BSBWHS404 Contribute to WHS hazard identification, risk assessment and risk control

Learning Guide

Written by Sandy Welton
www.trainingresourcesrto.com.au

Table of Contents

BSBWHS404 Contribute to WHS hazard identification, risk assessment and risk control

This unit describes the skills and knowledge required to contribute to the processes of identifying work health and safety (WHS) hazards, assessing WHS risks, and developing, implementing and evaluating risk controls according to legislative and organisational requirements.

It applies to individuals who contribute to WHS risk management processes in their work role in a range of industry and workplace contexts.

NOTE: The terms 'occupational health and safety' (OHS) and 'work health and safety' (WHS) are equivalent and generally either can be used in the workplace. In jurisdictions where the Model WHS Legislation has not been implemented RTOs are advised to contextualise the unit of competency by referring to the existing State/Territory OHS legislative requirements.

Elements of competency

There are 5 “elements of competency” in this unit. Elements describe the essential outcomes of a unit of competency.

They are:

1 Access information to identify hazards and assess and control risks

2 Contribute to compliance and workplace requirements

3 Contribute to workplace hazard identification

4 Contribute to WHS risk assessment

5 Contribute to the development, implementation and evaluation of risk control

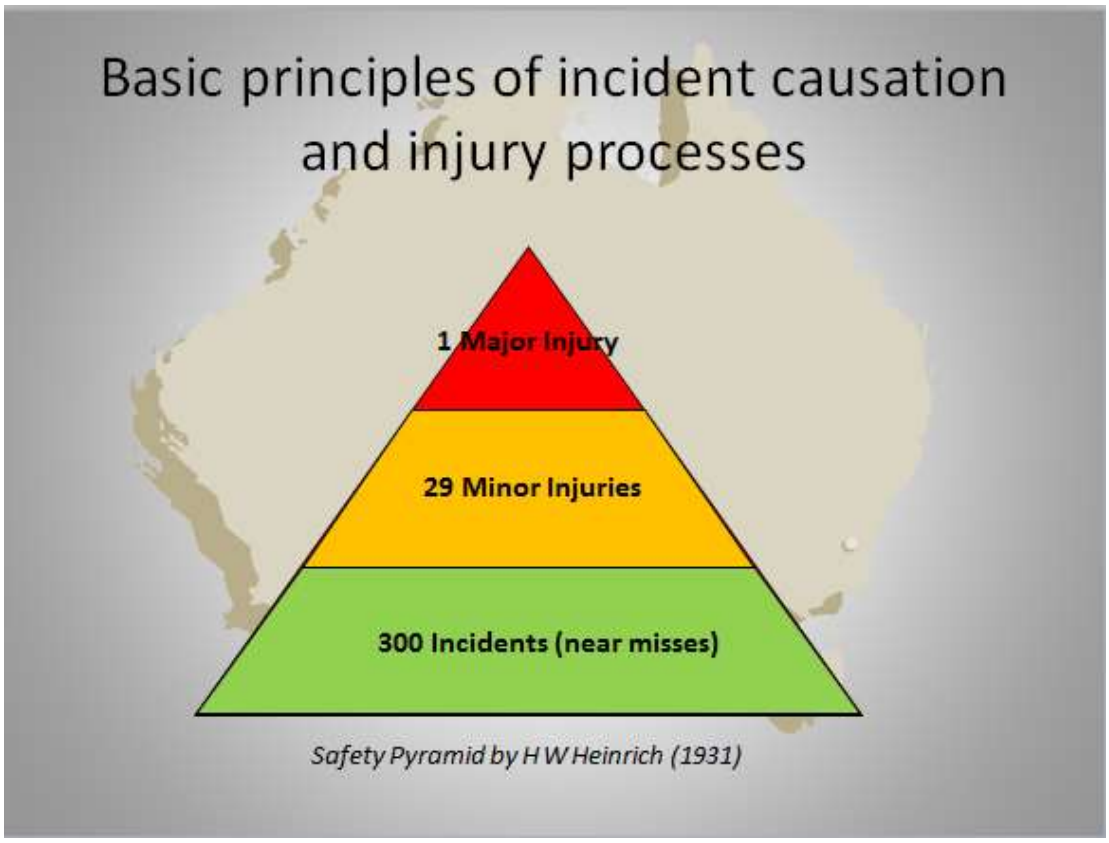
Evidence of Competency

In order to demonstrate your competency, you will need to provide evidence. This is the Performance Evidence for the unit:

Evidence of the ability to:

- identify and interpret information and data about work health and safety (WHS) requirements and apply it to the selection and application of techniques, tools and processes for hazard identification, risk assessment and risk control and the development of a risk control plan
- contribute to documenting and evaluating risk management processes
- communicate about WHS requirements and compliance with a range of people
- comply with WHS requirements for hazard identification, risk assessment and risk control activities
- identify WHS duty holders and their duties.

