

Safety in Numbers

SCORE AND IMPROVE YOUR HEALTH AND SAFETY
PROGRAM

Legislation

- ❑ The various requirements of the legislation put forth work practices to make workplaces safer.
- ❑ Represent the minimum criteria of compliance and therefore minimum acceptable level of safety.
- ❑ Uses vague terms like “regular basis” and “where there is significant risk”.

Worksafe Bulletins

- Provide additional information to workplaces
- Easy source of information
- That additional information makes for a safer workplace
- Amount of information on Worksafe Bulletins is limited

Good Practices

Developed over time and a mixture of industries or other jurisdictions.

Can often take a good practice developed by one industry and apply it to other industries.

Good practices provide a higher level of safety as it adds additional information

The disadvantage is that information has to be compiled from different jurisdictions and different industries.

Often the good practice is a simple solution and addresses a need not included in the minimum criteria of the legislation.

Good Practices

Example 1

Legislation: have a muster station in case of serious event

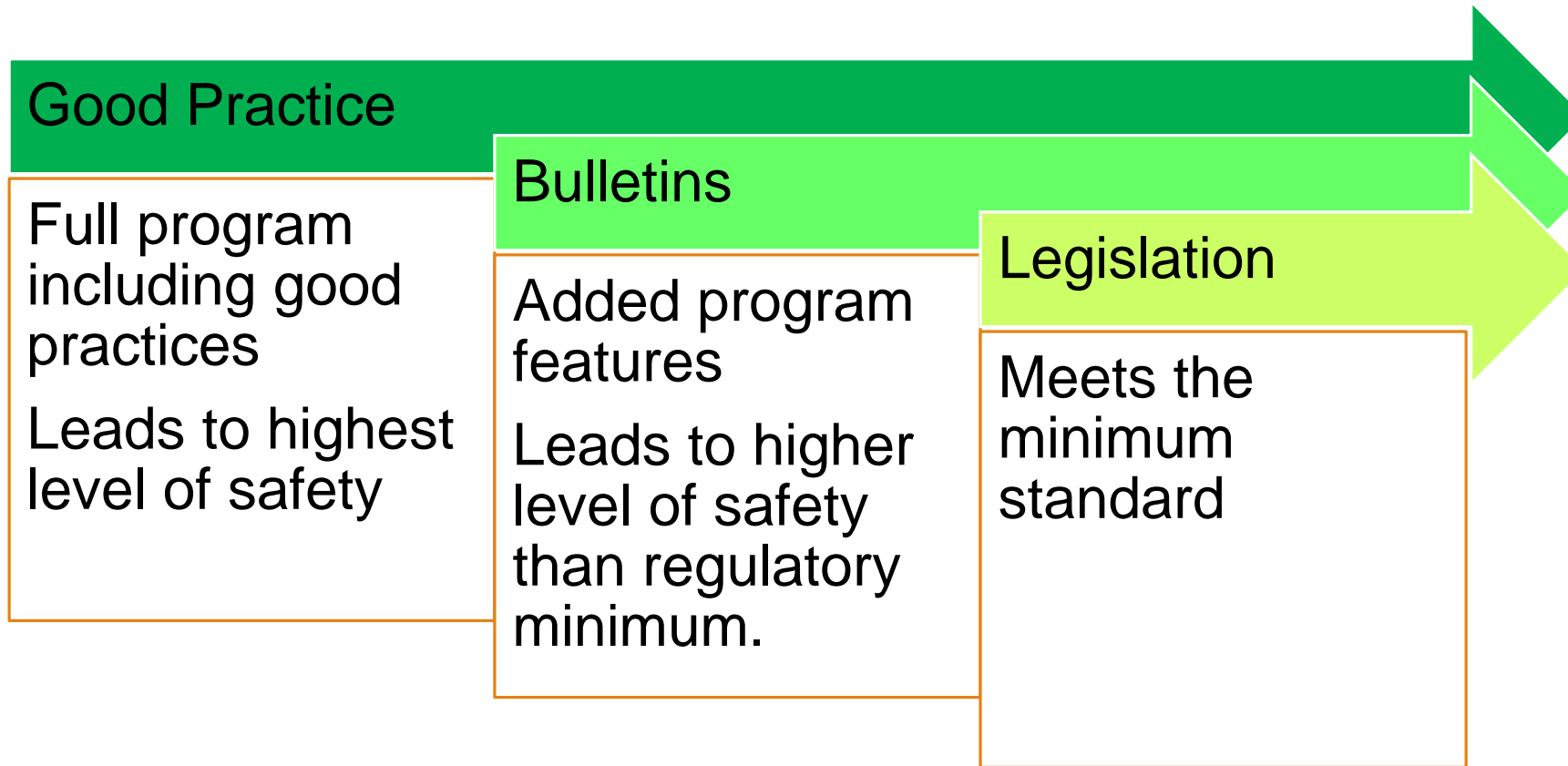
Good Practice: Put a first aid kit at the muster station.

