

Traumatic Injury Fatalities

Explanatory notes

NOVEMBER 2024

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Contact information

Safe Work Australia | <mailto:info@swa.gov.au> | www.swa.gov.au

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CONTENTS

1. Overview	4
2. Scope	4
3. Definitions	4
Traumatic Injury Fatality	4
Work activity or exposure	5
Worker	5
Bystander	5
4. Data process and sources	6
Preliminary fatalities dataset	7
Finalising the TIF	7
Source: Notifications from Work Health and Safety Authorities	7
Source: National Coronial Information System (NCIS)	8
Source: The National Data Set for Compensation-Based Statistics (NDS)	8
5. Calculation of fatality rates	9
6. Analysis	9
Small counts	9
Time series	9
Jurisdictional comparison	9
7. History	10

1. Overview

The Traumatic Injury Fatalities database (TIF) includes information on all work-related traumatic injury fatalities in Australia.

Data for the TIF is initially collected as information from media reports and stored as preliminary data. This is then updated throughout the year and finalised annually using information sourced from Australia's jurisdictional WHS authorities, the National Coronial Information System (NCIS) and other data sources. The final data is then transferred to the TIF.

The number of preliminary fatalities is usually less than the number of finalised fatalities due to the approach used to develop and validate the data.

2. Scope

The scope of this collection includes all persons (**workers** and **bystanders**):

- who were **traumatically fatally injured**, and
- whose injuries resulted from **work activity or exposures**, and
- whose injuries occurred in an incident that took place in Australian territories or territorial sea.

3. Definitions

Traumatic Injury Fatality

Traumatic injury fatalities involve a death directly resulting from physiological damage to living tissue caused by immediate physical stress. For the purposes of the TIF, this includes those arising from:

- being exposed to poisonous plants and animals as part of work
- being exposed to harsh environmental conditions (e.g. cold temperatures causing frostbite) as part of work
- allergic reactions, embolisms, heart attacks and strokes where available information shows that a work-related injury or activity directly triggered a fatal medical incident

It specifically excludes fatalities due to:

- natural causes – including heart attacks and strokes – where death is a natural progression from a disease and cannot be directly linked to a work-related injury or activity
- complications of medical care, medical negligence or malpractice

Work activity or exposure

SWA includes fatalities in the TIF where the fatality was caused directly by a work activity or exposure. This includes worker fatalities that occur when:

- travelling from one workplace to another e.g., a trades worker or professional killed driving from one job or client to the next, a worker killed in an air crash on their way to a conference.
- criminal activity is incidental to a legitimate work activity, for example, where a worker dies of an injury sustained while under the influence of legal or illegal substances. Non-working persons fatally injured in an incident involving criminals and law enforcement or security officers are included as bystanders.
 - In the case of a bystander who is killed while the police are pursuing a vehicle for a traffic or other violation, the death will be included regardless of whether they were hit by the police car or the offender's car.

Under this definition, SWA specifically excludes worker fatalities due to:

- undertaking criminal activities, such as gaining illegal entry into a building or work site or crashing a car while evading a police pursuit,
- suicide, as it is difficult to assess the extent of the connection between work and a decision to take one's own life, or
- commuting to or from work.

Worker

All identified cases of persons who died from injuries sustained while they were working are included. This includes unpaid volunteers, family workers, persons undertaking work experience and defence force personnel killed.

The number of worker fatalities is considered reliable. However, some fatalities, particularly those related to traffic incidents involving light vehicles, may be missed due to a lack of information available to establish the connection to work activity or exposures. For example, the information in the NCIS relies heavily on information collected by the police, and the police report may not include sufficient information to identify whether or not the deceased was working at the time of the incident.

Bystander

Deaths of people in the general public are included if the death arose out of the conduct of a business or undertaking (i.e., if the actions of a worker directly contributed to the death of the person). Under this definition an 'at fault' rule is applied. Information from a variety of sources including police reports is used to determine whether or not the bystander's action directly contributed to their own death. If the bystander's actions directly contributed to the death, then the death is considered to be a 'bystander fault' death and is not included in the database.