Heinrich's Law



Herbert William Heinrich (born 1886) was Assistant Superintendent of the Engineering and Inspection Division of Travelers Insurance Company (USA) when he published his book *Industrial Accident Prevention, A Scientific Approach* in 1931.

One finding from his book became known as Heinrich's Law: that in a workplace, for every accident that causes a major injury, there are 29 accidents that cause minor injuries and 300 accidents that cause no injuries.

In 1969, a study of industrial accidents was undertaken by Frank E. Bird, Jr., who was then the Director of Engineering Services for the Insurance Company of North America.

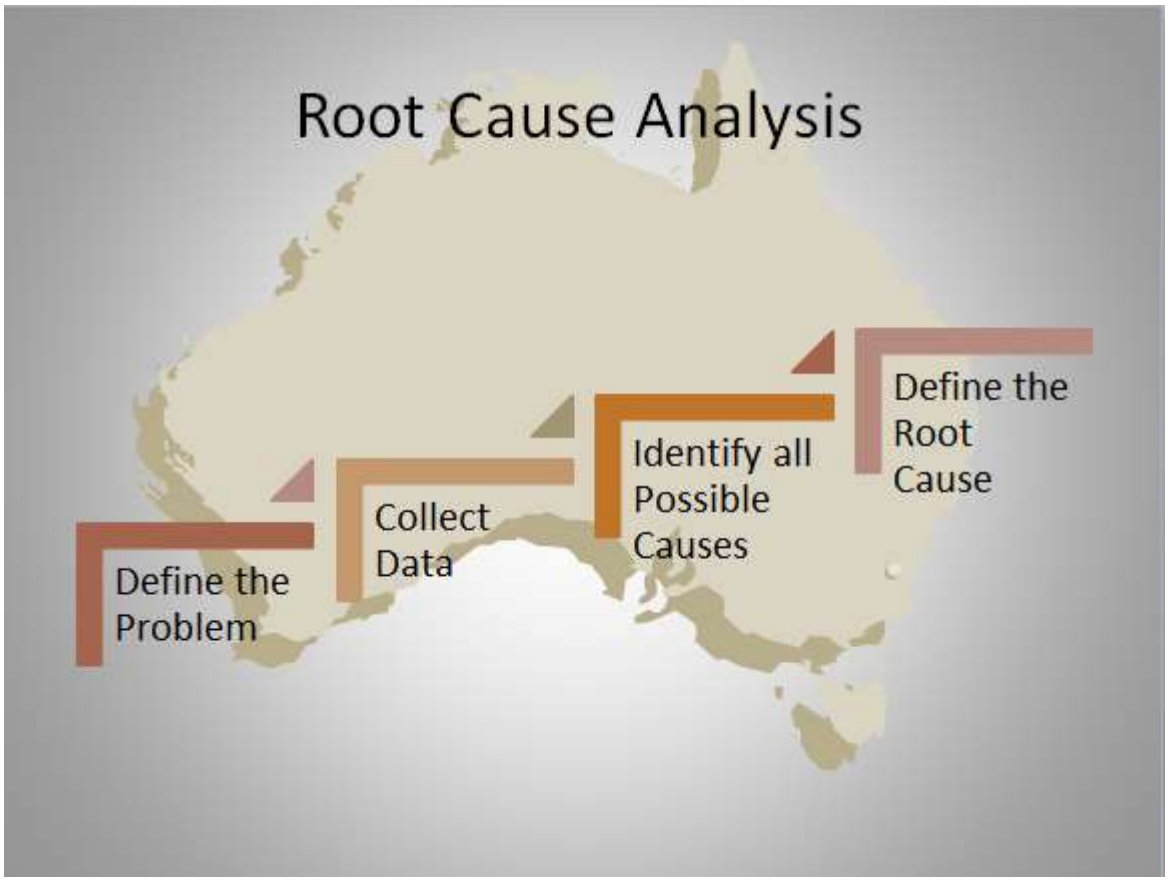
Bird analysed 1.7 million accidents reported by 297 cooperating companies from different industrial groups and the results showed that:

- For every reported major injury (resulting in fatality, disability, lost time or medical treatment), there were 9.8 reported minor injuries (requiring only first aid).

