

Chapter 2

Literature review

2.1 INTRODUCTION

This Chapter primarily considers data collection activity related to work-related fatalities. It does not attempt to review in detail all publications on work-related fatalities, as these number several hundred and most are not directly related to the issues covered in this thesis. The key references are mentioned here. More specific references are cited where relevant in individual Chapters. In particular, the Chapters on home duties deaths, employment arrangements and comparison of definitions have their own consideration of the literature.

2.2 WHY STUDY WORK-RELATED FATALITIES?

The number and rate of work-related fatalities are often cited when the level of occupational health and safety is considered. These measures have many advantages and disadvantages, including clarity of end point, availability of data, severity, representativeness, absolute level, ease of manipulation, and appropriateness of denominator data.

Fatalities represent a clearly defined end point, because there is usually no problem in determining that a person has died (this contrasts with problems in establishing diagnostic criteria for conditions such as carpal tunnel syndrome and back strain/sprain), although there is occasional uncertainty as to the cause of death and its connection to work^{19, 20}.

There is a comprehensive and detailed data source potentially available through the Australian coronial system, which should investigate every work-related traumatic death. The resultant information has major potential for identifying areas for preventive action. Obtaining data is currently very resource intensive in most countries because the main potential data source (the coronial system) is costly and inconvenient to access. However, for fatal injuries, the coronial system provides a wealth of detailed information that can be used for identifying areas for preventive action, and the required resources should be less of a problem in Australia once the National Coroners Information System (NCIS) is fully operational^{21, 22}.

Fatalities have a tragic effect on the lives of many people. Apart from the shortening of the life of the deceased person, there is a major impact on the lives of their family and their colleagues. This demands an appropriate response from the community, including attempts to prevent these occurrences^{1-3, 23}.

Studying fatalities without linking this to prevention leaves the possibility of accusations of sensationalism and body counting. Although it is clearly too late to help the deceased person once he or she has been killed, the same problem of being reactive is evidenced with responses to non-fatal injury. It can also be argued that it is remiss of a community not to use information about one person's death (or non-fatal injury) to help prevent a similar death or non-fatal injury from occurring in the future. In addition, the associated emotive value with the general public arising from publicity about fatal events provides a higher profile for important OHS issues.

The circumstances surrounding fatal work-related incidents are probably representative of the circumstances surrounding many major injuries and probably many minor

injuries and near misses, but appear not to be representative of all injuries²⁴⁻²⁶. For example, it is undoubtedly true that certain non-fatal injury types rarely cause death. Examples include disorders such as sprain/strain injuries of the back, overuse injuries of the limbs, and simple cuts from hand tools. However, for many other injury circumstances, it is probably just a matter of chance as to whether the affected person is killed, injured or just involved in a near miss. Common examples of this include most electrocutions, falls and drowning; and most injuries resulting from motor vehicle incidents or the use of fixed or mobile mechanical equipment. In addition, for the vast majority of non-fatal injuries, there is little or no useful information recorded by the workplace, and even fewer non-fatal injuries are investigated by OHS jurisdictions and/or the police. Even where incidents are investigated, the data are usually not available in a form that facilitates systematic study. Therefore, study of fatal injury deaths also provides information on factors that are relevant to many non-fatal injuries.

Fatal injury is rare, so that there may not be enough events to provide reliable estimates. This relative rarity of fatal injuries poses problems for detailed analyses conducted on a year-by-year basis. However, aggregation of data across areas and years makes detailed analyses and detailed comparisons viable and valid. This has been clearly shown by the first work-related fatalities study conducted by NOHSC, which has considered, amongst other areas, specific industries (mining²⁷), occupations (commercial fishing¹⁰), hazards (electricity⁸), and personal factors (migrants⁹) (see Appendix 1). This aggregation approach is not suitable for individual companies, as any one workplace fortunately has a very low chance of being associated with a work-related traumatic death.

Lost time injury measures are commonly used to monitor levels of OHS. However, the measures are open to manipulation and subject to deliberate or unintentional variations

in reporting efficiency, making interpretation and comparisons more difficult. In contrast, deaths are hard to cover up or “lose”! Also, although both fatal and lost time injury end points can have some definitional problems, with death these problems are on the margins, whereas with non-fatal injury the definitional problems can be of major importance²⁸.

Appropriate denominator data may not be available to calculate meaningful rates²⁹. Generally this is not true in Australia, since detailed denominator data are available from the Australian Bureau of Statistics (ABS) and sometimes from industry groups.