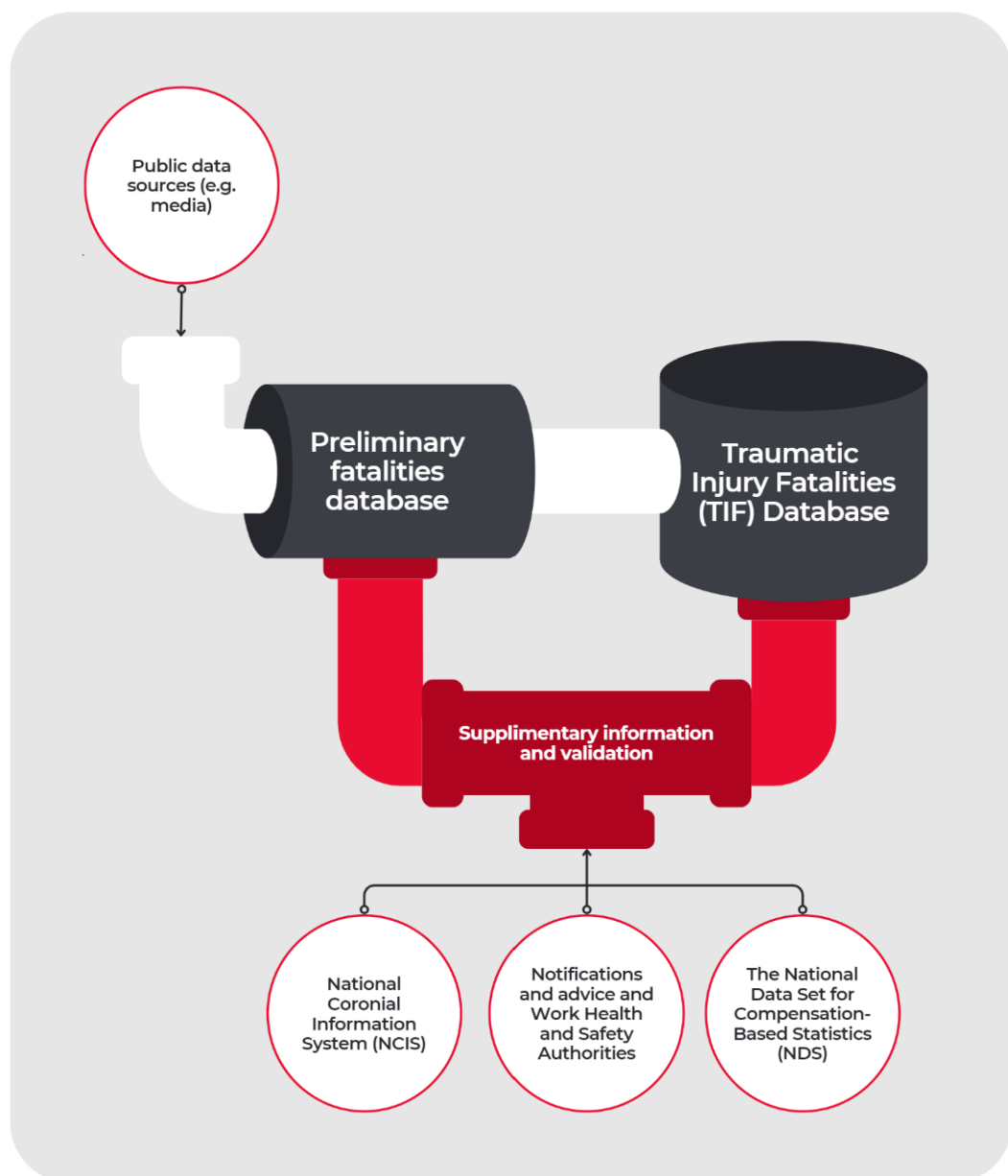
The most common example of this is when a non-working person dies due to a vehicle crash involving a worker. If the worker drove their car into the path of a non-working person and the person was killed, this would be in scope. However, if the non-working person drove their vehicle into the path of the workers vehicle, then it would likely be out of scope. Other

examples include commercial airplane passengers who die in a crash, aged care residents who die from injuries sustained during care activities (e.g. falls from sling hoists), a person walking past a construction site hit by falling debris etc.