Example 2:

Legislation: emergency shower in case worker is splashed with acid.
While this helps the worker, it also creates a second pool of (diluted) acid on the floor.

Good practice: emergency shower with drain / holding tank so that worker and rescuer are not standing in an acid solution and no discharge to sewer.

Increased Safety with increased specific information



Do you have a “good” program

Most companies would say “yes – we have a good program”

What does that mean? No metric or real measure of “good”.

Try this:

Would you take a job if offered a “good” salary but no actual number?

Probably not. You would **want an actual number** so that you know what they means when they says “good”.

Need a Metric for Safety Program

Lets give safety a number

Things that are measured get managed

Gives a true metric on your program (just like a credit score or grade point average in school)

Provides feedback on performance over time

Process leads to improvement (safer workplaces) over time

Safety in Numbers - advantages

1. Follows the legislation so fits will with your current program.
2. Builds upon what is required in the legislation (minimum criteria)
3. Explains and defines often vague terms in legislation
4. Provides extensive resources to explain each topic
5. Sets numerical guidelines for ventilation rates, safe temperatures, proper gloves, etc.
6. Introduces additional good practice steps for consideration
7. Finds gaps and omissions in your program
8. Gives a numerical score to your health and safety program
9. Allows programs of different companies to be compared

Shows Minimum Criteria

Each program component has its own template that asks short questions. The questions are colour coded

Dark **green/Red** shows steps that are specifically required in provincial legislation.

These show the minimum criteria to comply with the regs.

Simply check the Yes / NO answer

Dark **Green/Red** makes it clear if you are missing a key requirement

Shows minimum Criteria

Portable Ladders Template		
	Yes	No
Does your Workplace have any portable ladders?	<input type="checkbox"/>	<input type="checkbox"/>
Ladder inspected prior to each use?	<input type="checkbox"/>	<input type="checkbox"/>
no metal ladder used near energized electrical equipment?	<input type="checkbox"/>	<input type="checkbox"/>
no metal reinforced rails used near electrical equipment?	<input type="checkbox"/>	<input type="checkbox"/>
wood ladders not painted or coated?	<input type="checkbox"/>	<input type="checkbox"/>
All commercially ladders comply with CSA standard Z11-M81 (R2005)	<input type="checkbox"/>	<input type="checkbox"/>

Shows Good Practice

Good practice measures that go above and beyond the regulatory minimum are shown in lighter green/red.

Ladders selected based on anticipated load?



ladder duty or load rating clearly marked?



Provides Information on Topic

Resources
Relevant Legislation
Worksafe Bulletin
Types of Ladders
Different Ladder Materials
Duty / Load Rating of Ladders
Ladder Inspection Checklist
How to properly secure a ladder
How to Set up a portable ladder
Ladder Accident Statistics
Summary of CSA Standard Z11-M81)
Checklist for Site-fabricated portable wood ladders
Required Worker Education for Portable Ladders

e.g. Ladder Safety

Simply click on any of reference links to open a second window that contains the background information for different aspects of the topic

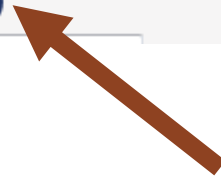
Particularly helpful for smaller companies that do not have full time or experienced safety and health coordinator.

Information provided in “bite-size” documents that address a specific aspect of the topic.