- Over 30 property damage accidents were reported for each major injury.

Heinrich's data and conclusions have been criticised in various theoretical publications and books but his work has led to the generally accepted conclusion that **because many accidents share common root causes, addressing more commonplace accidents that cause no injuries can prevent accidents that cause injuries.**

Root cause analysis



As a WHS Co-ordinator, you should have access to reports of incidents and injuries.

According to the accepted theories, if you investigate, analyse and correct the root cause of minor incidents, this will reduce the likelihood of a major injury or death.

The steps for Root Cause Analysis are:

1. Define the problem:

   - What do you see happening?
   - What are the specific symptoms?

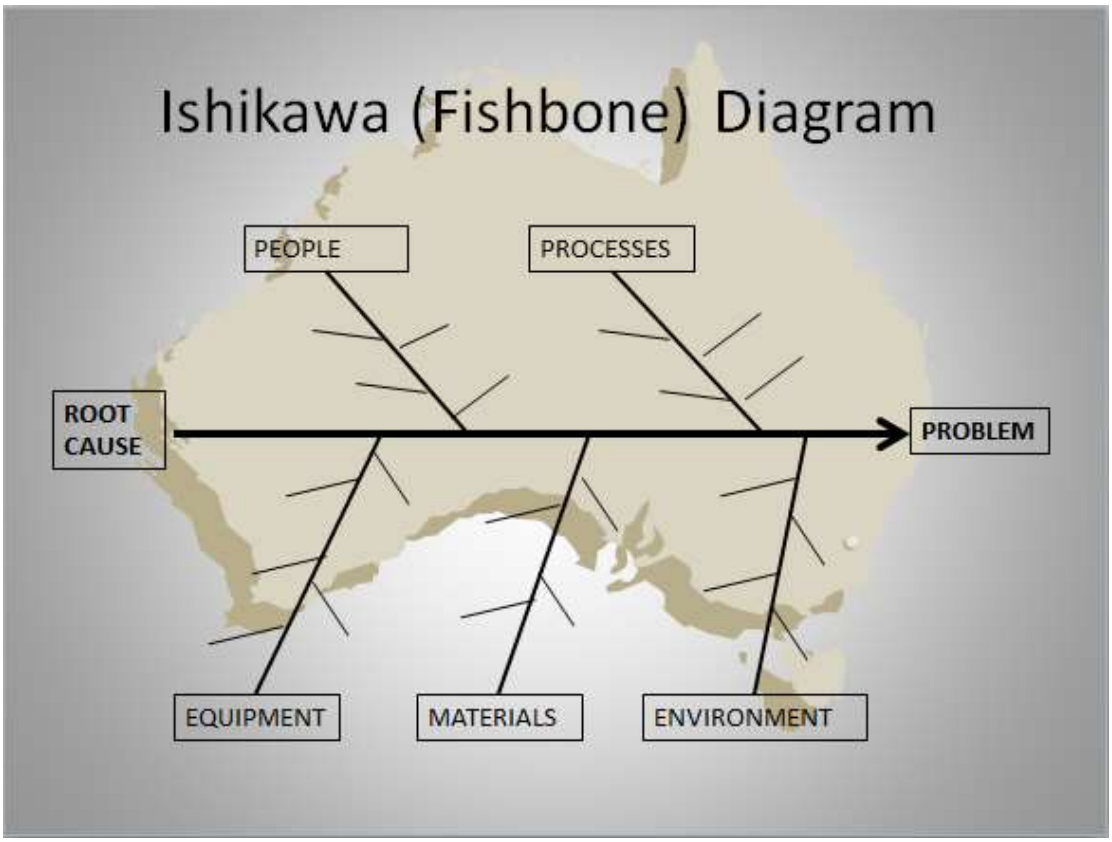
2. Collect data:

   - What proof do you have that the problem exists?
   - How long has the problem existed?
   - What is the impact of the problem?

   When collecting the data, don't focus on one thing. Look at the problem from as many different perspectives as you can, for instance:

- Who are the people involved? Have you interviewed them to seek their perspective?
- What is the environment? The location, plant, equipment and other external factors that may have contributed to the problem?
- Were there any other factors – such as time allocated for a job?
- What were the procedures, were they sufficient and were they followed?