The study of non-fatal injury and fatal injury should be seen as complementary. For year-to-year measures within a company or small industry group, non-fatal injury (or some form of process measure^{30,31}) is the appropriate outcome to use. Whether this outcome is defined further as the Lost Time Injury Rate, or in some other form, is less of an issue. However, for national comparisons, for industry comparisons, for occupational comparisons, and for identification of common circumstances or patterns associated with incidents that result in injury, the coronial system as the source of information to identify and study work-related traumatic death remains both the gold standard and a feasible source of information to be used to monitor general levels of OHS related to injury. Fatalities can be studied to determine the scope of the problem (frequency), determine the absolute and relative risk (incidence) and/or to identify common causative/associated factors. Together, these three areas allow a rational basis for establishing priority areas for further investigation (on the basis of industry, occupation, tasks, associated factors, etc); identifying possible preventive action for implementation or further investigation; and evaluating measures that have been introduced.

2.3 DATA SOURCES FOR IDENTIFYING WORK-RELATED FATALITIES

There are a variety of approaches that have been used internationally to identify work-related fatalities, and each have their own strengths and weaknesses³²⁻³⁴. The main non-Australian examples of these are summarised here.

2.3.1 DEATH CERTIFICATES

Since a death certificate should be completed for all deaths, death certificates form a potential source of information on work-related traumatic deaths if information on the certificate is able to be used to identify such deaths. This information is usually in the form of a box that can be ticked if the death is related to work, or occurs at work. The National Traumatic Occupational Fatalities (NTOF) surveillance system, which is run by the National Institute for Occupational Safety and Health (NIOSH) and comprises one of the two main sources of information on work-related traumatic deaths in the United States, is the best example of the use of death certificate information for surveillance purposes. The standard death certificate in use in the United States has an “Injury at work” box that can be ticked by whoever completes the certificate (usually the Coroner or Medical Examiner)³⁵. Data are collected from all 50 States, New York City and the District of Columbia. The NTOF database contains information on all deceased persons whose death certificate has the “Injury at work” box ticked, who were aged 16 years and over at the time of death, and who have had an ICD-9 external cause code assigned to the death. Suicides are included if they meet the above criteria. Some of the States treat death certificates like medical records, and confidentiality agreements with the States preclude the release of unit record information. Although not all States place these restrictions on their data, the effect is that the entire data set is treated as confidential, with masking of cells describing less than three deaths. Some information is coded, but most of the available information is in narrative form. Although this has

disadvantages, narrative information allows string searches to be conducted on particular topics³⁶⁻³⁹.

Death certificates provide a relatively low resource approach to work-related fatal injury surveillance. Coverage of work-related deaths should not be influenced by employment arrangement, job type or marital status, factors which by design or practice can exclude deaths from being included in compensation systems (see below). However, there are limitations to the usefulness of death certificates. These include incomplete coverage, inconsistent information on certificates because of the many different people involved in completing them, lack of uniform information provided on the certificate (although the United States' certificates all have the same format), lack of relevant information on occupation and industry of the person, and lack of detailed information^{34, 39-51}. The NTOF system has been fully operational since 1980. In addition to the above-mentioned strengths and weaknesses arising from the use of death certificates, NTOF has the additional limitation of not providing information on workers under the age of 16 years⁵², nor on military persons and bystanders. The coverage provided by NTOF is not clear, but appears to be of the order of about 80% of work-related deaths of workers^{34, 46, 53}.

2.3.2 WORKERS' COMPENSATION INFORMATION

Information systems based on compensation claims usually have the advantage of reasonably up-to-date and independently verified information, but the disadvantage of deliberate limitations in the coverage of some workers and the practical exclusion of some others. In Germany, the limited information that is available on work-related fatalities arises from the Berufsgenossenschaften, which carries statutory accident insurance for "industry, trade and commerce"⁵⁴. The precise coverage of this system is

not clear⁵⁵. Provinces in Canada also rely on workers' compensation system information, but incomplete coverage is also a problem in these systems⁵⁶.

2.3.3 OHS AUTHORITY REPORTS

Most countries have one or more State or Federal government occupational health and safety authorities that investigate some work-related fatal incidents and keep statistics regarding these. These are a potentially very useful source of information on work-related fatalities, since they often contain detailed information. They can be particularly useful for providing information about breaches of relevant regulations⁵⁷. However, the information provided by these agencies can have many shortcomings, being influenced by changes in administrative policy, varying approaches to coding, and variable coverage⁵⁸⁻⁶⁰.

