Technical Reports

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National Library of Australia Cataloguing-in-Publication

Dickson, Tracey J.
International visitor safety.

Bibliography.

1. Tourism – Australia – Safety measures. I. Hurrell, Margot. II. Cooperative Research Centre for Sustainable Tourism. III. Title.

338.479194

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Acknowledgements

The Sustainable Tourism Cooperative Research Centre, an Australian government initiative, funded this research.

Special thanks go to Ms Jayne Jennings, Manager, Industry Development Unit, Tourism Queensland and Professor Jeff Wilks, Centre for Tourism and Risk Management, The University of Queensland for their assistance with this project.
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SUMMARY

Objectives of Study

The National Visitor Safety Program (NVSP) seeks to undertake timely and effective initiatives to ensure international visitors have a safe and enjoyable stay in Australia. To this end ready access to current data and information on visitor injuries and fatalities is critical. To assist in the process and to build upon previous research this study was initiated to work towards developing a system for gathering timely data related to the safety of international visitors. The initial focus of this study was to obtain a range of information for the NVSP. The desired information included:

- Number of international visitor injuries and fatalities;
- Causes of deaths and hospital admissions (types of admissions);
- Number of international visitors involved in security incidents (personal, property) and the nature of these incidents;
- Frequency of incidents/accidents;
- Location of incidents/accidents;
- Visitors most at risk (age, gender, origin), i.e. demographics of visitors involved in accidents/fatalities/incidents; and
- Analysis of results to ascertain frequency of incidents, cause of accidents/fatalities, markets most at risk.

Currently the data relating to the safety of international visitors to Australia is limited to two research reports (Wilks, Pendergast & Wood 2002; Wilks & Coory 2002) that provide a snapshot of injuries and deaths, but with no systematic or longitudinal data collection or reporting.

While the initial aim of this project was to identify strategies to access and compile data, with the diversity of data identified during the project, the aims were revised to take into account that at this stage the data required by the NVSP are not currently available nationally. Thus the aims were narrowed to identifying what data was available and to begin to evaluate what the next strategies would be. This refocus was due to the following key issues:

- Repeated feedback from people who are key in managing many of the accident, injury and hospital databases: international visitors are not accurately or consistently coded in most of the databases;
- The duplication of some data across databases;
- Timeliness of the release of data; and
- Issues of gaining access to some data due to ethical considerations, privacy, and private ownership.

Key Findings

The key issues identified in the study are as follows:

- Inadequate identification of international tourists. The biggest problem is that international visitors are often not coded on most databases. In addition to this there may be questions as to the validity, accuracy and consistency of coding. Queensland Trauma Registry (QTR) has committed substantial resources to ensure that their data is accurately coded which may be a model for future consideration.
- Data duplication:
  - There is a high probability of data duplication from a range of sources e.g. a fatality in the workplace (such as a death on a commercial rafting trip) may appear in the NCIS database as well as the Department of Industrial Relations data and even the Queensland Hospitals Admitted Patient Data Collection (QHAPDC) and Queensland Injury Surveillance Unit (QISU) if they were admitted via an emergency department.
  - QISU, QHAPDC and QTR may have duplicate data.
- Some reports rely on the media for some of their data, such as Royal Life Saving Society Australia (RLSSA).
- Diving fatalities that result from dive charter or tourist charter operations. These frequently involve overseas visitors, but they are not marine incidents, by the national definition and do not appear in the Maritime Safety database.
- Without access to the Department of Industrial Relations (DIR) Workplace injuries database we miss injuries and accidents sustained on adventure travel participants (other than diving or snorkeling).
- Dated data: the latest data the Australian Transport Safety Bureau (ATSB) can provide is for the year 2000. This delay is because the data comes from the police and the coroners’ offices, and the full year’s data takes time to obtain. National Occupational Health and Safety Commission (NOHSC) latest year is 2000-01.
These issues are not unique to Queensland. Early in 2005, the Monash University Accident Research Centre organised a workshop of the main stakeholders in injury data collection in Victoria, key interstate authorities and researchers to discuss the future of hospital admission, Emergency Department injury surveillance in Victoria, and ways in which this function could be enhanced. Discussions from this workshop identified possible future developments including automating the coding of Emergency Department narratives and the potential for data linkage between health sector datasets with relevant datasets from other sectors. Limitations of the current Victorian injury surveillance system were identified. These included:

- Timeliness of data;
- Poor coding of activity, location and alcohol codes; and
- Lack of exposure data, data from non-hospital primary care practitioners and data on long-term outcomes of non-fatal injury.

