatitis
- Struck By

The chart shows the total insurance costs by category, with the highest cost being ULD, followed by Slips/Trips, Machinery, Dermatitis, and Struck By in descending order.
Getting the Priorities Right!

ALSO, THE BRIDGE IS OUT AHEAD
Using Indicators – Incentives / Bonuses

- Suppression
- Definitions
- Manipulation
- Lost time incidents
- You get what you incentivise
OUR GOAL THIS YEAR IS ZERO DISABLING INJURIES.
LAST YEAR OUR GOAL WAS TWENTY-SIX DISABLING INJURIES.
IN RETROSPECT, THAT WAS A MISTAKE.
WE HAD TO INJURE NINE EMPLOYEES TO MEET THE GOAL.
Using Indicators - Education

- Relevance to audience
- Sufficient detail
- Prevention
Types of Indicator

**Leading Indicators**

Can be measured without an incident, accident or property damage occurring

Are useful in being able to predict or prevent future events.

Often are linked to processes or targeted activities

**Lagging Indicators**

Are indicators that show the number and or severity of events which have occurred.
Types of Indicator

**Leading Indicators**
- Safety Audits
- Behaviour
- Attitude surveys
- Inspections

**Lagging Indicators**
- Lost time incidents
- Minor accidents
- Days lost
- Absence data
- Property damage
How Many Accidents, Near Misses and Unsafe Behaviours in this Clip?
How Many?

What does this illustrate?
What is the Ideal Indicator?

- Leading Indicator
- Be under the control of individuals
- Be positive
- Be easily understood
- Be relatively easy to collect.
- Consist of a large volume of data which can be fed back
- Reflect the current situation not historic ones
The Most Common Measure of Performance

ACCIDENT DATA!
Accident Statistics
(Positive points)

- Absolute measure of performance
- Relatively easy to collect
- Allows Benchmarking
- Reporting rate can be verified
- Easily understood
- Focus for discussion
- Provide a basis for improvement
- Help to identify trends
## Potential Pitfalls of Benchmarking

Example Lost Time Incident Frequency Rate (LTIF)

<table>
<thead>
<tr>
<th>Most Common Definition in UK</th>
<th>OHSA Definition in US</th>
<th>Other Common Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accidents per 100,000 hours worked</td>
<td>Accidents per 200,000 hours worked</td>
<td>Accidents per 200,000 hours worked</td>
</tr>
<tr>
<td>Approximately accidents in a working lifetime</td>
<td>Approximately employees working for a year</td>
<td>will look twice as high</td>
</tr>
</tbody>
</table>

If your rate is expressed as Accidents per 100,000 hrs will look 10 X higher
Accident Statistics
(Potential issues)

- Downstream measure
- Historical perspective
- Poor predictor of future events
- Random statistical variation
- Level of safety awareness affects reporting rate.
- Measurement of failure not success
- Viewed as being out of the control of the workforce
- No mention of severity
- No mention of gradually developing diseases.
Bird’s Triangle

- 1: Serious or Disabling Injury
- 10: Minor Injuries
- 30: Property Damage
- 600: Incidents with no visible injury or damage (near misses)
Bird’s Triangle

Low Potential Accidents

High Potential Accidents
Bird’s Triangle

Process
Safety

Health
Did this intervention Work?

Accident Data 93-96
Accident Statistics

<table>
<thead>
<tr>
<th>Year</th>
<th>Minor</th>
<th>Lost Time</th>
<th>Reportable</th>
</tr>
</thead>
<tbody>
<tr>
<td>93/94</td>
<td>10</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>94/95</td>
<td>14</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>95/96</td>
<td>16</td>
<td>6</td>
<td>8</td>
</tr>
</tbody>
</table>
Number of Days Lost Due to Accidents

- 1994: 120 Working Days Lost
- 1995: 130 Working Days Lost
- 1996: 10 Working Days Lost
Cross Checking Reporting Rates

- First aid supplies
- Anonymous surveys
- Comparing Severity Rates (days lost per accident)
- Comparing accident triangles
Safety Audit

‘Subjects each area of an organisation’s activities to a systematic critical examination with the objective of minimising loss.