Identifying all Possible Causes



Step 3 of Root Cause Analysis is to identify all possible causal factors, asking the question:

- What could have caused the problem or might have contributed to it?

Kaoru Ishikawa was a Japanese university professor and influential quality management innovator who designed the Fishbone Diagram in 1982.

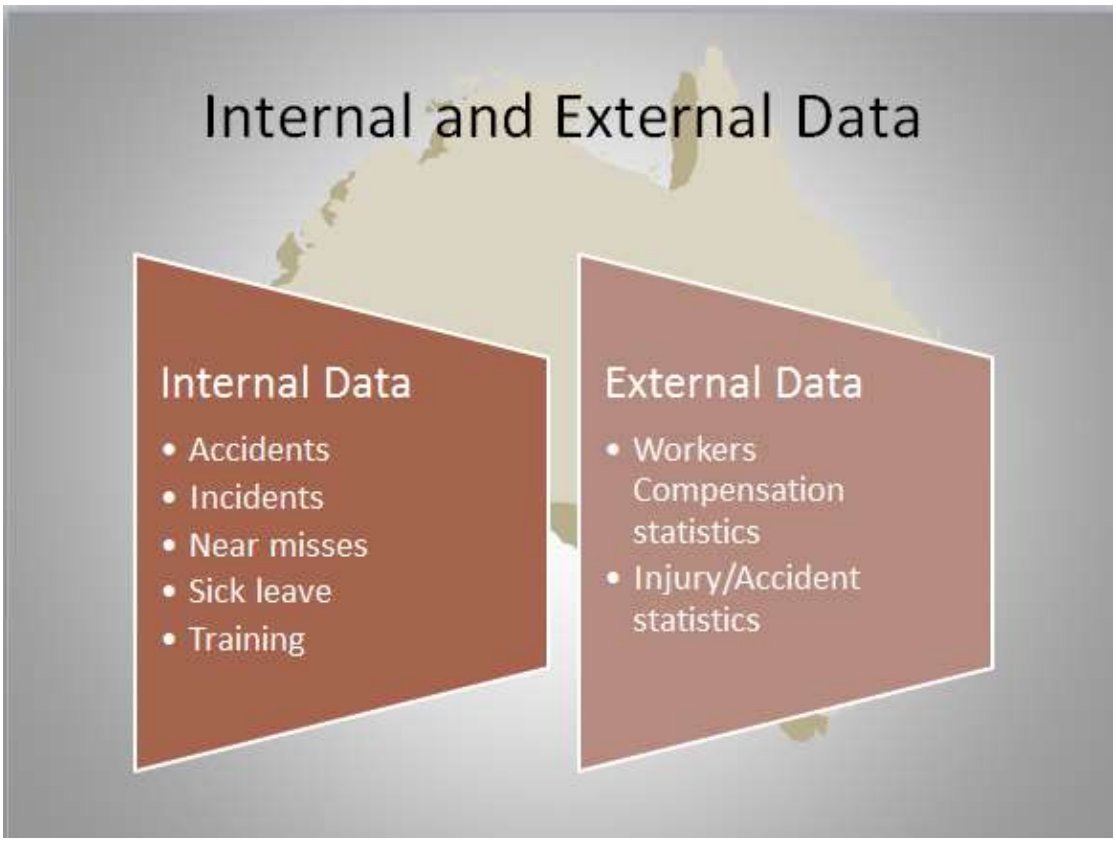
1. Draw a horizontal arrow and write the problem (or injury/incident) that occurred.
2. Draw an empty box on the left for the root cause.
3. Then identify the key factors that may have contributed to the problem. These are the major factors that appear on the ends of the longer lines.
4. For each of the major factors, identify the other factors that could have contributed to the problem.

Once you have done this, you are in a position to investigate which of the factors did contribute.

When you reach the stage of identifying the root cause, you may find that there are many factors that all worked together to cause the problem.

Once you have identified the root cause, you will be able to recommend solutions, so that the problem does not occur again.

Accessing data



As a WHS Co-ordinator, you should be receiving, storing and analysing records, logs and reports.