**Future Action**

Prior to the NVSP moving forward to achieve a timely, effective and accurate method of monitoring visitor safety at both a national and state level, it will be essential to:

- Investigate the impact of safety issues on travel decisions – this may have an impact upon the resourcing and future actions regarding visitor safety;
- Evaluate the consistency and accuracy of data coding for overseas visitors;
- Identify and implement strategies to ensure accuracy of data;
- Identify and implement strategies to manage data duplication;
- Gain commitment and coordination across public and private owners of data. This would require involvement of both state and national government departments, such as health, police, maritime/waterways, transport, land managers, and work cover; and
- Identify and implement strategies to facilitate injury data collection and access, and collation of participation figures across tourism operators, resource managers, and other key stakeholders.
Chapter 1

INTRODUCTION

The National Visitor Safety Program (NVSP) seeks to undertake timely and effective initiatives to ensure international visitors have a safe and enjoyable stay in Australia. To this end ready access to current data and information on visitor injuries and fatalities is critical.

The Sustainable Tourism CRC was approached to conduct a study to identify the data required, data sources, a system for collating data nationally and data analysis to achieve a national and state-based understanding of the international visitor fatalities and injuries.

NVSP Information Requirements

The creation of individual ‘snapshots’ of visitor incidents requires an onerous process of data collection, which has to be repeated when more timely information is needed. The NVSP Working Group is interested in exploring opportunities for the ongoing provision of data, where the data is readily available for use by the Working Group and repeated costs of snapshots avoided.

The information sought by the NVSP Working Group includes:

- Number of international visitor injuries and fatalities;
- Causes of deaths and hospital admissions (types of admissions);
- Number of international visitors involved in security incidents (personal, property) and the nature of these incidents;
- Frequency of incidents/accidents;
- Location of incidents/accidents;
- Visitors most at risk (age, gender, origin), i.e. demographics of visitors involved in accidents/fatalities/incidents; and
- Analysis of results to ascertain frequency of incidents, cause of accidents/fatalities, markets most at risk.

The Working Group is seeking the ability to access annual trend data, as required, and to provide results nationally, as well as for individual states.
Chapter 2

BACKGROUND

Currently, information on international visitor deaths and injuries is limited to the following two published research reports:

- Commentary: Overseas Visitor Deaths in Australia 1997-2000 (Wilks et al. 2002). This report provides a snapshot of the main causes of international visitor deaths occurring between 1997 and 2000. This report drew upon Australian Bureau of Statistics (ABS) data from the Medical Certificate of Cause of Death provided by each State or Territory Registrar.
- Overseas Visitor Injuries in Queensland Hospitals 1996-2000 (Wilks & Coory 2002). This report analyses hospital admissions data to ascertain the type of accidents according to visitor markets. Admissions data was collected from the Queensland Hospitals Admitted Patient Data Collection (QHAPDC).

Further data collection on deaths of international visitors was undertaken by Wilks, as well as some previous work on transport related injuries, though there are no plans to provide a more recent snapshot.

The NVSP was established in 2001 by Tourism Queensland with a Working Group being established as a sub-committee of the Australian Standing Committee on Tourism (ASCOT) to manage the NVSP. The Working Group comprises representatives from the State/Territory Tourism Organisations, Tourism Australia and the Commonwealth Department of Industry, Tourism and Resources. The purpose of the NVSP is to improve the safety of international visitors to Australia and thus reduce injuries and fatalities amongst visitors. Based on available research and anecdotal evidence at the time on the key safety risks confronting visitors to Australia, the program addresses beach, road, bush and outback issues. The Working Group undertakes initiatives cooperatively and at a state level.

The Working Group recently reviewed the program activities and identified the importance of timely, accurate information on visitor injuries and fatalities to inform the program’s initiatives. As existing markets change and others emerge, the NVSP is reliant upon updated information to inform decisions on appropriate initiatives. Additionally, timely data on visitor incidents is needed to effectively respond to media and ensure media statements are based on accurate information. Australia’s reputation as a safe tourism destination is dependent on our ability to support assertions and counter negative statements with fact.

The NVSP has used Wilks et al. (2002) data on visitor incidents to identify target markets and inform communications materials produced. There is no program or system in place to enable the tourism industry to access current data on visitor accidents on an ongoing basis or, as a minimum, to at least provide an up to date snapshot.

Suggested Information Available for Study

The effectiveness of a national data collation and management system is dependent upon the data providers having their own systems in place for automatic collection and submission. Currently, data collection by the various agencies is highly variable.

Within Queensland a number of agencies have expressed their commitment to facilitating access to data on international visitor safety incidents. These agencies were:

- Department of Emergency Services;
- Department of Transport: Queensland Crash data;
- Surf Life Saving Queensland: drowning review; and

All of the above agencies indicated their commitment for gaining the agreement of their state counterparts or their national representative agency to the provision of data.