Click on the help icon to get an explanation or assistance

Assessment of chemical and biological substances

An employer must assess all information that is practicably available to the employer to determine if each chemical or biological substance creates or may create a risk to safety or health of a worker in the workplace.



Shows compliance (YES/NO) and Scores Each Program Component



Compressed Breathing Air

COMPLIANCE WITH MINIMUM CRITERIA?

YES

SCORE

96%

Immediate (positive) feedback

Adding a good practice changes your score

Or

You can determine in advance what your score would be
if you added a good practices

This gives positive feedback that helps raise scores over time.

If you believe that compliance with regulations and following good practices leads to safer workplaces, then raising scores in Safety in Numbers equates to safer workplaces.

Small helpful documents

People no longer want to read long documents to get the answer to their question.

This is particularly true of younger workers who grew up on digital media

Each help resource provides a “bite-size” answer that is linked to a specific clause of the legislation or good practice.

Covers all aspects of the Provincial Legislation



Component Scores are Summed to give Total Program Score

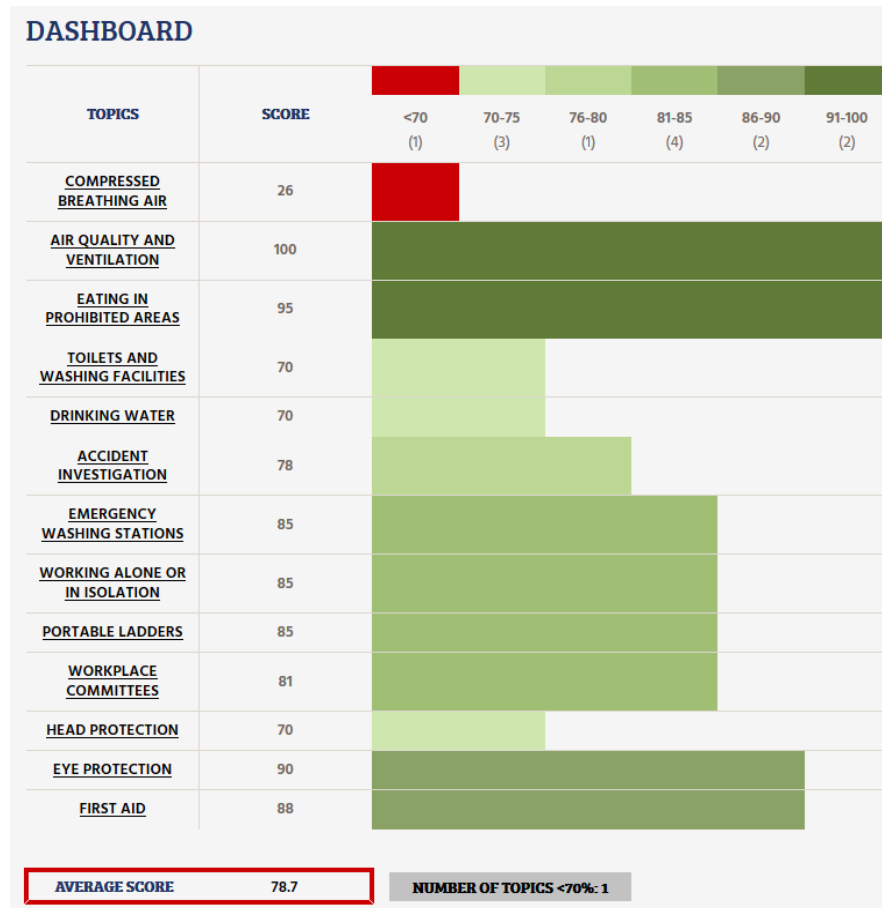
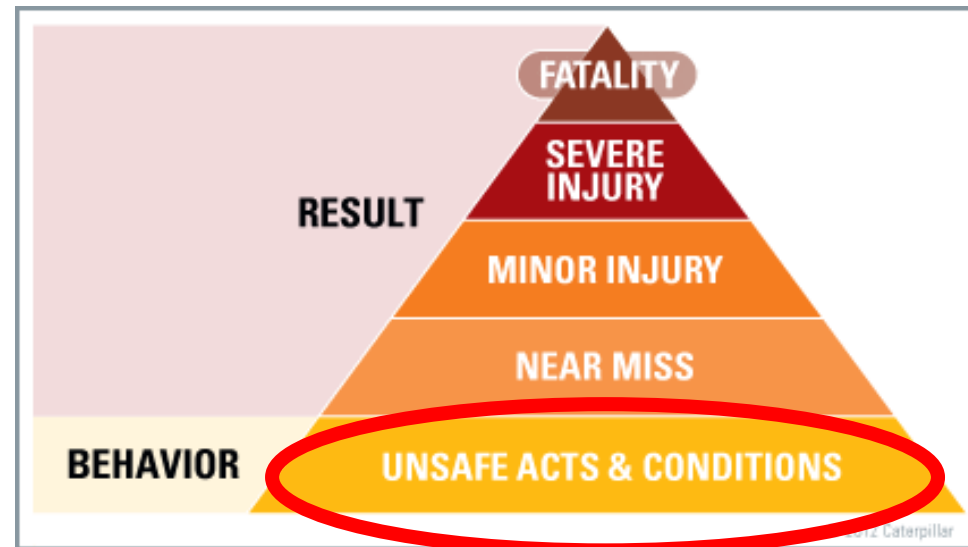