There are many difficulties in identifying bystander fatalities – bystanders cannot seek compensation through workers’ compensation; notifications depend on the work health and safety legislation of the jurisdiction; and sufficiently detailed information on the circumstances of all parties to the death is often unavailable.

Estimates of bystander fatalities in the TIF should therefore be regarded as an undercount and movements over time interpreted with caution. As a result, data on bystanders is not publicly provided on our interactive dashboards. Please email statsonline@swa.gov.au if you are interested in this data.

4. Data process and sources



Preliminary fatalities dataset

Data on worker fatalities is first captured in the preliminary fatalities dataset which is updated fortnightly on our data website. This follows the same scope as the Traumatic Injury Fatalities database, however the preliminary data often comes from initial reports from public data sources.

Public data sources include the media, road death statistics and accident investigation reports relating to plane crashes, train crashes and maritime incidents.

Because the preliminary data is based on initial information, the counts often underestimate those who died over the year from work-related activities and it regularly changes as we get further information from other sources.

Finalising the TIF

At the end of the year, we undertake an in-depth validation of our preliminary fatalities against our data sources and collect more information about each fatality.

The sources we use to supplement and verify our data sources include:

- notifications from Work Health and Safety Authorities,
- the National Coronial Information System (NCIS), and
- the Agency's National Data Set for Compensation Based Statistics (NDS).

Each of these sources have limitations, so using multiple sources are needed to gain a more comprehensive understanding of the work-related fatalities that occur each year.

The confirmed work-related fatalities and the additional information are collated into the TIF.

Source: Notifications from Work Health and Safety Authorities

Work health and safety authorities in each jurisdiction notify Safe Work Australia of work-related injury fatalities that fall under the model Work Health and Safety legislation. There are 12 work health and safety jurisdictions in Australia that report data to Safe Work Australia: each of the eight states and territories; the Commonwealth (Comcare); and the mining sectors in New South Wales, Queensland and Western Australia.

The strengths of the notifications are that:

- it captures fatalities that may not be compensated, such as deaths to self-employed, contract workers and bystanders,
- work-relatedness is assessed by work health and safety officers,
- names are supplied by some jurisdictions, and
- it provides a brief narrative account of the circumstances of the fatality.

The weaknesses of the notifications are that:

- regulatory investigations can sometimes take time and therefore only limited information may be available at the time of data collation,
- fatalities within the scope of the TIF may not necessarily fall within the jurisdictional responsibility of the Work Health and Safety Authorities, and as such may not be notified, and
- there is limited coverage of transport-related fatalities.

Source: National Coronial Information System (NCIS)

The NCIS, officially launched in July 2000, is an internet-based data storage and retrieval system of coronial cases in Australia and New Zealand. Each state and territory in Australia, and New Zealand, has a licence agreement with the Victorian Department of Justice and Community Safety permitting the transfer of coronial information for storage and dissemination via the NCIS.

For the TIF, records are extracted and examined based on the scope criteria. In particular, all deaths that are coded as work-related or where the activity is coded as paid work are reviewed, as well as deaths that involve a heavy or light commercial vehicle, aircraft or occurred at a farm, industrial or commercial workplace. Some records do not have all the relevant data available at the time when the dataset is finalised, and therefore updates to historical numbers may be evident in future releases.