A good example of work-related fatality surveillance using information from official statistics held by OHS authorities is the Reporting of Injuries, Disease and Dangerous Occurrences Regulations (RIDDOR) system. The RIDDOR data are used as the basis of information published by the Health and Safety Executive (HSE) in the United Kingdom. RIDDOR is based on notifications to the HSE required by statute.

Like most systems that rely on notifications to OHS authorities, or investigation by the OHS authorities, work-related deaths that are covered by other agencies for the purposes of reporting or investigation are not included within RIDDOR statistics.

These include deaths related to the supply or use of flammable gas, most deaths related to marine fishing and merchant shipping, fatal injury associated with civil aircraft flight or with premises covered by the relevant explosives act, and deaths arising from motor vehicle crashes on public roads⁶¹. Therefore, again like most systems based on OHS notifications and inspections, the RIDDOR system covers the majority of work-related

injury deaths of workers, whilst probably missing a substantial minority of those deaths. Some information on bystander deaths is included, but coverage is probably poor.

2.3.4 CORONIAL DATA

The advantages and disadvantages of using coronial data as a source of information on work-related traumatic deaths are discussed at length in various parts of this thesis.

They have also been well reviewed elsewhere^{21, 22, 62}. In brief, all traumatic deaths, including those that are related to work, are due to some form of external cause, and so can be expected to be reported to the Coroner (as required by law in most western countries). All coronial deaths are the subject of some form of investigation, and the information collected during a coronial investigation is often very detailed and can contain useful information for descriptive and preventive purposes. The size and completeness of the data set allows patterns of circumstances to be seen that would not be noticed when a more limited group of incidents is examined; and the information contained in coronial files is theoretically available to persons with bone-fide reasons for accessing it. Problems with using the coronial system (or medical examiner system in some places in the United States and Canada) as a source of information include a lack of standardised classification and investigation approaches⁶³, lack of mutually exclusive classification categories, incomplete coverage⁶⁴, lack of relevant information in the coronial files, lack of a centralised file storage system, and reliance on paper records^{20, 65}. As a related point, note also that the coronial system is not a good source of information on work-related disease deaths because, with some minor exceptions, these do not fall under the area of interest of the coronial system, at least as currently run in Australia*.

* Notable exceptions include when mesothelioma cases were investigated by the Western Australian Coroner in the late 1980s, and some cases of food poisoning death arising from inappropriate commercial food preparation practices.

Coronial records have been most comprehensively used as a source of information on work-related fatal injuries in Australia. This is covered in some detail below. Apart from Australia, coronial files have been most widely used on a national basis as a source of information on work-related fatalities in New Zealand. The two main studies of work-related fatalities in New Zealand used this data source. The first of these covered the years 1975 to 1984⁶⁶. A more recent study, covering the years 1985 to 1994, used similar approaches to those used in the current investigation^{67, 68}. Neither of these studies included motor vehicle crashes on public roads, although it is likely that the more recent study will be extended to include those deaths. Information on bystander deaths was not available from either of the studies, but would normally be expected to be obtainable from coronial files.

2.3.5 MULTIPLE SOURCES

Some fatality data systems attempt to use information from multiple sources^{69, 70}. Probably the best of these is the Census of Fatal Occupational Injuries (CFOI), which is run by the United States Bureau of Labour and Industry and was introduced in 1992. This system uses death certificate information, but compliments it with information from workers' compensation reports, Coroners, the Occupational Safety and Health Authority (OSHA), police and the media. A unique aspect of the CFOI system is that some follow-up of surviving persons is undertaken^{70, 71}. CFOI has been in operation since 1992, and can be expected to have a wider coverage than NTOF, since that is based only on death certificate information.

Other information on work-related fatalities in the United States is provided by the Fatality Assessment and Control Evaluation (FACE) program. The FACE system involves detailed investigation of specific types of fatal incidents, in order to learn more about the causative factors and their possible prevention or control. (Occasionally, non-fatal incidents are investigated, but this is rare.) The system has two components – a NIOSH investigation team that investigates fatal incidents in certain States, and State-based investigation and surveillance systems set up under agreements with the health departments in 15 States. There are about 200 incidents investigated each year. Rather than being a general surveillance scheme, the FACE program operates more like a sentinel event surveillance system, aiming to prevent fatalities by investigating certain fatal incidents, developing appropriate prevention strategies and disseminating the information about the strategies⁷².