Image taken from [Safety in Numbers](#) website on a companies program

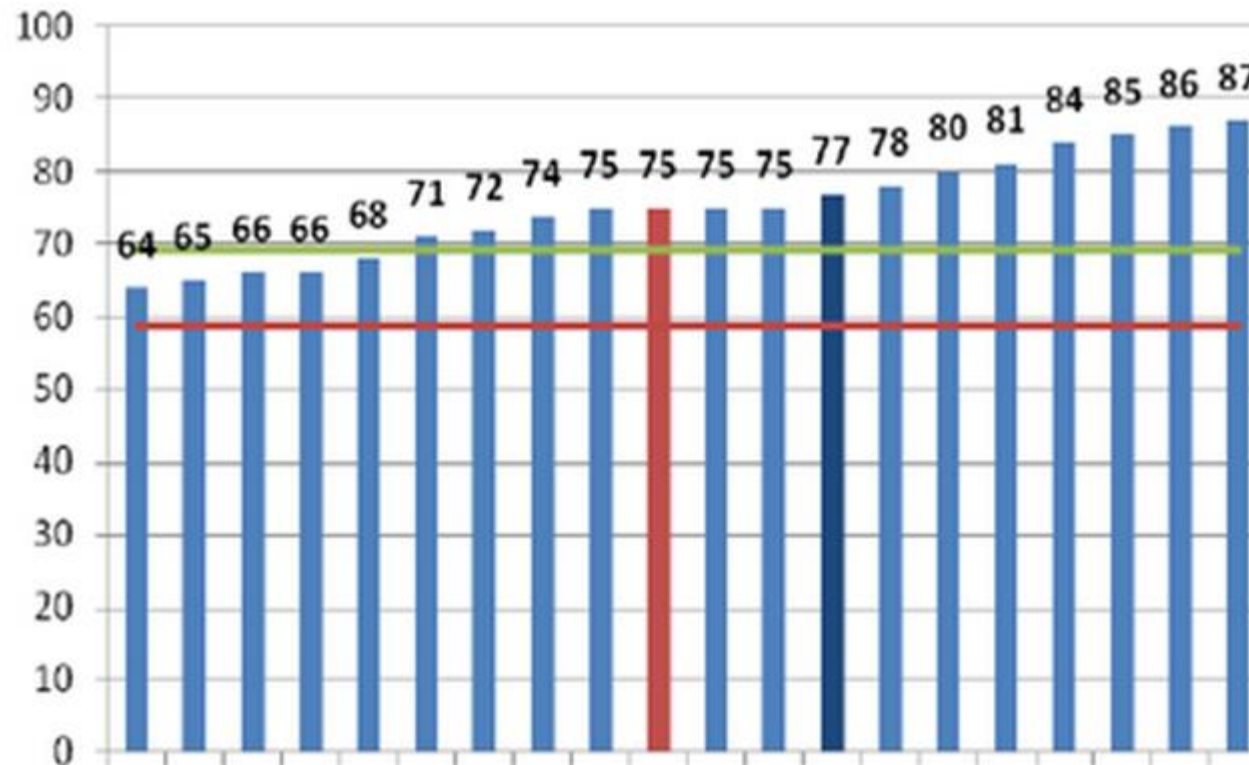
You can easily see how good a program the company has for each safety topic.