Your role includes:

- Identifying sources of information and data
- Obtaining information and data to determine the nature and scope of workplace hazards, the range of the harms they may cause, and how these harms happen
- Obtaining information and data to determine the nature and scope of workplace risks and risk controls

The basic principles of incident causation indicate that **even minor incidents should be investigated, as the causes of the minor incident may result in a major injury in the future**.

Example:

Concrete is strongly alkaline and can cause breathing problems and skin irritation. If site data indicates that the concrete workers are taking sick leave more often than expected, their medical certificates should be checked to see if this relates to exposure to concrete. You may then conduct a site inspection to observe the concrete workers and see whether they are wearing the correct PPE and whether dust suppression methods are sufficient.

Internal data that can be analysed includes:

- Training records
- Permits to work and licences
- Safe Work Method Statements and Job Safety Analysis
- Product information (Safety Data Sheets)
- Equipment information (manuals, service logs)
- Site inspections and monitoring
- Incidents, accidents and sick leave
- Workers compensation claims
- Records of consultation

External data that relates to your industry or type of work can often give information on hazards, risks and control methods. Sources can include:

- Australian Bureau of Statistics
- Your WHS Regulator
- Safe Work Australia
- Workers Compensation insurers and authorities

Other external sources of information and data that will help you to identify hazards and risks relevant to your industry environment include:

- Legislation and Codes of Practice give information on hazards, risks and required control measures, particularly in high risk industries.

- Australian Standards – in particular
  - AS/NZS 4801:2001 Occupational Health and Safety Management Systems – specification with guidance for use
  - AS/NZS 4804:2001 Occupational Health and Safety Management Systems – general guidelines on principles, systems and supporting techniques

➲ Assessment Task 1

Now refer to your assessment task workbook and complete task 1

Workplace Risks and Risk Controls

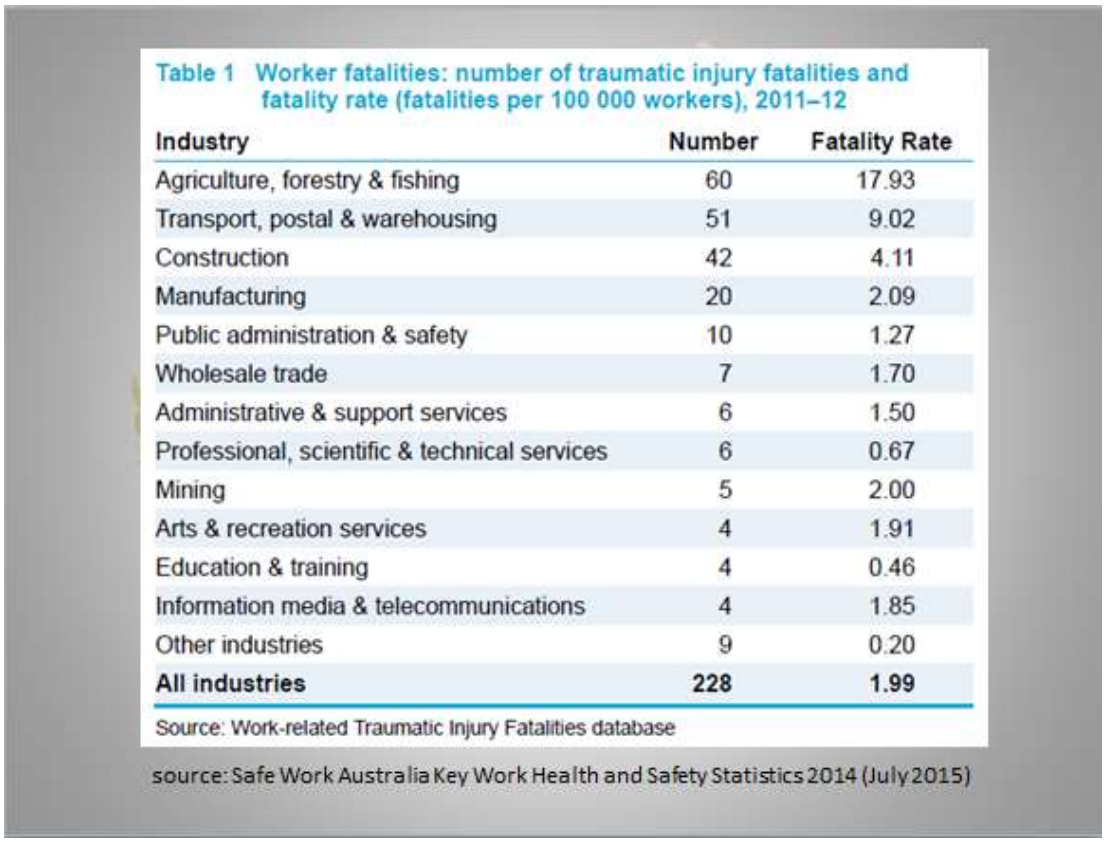


Table 1 Worker fatalities: number of traumatic injury fatalities and fatality rate (fatalities per 100 000 workers), 2011–12