2.3.6 SURVEYS

In the United States, the Bureau of Labour Statistics conducts annual surveys of occupational injuries and illnesses, including work-related fatalities. Although this is a national survey of around 250,000 businesses, the relatively low frequency of work-related fatalities means that such surveys are probably not accurate enough to be of much use as a surveillance tool for fatalities⁷³. They also are unlikely to elicit any detail about the fatal event or the person(s) involved³³. In addition, many fatalities involved self-employed persons or persons in small businesses, and these are usually explicitly or in practice exempted from involvement in government surveys.

2.3.7 THE PRESS

Several studies have used press clippings and radio reports as a source of information on fatalities in general, and work-related fatalities in particular, but usually as an adjunct to other information sources rather than as the primary data source⁷⁴⁻⁷⁶.

2.4 APPROACHES TO STUDYING WORK-RELATED FATALITIES

Most published studies of work-related fatalities have involved the identification of deaths through one or more of the data sources described above. The identified deaths are then described in varying levels of detail. The studies may include all work-related deaths, or focus on particular regions⁷⁷⁻⁸²; industries such as agriculture^{5, 52, 83-88}, chemical production⁵⁷, construction⁸⁹⁻¹⁰⁰, electrical distribution¹⁰¹, fishing¹⁰²⁻¹⁰⁴, forestry¹⁰⁵, mining²⁷ and retail trade¹⁰⁶; occupations such as commercial pilots^{107, 108}, farmers¹⁰⁹, fishermen^{10, 110}, forestry and sawmill workers^{11, 111}, merchant seamen¹¹²⁻¹¹⁴, and truck drivers¹¹⁵; mechanisms of injury such as falls¹¹⁶⁻¹¹⁸, contact with fire^{119, 120} and contact with electricity^{8, 121}; involved agencies such as aircraft^{122, 123}, cranes¹²⁴, farm vehicles¹²⁵, farm machinery¹²⁶⁻¹²⁸, fixed plant¹⁵, forklifts^{12, 129}, hay bales¹³⁰, hazardous substances¹³¹⁻¹³³, motor vehicles¹³⁴, overhead power lines¹³⁵, power tools¹³⁶ and tractors¹³⁷⁻¹⁴⁰; injury type such as alkali burns¹⁴¹, electrocution^{142, 143}, head injuries¹⁴⁴, and fatal injuries arising from farm hazards¹⁴⁵; personal characteristics such as age^{17, 146-157}, sex¹⁵⁸⁻¹⁶¹, race¹⁶²⁻¹⁶⁶ and migrant status⁹; human factors such as error^{13, 167} and fatigue¹⁶⁸; deliberate injuries such as homicide¹⁶⁹⁻¹⁷⁵; the place of injury such as roads¹⁶, farms¹⁷⁶⁻¹⁷⁸ and factories¹⁷⁹; the role of alcohol¹⁸⁰; specific injury circumstances such as confined spaces¹⁸¹⁻¹⁸³, entrapment in grain silos¹⁸⁴ and logs rolling off trucks¹⁸⁵; or some combination of these or other factors such as homicide in health care workers¹⁸⁶, electrocutions in the construction industry involving portable ladders¹⁸⁷, age and falls¹⁸⁸, machinery-related fatalities in the construction industry¹⁸⁹, and farm and tractor-related fatalities in children^{190, 191}.

Most of these studies are, in effect, cohort studies of the population of interest, with the population being all working persons or sub-groups of the population identified by characteristics such as occupation, industry, age or sex. This is the approach used in the

study reported here. However, other approaches have been used, including case-control studies¹⁷⁴, capture-recapture¹⁹², standardised mortality studies¹¹³ and proportional mortality studies^{144, 166, 193-195}. Other approaches, such as the case-cross over design, could be used^{196, 197}.

Sometimes the analysis is focussed on frequencies and percentages, but usually rates are presented, at least at an overall level. Comparisons are made on the basis of frequency, percent and/or rate, with the effect of multiple exposures of interest controlled by stratification or exclusion. Other approaches have included Poisson regression¹⁹⁸ or other regression methods¹⁹⁹, the use of standardised¹¹³ or proportional mortality ratios^{193, 194}, and the calculation of lifetime risk^{200, 201} or years of life lost²⁰².