Safety in Numbers is Proactive

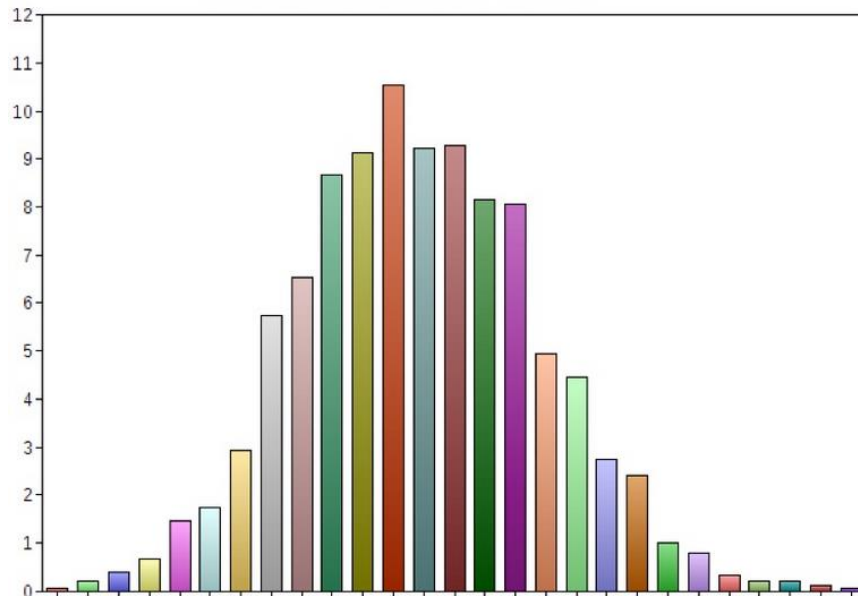
Comparing companies based on accident rates is common but reactive. Accidents (reported accidents) also provide a partial picture of the workplace. Safety in Numbers is based on (and encourages) actions and work practices which prevents unsafe acts.



Scores can be tracked over time and compared to your previous scores



Scores from different companies can be compared so you know where you stand



The resources build in consistency. Every company is using the same definitions and guidelines and all actions are being scored identically.

Where does your company's program compare to scores of other companies?

It Works (and is Already being Done)

Commercial Insurance companies / Trucking companies

All use an algorithm based on the premise that companies that meet legislation and follow good practices have less accidents and therefore are safer to insure. Insurance companies like it because

A) the presence (or absence) of good work practices are the best indicator of a safe workplace: and

B) it is a fair (unbiased) reflection of risk

Already Being Done

Large International companies with plants all over the world use internal systems like Safety in Numbers to find gaps in programs and compare safety programs in a large number of workplaces

These large corporations go to the trouble of setting up these systems because:

- a) It reliably allows them to fairly evaluate and compare a large number of workplace health and safety programs.
- b) It leads to better programs over time.

Small workplaces don't have the resources to develop such a program but such a program could be shared by a large number of workplaces.

Fair and Consistent Evaluation

Every company gets the same questions and same weighting.

Of course, the resources and reference material makes it **easier for companies** than collecting all that information for themselves.

However, these resources also build in **consistency**. With all companies looking at the same questions and reading the same background information, the scores provide a fair and level basis for evaluation.

Could be used for Safety Certification

Audits could be done by external parties to ensure claimed work procedures are actually in place.

Criteria standards and process is accessible, consistent and transparent – its like an open book exam.

Both the company and the auditor are working from the same standards and scoring system.

Because Safety in Numbers is largely numeric, the audit process is more consistent.

e.g., chemical storage room needs 1.5 CFM of ventilation per square foot

Feedback on Safety in Numbers

We have shared the idea with safety and health coordinators at medium to large companies. They like the idea and see the advantages of broader application.