Industry	Number	Fatality Rate
Agriculture, forestry & fishing	60	17.93
Transport, postal & warehousing	51	9.02
Construction	42	4.11
Manufacturing	20	2.09
Public administration & safety	10	1.27
Wholesale trade	7	1.70
Administrative & support services	6	1.50
Professional, scientific & technical services	6	0.67
Mining	5	2.00
Arts & recreation services	4	1.91
Education & training	4	0.46
Information media & telecommunications	4	1.85
Other industries	9	0.20
All industries	**228**	**1.99**

Source: Work-related Traumatic Injury Fatalities database

source: Safe Work Australia Key Work Health and Safety Statistics 2014 (July 2015)

The types of risk that apply in your workplace will vary with the work environment, the types of plant and equipment used, the systems of work, hours of work and the qualifications, skills and experience of the workers.

Example – Construction

Construction is a high risk work environment. Some of the risks involved relate to:

- Excavations and trenches
  - an excavation collapsing
  - objects falling into an excavation
  - a person falling into an excavation
  - substance exposure in an excavation, for example, carbon monoxide from plant
- Falling from heights
  - scaffolding
  - trestles
  - ladders
- Falling objects
- Working near power lines
- Working around heavy plant and equipment
- Using air-powered tools such as nail guns
- Exposure to Asbestos containing materials (ACM)
- Manual handling

The top 6 construction site hazards identified by the U.S. Occupational Safety and Health Administration (OSHA) are:

- Electrical
- Excavation and Trenching
- Falls
- Stairways and Ladder
- Scaffolding
- Heavy Construction Equipment

Electricity is one of the greatest hazards. Power line workers, electricians and electrical engineers work continuously with electricity and can face exposure to this hazard on a daily basis.

Since the risk cannot be eliminated, the next best control measure is isolation - ensuring that workers are a safe distance away from the power lines by creating an exclusion zone with barriers. Other precautionary measures include guarding and insulating of the vehicle from which they work – this is known as an engineering control and gives less protection than isolation.

Excavation and trenching is the most hazardous construction site operation in the US. From the year 2000 to 2006, the United States Bureau of Labor and Statistics (USBLS) recorded 271 worker fatalities in trenching and cave-ins.

Falling from scaffolding is a dangerous and common construction site hazard. Falling from high places such as a ladder, scaffolding and roofs account for more than 50% of the accidents. Stairways and ladders are major sources of injuries and fatalities among construction workers. OSHA registered approximately 24,882 injuries and 36 fatalities yearly that were related to falling from stairways and ladders used at the construction site.