Wilks (2005), in a briefing paper for this project, suggested that there are at least four levels of data:

1. Fatalities;
2. Serious injuries requiring inpatient hospitalisation;
3. Less serious injury treated at outpatient departments and by general medical practitioners; and
4. A range of minor injuries treated by first aid posts, pharmacies, ambulance officers, surf lifesavers and others.

To address the desire for monitoring visitor injuries and deaths, Wilks (2005) suggested two broad approaches. However as discussed later, each of these approaches have some current systemic barriers that would inhibit the accuracy of such data. Wilks’ two suggestions are:
1. The ABS to profile annual fatalities; and
2. Hospital inpatient admissions through state and territory health departments to profile serious injuries.

**Methodology**

The research for this study was conducted by building on existing sources identified in the project brief and using a combination of brainstorming and a snowball technique to develop an evolving list of contacts and data sources.
Chapter 3

INFORMATION SOURCES ACCESSED

Table 1 provides a summary of the available information sources accessed for this study. The key sources are described including additional information regarding access, timeliness and coding issues.

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<thead>
<tr>
<th>Database / Report</th>
<th>Database / Report Manager</th>
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<td>University of Queensland</td>
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<td>Yes</td>
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<td>Fatal Road Crash Database</td>
<td>Australian Transport Safety Bureau (ATSB)</td>
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<td>Centre for Accident Research &amp; Road Safety Qld</td>
<td>Yes</td>
<td>Yes</td>
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<td>Marine accidents / incidents</td>
<td>Maritime Safety Queensland</td>
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<td>Department of Industrial Relations</td>
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<td>National Coroners Information System</td>
<td>Victorian Institute of Forensic Medicine</td>
<td>Yes, $100/hr</td>
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<td>National Surf Safety Report 2005</td>
<td>SLSA</td>
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<td>Special Report</td>
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<td>Victims of Crime Report 2003/04</td>
<td>Queensland Police Service</td>
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There is a wide range of databases that gather injury, accident and fatality data. These may be maintained at state or national level and at times may have data that overlaps. The following is an overview of the key databases and data sources accessed during this study.
Queensland Health

The QHAPDC collects demographic data and clinical information on all admitted patients from both public and private hospitals and private day surgeries in Queensland. They use the international classification of diseases ICD-10 (National Centre for Classification in Health 2000). There are specific codes for overseas residents with fields available to include the country of residence.

Less than 1% of hospital admissions in Queensland over a two-year period were attributed to Overseas Visitors (0.73%, n=1369). The majority of hospitalisation separations to overseas visitors were due to external injury and poisoning. The next most frequent major conditions were circulatory disease (e.g. heart and stroke) and respiratory disease (e.g. asthma). Of the specific conditions the highest counts for hospitalisation separations to overseas visitors were for falls, followed by transport injuries and heart disease. While there were more separations for falls than for transport injuries among overseas visitors, the proportion of total transport injuries was higher for overseas visitors than was the proportion of total falls.

Limitations: This data only includes those incidents requiring hospital admission and does not include self-treatment, treatment via emergency departments, GPs, ambulances or other support services such as Surf Life Saving. While overseas visitors are identified there is no certainty of the accuracy or consistency of coding (refer to the QTR for strategies used for validation and quality assurance).

Queensland Injury Surveillance Unit

QISU is a totally independent data collection unit whose data is collected at triage when injured people present to an emergency departments for treatment of an injury. They are funded by Queensland Health and supported by the Mater Hospital. QISU currently collects data from 15 hospitals in Queensland that comprise three sample regions: metropolitan (South Brisbane); regional (Mackay and Moranbah Health Districts) and remote (Mt Isa).

Limitations: The de-identified data used by QISU only has a postcode as a residential indicator which is often where the person is staying, and not necessarily the country of origin. Reading individual incident reports may provide an indication of country of residence, but this would not be consistent, reliable or viable. QISU only collects data from a sample of hospitals in Qld.

Queensland Trauma Registry

QTR is the lead program of the Centre of National Research on Disability and Rehabilitation Medicine (CONROD) in the University of Queensland. QTR source their data from Queensland public hospitals only and record data for moderate to major trauma-related injuries (i.e. generally means an Injury Severity Score ≥ 16 using the Abbreviated Injury Scale) that result in hospital stays longer than 24 hours or death.

The public hospitals providing data to QTR are:

- Northern Zone: Mt Isa, Cairns, Townsville, Mackay
- Central Zone: Rockhampton, Redcliffe/Caboolture, Nambour, Royal Children’s, Royal Brisbane
- Southern Zone: Princess Alexandra, Ipswich, Toowoomba, Mater Children's, Gold Coast

Two of these hospitals are common between QISU data sources and QTR.

Overseas visitors are identified (overseas visitors accounted for 1.6% of 12,110 injured people in 2003) as is injury severity. Some data is collected from the other states (SA, VIC and NSW) but this is summary data only due to privacy and ethical issues. The latest data available is for 2003 (Aitken, Lang & Bellamy 2004) with 2004 data due out in February 2006.