They thought the best features were:

1. How easy it is to see what needs to be done to comply with legislation, and
2. The useful resource information provided on each topic

Other Audits Systems in Use

- Largely use more vague terms
- Does the employer have an on-going hazard assessment process and are the appropriate personnel involved in the process?
- “Is the required frequency of inspections being met?” would be easier if their system told you the required frequency.

Noise - their approach

“does the company have a hearing conservation program?”

“Is hearing protection available to workers?”

2 Broad questions to cover a fairly technical aspect. No resources to help you.

Safety in Numbers – 25 questions that follow the legislation

Noise and Hearing Conservation Template		Yes	No
Does the Workplace have noise levels above 80 dBA?		Green	Red
Are noise levels measured		Green	Red
after alteration, renovation that raises noise levels?		Green	Red
New equipment that may change noise levels?		Green	Red
If evidence of hearing loss in workers is demonstrated?		Green	Red
Noise exposure levels taken within the last 5 years?		Light Green	Light Red
Written reports on noise posted prominently?		Light Green	Light Red
Have formal assessments been done on feasibility of noise reduction controls?		Light Green	Light Red
noise levels considered in equipment purchases?		Light Green	Light Red
Did you contact a similar business, engineer or occupational hygienist?		Light Green	Light Red
Is hearing protection mandatory for workers over 85 DBA?		Green	Red
Is hearing protection available for workers over 80 dBA?		Green	Red
Hearing protection is CSA approved (Z94.2-02)?		Green	Red
Does hearing protection reduce exposure to less than 85 dBA?		Green	Red
At least 95% of workers		Green	Red
95-99% of workers		Light Green	Light Red
100% of workers		Light Green	Light Red
Hearing protection is derated using NIOSH criteria?		Light Green	Light Red
Workers trained in risks of noise induced hearing loss?		Light Green	Light Red
Workers trained on how to select, use and care for hearing protection?		Light Green	Light Red
workers offered a selection of hearing protection that provide adequate NRRs		Light Green	Light Red
Annual review of program including audiometric results?		Green	Red
Area noise levels taken in different part of plants		Light Green	Light Red
Signage regarding need for hearing protection in areas above 85 dBA?		Light Green	Light Red
Noisy equipment identified as "Hearing Protection Required"?		Light Green	Light Red
Annual noise testing of sources to ensure silencers and enclosure are working?		Light Green	Light Red
Health and Safety professional or member of management responsible for program?		Light Green	Light Red

Resources
noise legislation
Worksafe Bulletin
How are Noise Surveys Performed?
Calculate What Noise is costing your Company
NIOSH Derating of Hearing Protection
Selecting the Right Hearing Protection
Necessary Content for Worker Training
Typical Noise levels from Common Tools
noise control principles
Cost Effectiveness of Noise Controls
Rate of Hearing Loss by Profession / Industry
Adding up noise from different tasks
Noise Control Checklist and Action Plan
Realworld NRR Calculator
Importance of Proper Insertion of Ear Plugs
Importance of Wear Time for Hearing Protection
Best way to explain Noise Levels

Note: not only questions but answers found in the resources

Good Practice

Safety in Numbers provides numerous specific good practice that goes beyond the minimum compliance with the regulations and encourages their use by awarding extra points for them.

Do other systems do that?

Resources

Safety in Numbers provides background information, copies of legislation, checklists, case studies, numerical guidelines for ventilation, coefficient of friction for shoes, at what temperature does a surface become a burn hazard, etc. and hundred more.

Others do not

Compare Noise

Criteria	Safety In Numbers	Others
Number of Questions?	25	2
Consistent with compliance with regulations?	Yes	No
Offers good practice steps?	Yes	No
Provides Resource Material?	Yes	No

Compare Ladders Sections

Criteria	Safety In Numbers	Others
Number of Questions?	18	0
Consistent with compliance to legislation?	Yes	No
Offers good practice steps?	Yes	No
Provides Resource Material?	Yes	No

Some systems don't mention specific topics but rather just lump them all in with vague terms such as "have all hazards been identified?"