The strengths of the NCIS are that:

- it includes all deaths reported to an Australian coroner,
- it generally includes police narratives and coronial findings on the causes and circumstances surrounding the fatal incident, and
- work-relatedness is assessed against standard criteria.

The weaknesses of the NCIS include:

- not all work-related fatalities and work-related information are correctly coded,
- it can be many years before the case is closed and all files loaded and coded,
- crucial data items, including name, date of birth and date of death, as well as documentation, may be missing for open cases and even some closed cases, and
- it is difficult to identify bystander fatalities.

Source: The National Data Set for Compensation-Based Statistics (NDS)

The scope of the NDS is all accepted workers' compensation claims made by or for an employee (other than an employee of the defence forces). The NDS is compiled annually by Safe Work Australia from data supplied by state, territory and Australian Government workers' compensation authorities.

While the NDS provides an indication of work-relatedness and industry, it is primarily used to validate the fatalities due to the difficulties in data matching (date of birth, date of death and names are often missing, not provided or inaccurate) and the incompleteness of some fields.

5. Calculation of fatality rates

Fatality rates are calculated as the number of fatalities per 100,000 workers.

Worker counts are supplied by the Australian Bureau of Statistics (ABS) and are primarily sourced from the ABS Labour Force Survey data. The supplied worker counts are split into data by industry or data by occupation. This restricts presentation of rates to the categories supported by the ABS data. Therefore, it is not possible to calculate rates for occupational groups within specific industries.

Because work-related injury fatalities of Australian Defence Force (ADF) personnel within Australia are in scope for the TIF, worker estimates are supplemented with the average of levels of ADF permanent members reported in the Department of Defence Annual Report.

The TIF database also includes worker fatalities involving volunteers and children aged under 15 years old. The ABS Labour Force Survey data does not include either volunteers or children under 15, however due to the small numbers of these fatalities, the inclusion of these fatalities without adjusting the worker estimates has negligible impact on the fatality rates. Public data sources include the media, road death statistics and accident investigation reports relating to plane crashes, train crashes and maritime incidents.

6. Analysis

Data is updated annually and based on the date the person died (annual updates cover deaths between 1 January to 31 December of the relevant year). Historical data is also updated annually (along with the newest year) as additional information from finalised coroners' reports and workers' compensation claims becomes available.

Small counts

To allow analysis on specific groups and circumstances that have resulted in worker fatalities, we provide small numbers of fatalities and fatalities rates based on those groups. As a result, these can experience subsequent year-on-year volatility. Safe Work Australia advises caution when drawing conclusions from calculations or changes over time based on small numbers of worker fatalities.

Time series

Comparison of preliminary and finalised data should be done with caution.

Data is initially collected as information from media reports (preliminary data), then finalised annually using information sourced from workers' compensation data, fatality notifications to Australia's WHS authorities and the National Coronial Information System (finalised data).

The number of preliminary fatalities is usually less than the number of finalised fatalities due to the approach used to develop and validate the data.

Jurisdictional comparison

While Safe Work Australia works closely with jurisdictional WHS regulators and workers' compensation authorities to collect this information, there are differences between the information captured and reported in the TIF and those the jurisdictions report. This is mostly a result of the differences in coverage and scope of the datasets.

7. History

Around 2003, Safe Work Australia developed the TIF dataset to address some limitations with previous work-related fatalities data collection and reporting, and to extend the coverage of work-related fatalities data.

The main benefit of the TIF is that its coverage extends to all workers in Australia. As a result, all industry sectors can be assumed to be well-represented by the TIF data, particularly industries with high proportions of self-employed workers (e.g. Agriculture, forestry and fishing and Construction industries) or where groups are covered or captured differently under separate legislation. This is different to the NDS, which only captures employees under workers' compensation schemes and information provided by jurisdiction authorities that only covered fatalities under their jurisdictional occupational health and safety laws.

This is why the TIF database is used to report on work-related fatalities, rather than workers' compensation data.