2.5 CURRENT SOURCES OF INFORMATION RELEVANT TO WORK-RELATED TRAUMATIC DEATHS IN AUSTRALIA

Comprehensive information on work-related fatalities in Australia has never been available on an on-going basis. What relevant information is available comes from a number of sources. These have been described previously^{22, 203} and include:

- workers' compensation agencies;
- State and Territory occupational health and safety authorities;
- other government agencies;
- police services;
- the press; and
- the coronial system.

Detail regarding each of these sources is provided below.

2.5.1 WORKERS' COMPENSATION AGENCIES

Timely information on workers' compensation is available through the National Data Set (NDS)²⁰⁴, which is run by National Occupational Health and Safety Commission. The NDS data are comprised of information from each of the States and Territories, as well as Comcare (covering Commonwealth employees) and some self-insuring agencies. A lowest common denominator approach has been taken because of the differences between schemes. The NDS provides the most up-to-date available summary data on work-related fatalities, but also has a number of drawbacks as a source of information on work-related fatalities. These include a lack of coverage of significant sectors of the workforce (eg most self-employed persons are excluded); no coverage of non-workers; variations between jurisdictions in terms of the definitions used; apparent exclusion of some fatal injury claims where there are no dependents; and a lack of detail in the information that is available^{205, 206}.

2.5.2 STATE AND TERRITORY OCCUPATIONAL HEALTH AND SAFETY AUTHORITIES

Occupational health and safety authorities in each jurisdiction receive notifications of fatal incidents from various sources, including legally required notification from employers of most serious incidents involving an employee or member of the public. Many of these fatal incidents are investigated by an inspector from the authority, sometimes in considerable detail. So, these authorities theoretically could provide useful information on fatal work-related injury, including on bystander deaths. However, in Australia, there are a number of drawbacks to this source of data. Most OHS authorities do not consider motor-vehicle related deaths on public roads, and aircraft crashes, as being within their area of responsibility. Similarly, fatal incidents in some specific areas for which other authorities may have some responsibility (such as fishing and mining) are often excluded, deliberately or in practice, from consideration

by the OHS authority. Furthermore, there is often inconsistent reporting of work-related deaths (eg bystander deaths due to work-related exposures are not consistently included). Finally, at least until recently, the information collected by the inspectors has not been recorded or stored in a useful, electronic format that would be amenable to analysis.

2.5.3 OTHER GOVERNMENT AGENCIES

There are also some government agencies which investigate work-related traumatic deaths as part of a broader coverage of fatal incidents. These include the Bureau of Air Safety and electricity authorities. The relevant fatal incidents may or may not be covered by one of the other agencies mentioned above. Again, the experience of WRFS 2 is that the reports from these agencies are usually detailed. The availability of a list of relevant deaths varies, depending on the agency. Reports from these agencies are often in the relevant coronial files.

2.5.4 POLICE SERVICES

The police are responsible for collecting most of the basic facts about fatal incidents, including those related to work. This information is recorded in an initial notification to the Coroner, the main police summary, witness statements and other police reports. This information is usually not directly publicly available. However, it forms the main part of the coronial file.

2.5.5 THE PRESS

The press often report fatal work-related incidents, but this area has not been the subject of much study in Australia. The only detailed consideration of the coverage of work-related fatalities by the press (based on the same four-year period as that used for the current study) showed a lack of consistency in the type and depth of coverage; and problems with under-counting, particularly for some specific incident types such as

work-related deaths on the road⁷⁵. About one fifth of the true number of work-related deaths was estimated to have been identified through the clipping service. The characteristics of the fatal incidents that were identified indicated that the sample was not a true random sample of all such deaths⁷⁵.

2.5.6 THE CORONIAL SYSTEM

Apart from information from other sources that is included in the coronial file, most of the information about injuries sustained by the deceased and relevant toxicology tests is provided from post mortems conducted by government pathologists within the coronial system. The Coroner can also request specialist reports on specific areas. At the end of the coronial proceedings, the Coroner is responsible for providing a formal finding in each case. These findings vary in their quality and detail, sometimes being a simple statement of who died, when and where they died, and the pathological cause of death. However, the findings sometimes include a detailed summary of the circumstances surrounding the fatal incident. Along with the findings, formal recommendations are sometimes made by the Coroner²⁰⁷. It should be noted that a Coroner's finding, or other information in the coronial record, may or may not identify a death as work-related. However, it is a source of information regarding the circumstances of death that has the potential to be used to identify work-related deaths.