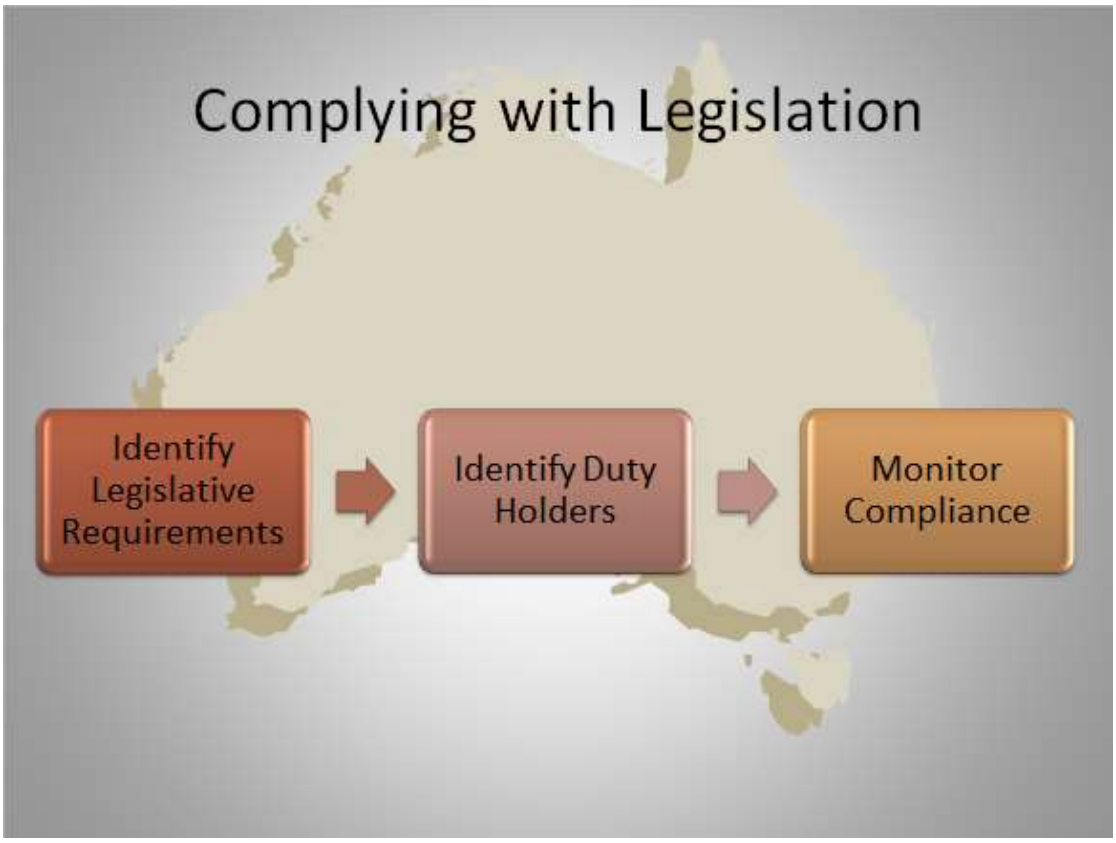
Every year, approximately 60 workers die in the US by falling from scaffolding; one out of five construction site falls are fatal. The most potential risk of scaffolding is due to moving scaffold components; scaffold failure related to damage to its components; loss of the load; being struck by suspended materials; electrical shock; and improper set-up.

Approximately 100 construction site workers die each year in the U.S. due to heavy construction equipment. The main causes of such accidents includes: ground workers struck when a vehicle is backing up or changing direction; equipment rollovers that injure the operator; mechanics run over when brakes are not properly set; and ground workers crushed by falling equipment from backhoes, buckets, and other moving construction vehicles.

You can see from this information that it is worth gathering external data that relates to your industry. In fact, the Australian construction industry has a good safety record in spite of the high risk nature of the work.

Clearly if you were working in another environment, the workplace risks and controls would be different. For instance, if you were the WHS Co-ordinator for an aged care facility or a hospital, there would be little risk of falling into a trench or falling from heights. Risks would predominantly relate to manual handling, infection, stress, violent behaviour and exposure to chemical hazards or sharps.

Legislative Compliance



As a WHS Co-ordinator, you need to ensure that your organisation complies with legislation, which includes:

- Acts and Regulations
  - Work Health and Safety
  - Workers Compensation
  - Employment and Industrial Relations
  - Anti-Discrimination

- Codes of practice that relate to your industry and the type of work being performed.
- Other guidance material, which includes Australian Standards.

For example, the WHS Act states the requirements for all employers to provide a safe working environment.

Division 2 of the Regulations clarifies what this means:

40 Duty in relation to general workplace facilities
A person conducting a business or undertaking at a workplace must ensure, so far as is reasonably practicable, the following—

(a) the layout of the workplace allows, and the workplace is maintained so as to allow, for persons to enter and exit and to move about without risk to health and safety, both under normal working conditions and in an emergency;

(b) work areas have space for work to be carried out without risk to health and safety;

(c) floors and other surfaces are designed, installed and maintained to allow work to be carried out without risk to health and safety;

(d) lighting enables—
(i) each worker to carry out work without risk to health and safety; and
(ii) persons to move within the workplace without risk to health and safety; and
(iii) safe evacuation in an emergency;

(e) ventilation enables workers to carry out work without risk to health and safety;

(f) workers carrying out work in extremes of heat or cold are able to carry out work without risk to health and safety;

(g) work in relation to or near essential services does not give rise to a risk to the health and safety of persons at the workplace.

➲ Assessment Task 2

Now refer to your assessment task workbook and complete task 2

These pages have been deleted from the sample