Every component of the total system is included’

Stranks and Dewis
Safety Audits
(Positive points)

• Leading indicator (Before an incident occurs)
• Compared to standard so variation obvious
• Selected items can be used in personal appraisals
• Comprehensive (covers all of management system)
• Visible show of commitment
• Companies familiar with other audits
Safety Audits
(Potential issues)

- If used too frequently can lose impact
- No reds culture
- Organisations face many audits (financial, quality etc...)
- Reports can sound negative
- Not easy to benchmark
- Do audits adequately address the human factor?
- Do audits correlate well with actual performance?
Inspections/ Sampling
(Positive points)

- Workforce involvement helps ownership
- Visibility
- Provide snap shot of current status
- Quantifiable

(Potential Issues)

- Items of strategic importance?
- Sufficient time allowed?
- Consistency
How Can Inspections be Improved

Training of inspectors
- What to look for
- Agree consistency
- Strategic items
- Taking responsibility – not walking past issues
- Soft Skills
  • How to get below the surface
  • Asking, not just looking
  • What to ask
  • How to ask it
Soft Skills
Using Behaviour to Improve Safety

Train Staff and Observers

Staff Set Targets

Give Positive Feedback to Group

Measure Behaviour

Give Positive Feedback to individual

Give Positive Feedback to Group
Results of UMIST/HSE Study

<table>
<thead>
<tr>
<th></th>
<th>Pre Intervention</th>
<th>Post Intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Housekeeping</td>
<td>81.1</td>
<td>84.1</td>
</tr>
<tr>
<td>Scaffolding</td>
<td>84.9</td>
<td>84.1</td>
</tr>
<tr>
<td>Access to Heights</td>
<td>88.6</td>
<td>88.4</td>
</tr>
<tr>
<td>PPE</td>
<td>85</td>
<td>85</td>
</tr>
<tr>
<td>Plant</td>
<td>79.1</td>
<td>86.6</td>
</tr>
<tr>
<td>Plant</td>
<td>88.8</td>
<td></td>
</tr>
</tbody>
</table>
Behaviour
(Positive points)

- Good predictor of safety performance
- Perceived to be controllable
- Motivational (goal setting and feedback)
- Large volume of data
- Shows commitment
- Helps change attitudes?
Suitable behaviours need to be identified in detail

Time and Effort

Sustainability

Consistency

Framework for communication
### Attitude Measurement / Climate Measure
(adapted from RSSB web site)

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Limitations</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Allows all the workforce’s views to be considered.</td>
<td>• Will not identify all issues.</td>
</tr>
<tr>
<td>• High profile</td>
<td>• High profile raises workforce expectations about responses</td>
</tr>
<tr>
<td>• Reveals current attitudes &amp; perceptions</td>
<td>• High response rates required to ensure results fully reflect organisation’s culture – this can be difficult to achieve unless implemented well.</td>
</tr>
<tr>
<td>• Can clearly point to issues that need to be addressed.</td>
<td>• Results often do not directly identify underlying causes:</td>
</tr>
</tbody>
</table>
Key Performance Indicators

- They should be objective and easy to measure and collect
- They should be relevant to the organisation or workgroup whose performance is being measured.
- They should provide immediate and reliable indication of the level of performance
- They should be cost efficient in terms of equipment, personnel and additional technology required to gather the information
- They should be understood and owned by the organisation or workgroup whose performance is being measured.
Examples

• Training delivered against plan
• Investigations closed within 14 days
• Number of senior management safety visits against plan
• Delivery against plan
Health Indicators

• Process effectiveness
  • Referral time
  • Completion of health surveillance
• Outcome
  • Attendance levels
  • Days lost per FTE
  • Number of specific illnesses
• Leading Indicators
  • Health Impact Index (developed by the Olympic team)
Presenting the Data

Historic annual accident rate

Monthly spot accident rate

Rolling annual accident rate
Making it Relevant to the Audience

LTIF - What does our performance mean?

What does an LTIF of 1 actually mean?

It means during their working life on average every single member of staff will suffer an injury so severe that they will have to take time off work.
Score Cards and Basket Indicators

**Score Cards**
- Consolidate key data into one place
- All relevant graphs and indicators for several issues on one page

**Basket Indicators**
- Attempt to combine all of the relevant data into a single score
- Each indicator is weighted and then they are combined through addition or multiplication
- Clarity?
Questions ?