The only comprehensive information regarding work-related traumatic deaths in Australia comes from a NOHSC study conducted by Dr James Harrison and Dr Michael Frommer. The study was based on coronial records and covered the three-year period 1982 to 1984 inclusive. The study commenced in 1986, first reported in 1989 and produced numerous papers in the 1990s, covering specific occupations, industries, hazards, personal factors and other areas (see Appendix 1). Smaller studies have considered work-related deaths identified in the Victorian Coroner's system²⁰⁸⁻²¹⁰.

In summary, of the available individual sources of OHS information, the coronial system is the preferred source because it is the only one that can be expected to have complete, or virtually complete, coverage of work-related traumatic deaths. This is important for surveillance and reporting purposes, as well as to allow detailed understanding of the circumstances leading to work-related deaths and to identify causal factors. In addition, much of the information from the other sources mentioned above forms part of the coronial investigation process and is likely to be included in the coronial files.

2.6 WORK-RELATED FATALITIES IN AUSTRALIA AND OTHER COUNTRIES

Work-related fatalities are a high profile issue in many countries, both developed and developing^{211, 212}. Countries and regions for which one or more detailed studies or review articles addressing work-related fatalities have been published include Australia⁴, Brazil²¹³, Canada^{80, 214-216}, China²¹⁷, Europe²¹⁸, Finland²¹⁹, Iceland¹¹³, Italy¹⁹⁹, Jordan²²⁰, Kuwait⁹⁰, New Zealand⁶⁶⁻⁶⁸, Nigeria¹⁷⁹, Scandinavia²²¹, South Africa^{222, 223}, Sweden¹¹², Taiwan¹⁴⁸, the United Kingdom⁶¹, and the United States^{52, 224-230}.

Comparisons between studies or countries of rates and types of fatal work-related injuries have many potential pitfalls. These arise because of differences in the definitions of work-relatedness, and differences in the inclusion and exclusion criteria, which may be based on age, sex, occupation, industry, employment arrangement or incident type^{211, 231, 232}. Even when the definitions and criteria are apparently similar, appropriate comparisons should be undertaken on a strata-specific basis, using industry, occupation and/or age, or using overall results adjusted for differences in these potential

confounders. A recent example of a comparison that attempted to take account of the factors compared fatalities in Australia (using results from the current study), New Zealand and the United States²³². Other studies have compared New Zealand with other countries²³³; the United States and Australia⁷ (using results from the first work-related fatalities study⁴), and Great Britain to Europe and the United States²³⁴. Other papers have compared results between countries as part of analyses that focussed on specific industries, occupations or factors^{10, 11, 27, 235}.

The ultimate aim of the study of work-related fatalities is to prevent their occurrence. General surveillance makes an important contribution to this by providing an understanding of the frequency and rate of such deaths; changes in these parameters over time; and differences between different regions, industries, occupations or countries. All of these may provide evidence of approaches to prevention that are apparently successful or not successful. However, the design of appropriate interventions requires a thorough understanding of the circumstances surrounding fatal incidents, looking for common patterns that might be amenable to preventative interventions. Such an understanding usually only comes from a detailed study of a well circumscribed area, focussing on areas such as a particular industry, occupation, mechanism, agency or personal characteristic. There have been many examples of studies that have focussed on such areas. As mentioned earlier, a thorough review of all these papers is beyond the scope of this Chapter, but relevant references are cited where appropriate in subsequent Chapters. A recent Australian example of the use of coronial information for prevention activity is an innovative collaborative project between the Victorian Coroner's Office, the University of Ballarat and WorkCover Victoria (the State government OHS agency), which targeted three areas of fatal injuries on the basis of the relatively high number of deaths, clear contributing factors, apparent scope for

preventive action and lack of current study. The project initially focussed on tree felling, hydraulics and falls from heights involving trucks. After review of relevant coronial data, the three main involved parties worked with relevant worker and industry groups to try to identify the main issues and develop appropriate intervention strategies²⁰⁸. A similar example of multi-agency cooperation in Alaska has recently been reported²³⁶.

2.7 CONCLUSION

Work-related fatal incidents can provide important information that can be used to plan, implement and monitor prevention activities. However, there is no on-going source of information on work-related fatalities in Australia, and no comprehensive source of available information on such deaths that have occurred since 1984. There are many potential sources of such information, but the Coroners' system is likely to be the most comprehensive and to provide the best coverage in most developed countries, and this is certainly the case in Australia.