To optimise the validity and reliability of the data, QTR use three strategies in addition to employing a Quality Assurance and Training Officer as well as a Database Manager, they are:

1. Education including biannual workshops for coders and quarterly newsletters.
2. Database validation including monthly reports of potentially invalid data and reviewing of extreme data.
3. Quality assurance checks including a manual review of data and comparisons to hospital discharge reports using injury classification codes.

Limitations: Data is only collected for moderate to major trauma resulting in stays of 24 hours or longer, no data is collected for minor trauma, short stays or from private hospitals. The time delay between the incident and the final report could prove problematic.

Queensland Transport and Australian Transport Safety Bureau

Road crash data is maintained by Queensland Transport to provide statistics for accurate and timely analysis of road safety programs and for the development of new, effective road safety initiatives.
Centre for Accident Research & Road Safety (CARRS-Q) was contracted by Queensland Transport to produce a report on international visitor involvement in road traffic crashes in Australia. This report was used in the development of the National Road Safety Action Plan for International Visitors 2004-05. The strategic objectives of the National Road Safety Action Plan for International Visitors are to:

- Reduce the number of fatal and serious injury crashes involving international visitors to Australia;
- Develop strategies and actions for improving the road safety of international visitors; and
- Complement the National Road Safety Strategy 2001-2010.

It is now planned that actions focusing on international visitors will form part of each state/territory road safety action plan rather than having a national action plan.

Limitations: It is difficult to quantify the full extent of the involvement of international visitors in road crashes in Australia. At a national level, and in most jurisdictions, the only international visitors who are specifically identified in the mass-crash databases are those involved in crashes as drivers or riders of motor vehicles. Limited information is available about other types of international road users involved in crashes, such as pedestrians and passengers (such as that now available from Queensland Transport). Unfortunately, this restricts the scope of the investigations that can be conducted. Devolving action plans for international visitors to the state/territory level may have implications for national data collection.

Maritime Safety Queensland

All marine incidents/accidents (those incidents that involve the operation of a boat) must be reported to Maritime Safety Queensland and are recorded in the Marine Incident Data Management System. The data regarding fatalities is Coroner's Deaths data accessed from the ABS. The remaining data in the Annual Marine Incident Report is sourced from state marine incident data. Maritime Safety does not have access to the detailed Coroner's data – only the aggregated fatality figures for each period. As far as their own state data is concerned they do not collect country of origin/residency for persons killed or injured in marine incidents.

Limitations: For Maritime Safety Queensland to provide information on international visitor involvement would require them to manually read each and every marine incident report received and look for some clue as to the involved person's background. This is not a small task.

Workcover Queensland

Workcover Queensland collects data on workplace healthy and safety issues, which would include tourism operators; however they do not have any publicly available databases. They recommended contacting the Australian Bureau of Statistics or NOHSC.

Limitations: Other government departments do not have access to this information, but they can make a request for access to be considered.

Australian Bureau of Statistics

Death-related information is supplied to the ABS by the State Registrars of Births, Deaths and Marriages, as well as the Coroner’s office, for each calendar year (Cat 3303.0). The ABS checks the information supplied to it and appends codes for the cause of death, the place of residence of the deceased person and numerous other variables. Each registered death is coded according to the International Classification of Diseases (ICD-10). Other variables included in the dataset include age, sex, marital status, country of birth, indigenous status, local area and area health service of residence.

Limitations: The mortality data is supplied by ABS by year of registration. Therefore, deaths occurring in the last few weeks of each calendar year (or the last few months for coronial cases) may not be registered until the subsequent year.

National Coroners Information System

The National Coroners Information System (NCIS) is a national internet based data storage and retrieval system for Australian coronial cases. Information about every death reported to an Australian coroner since July 2000 (January 2001 for Queensland) is stored within the system, providing a valuable hazard identification and death prevention tool for coroners and research agencies.

Deaths that are sudden and unexpected, and most deaths due to external causes, are subject to coronial enquiry and a coroner certifies the death certificate.
Approved research and government agencies also utilise the NCIS to obtain valuable information concerning the circumstances of reported fatalities, to assist in the development of community health and safety strategies. The NCIS contains data fields (both free text and coded) and full text reports.

Limitations: Access to this data is at a cost of over $3,000. Given that this data is the result of coronial inquiries, there will be a delay, sometimes years, between the fatality and the data being available.

Surf Life Saving Australia and Surf Life Saving Queensland

The Surf Life Saving National Database, otherwise know as the Incident Report Database (IRD) is a privately built database that all clubs input into which reports on coastal incidents within the vicinity of a patrol. There is no specific funding for this database which is self funded through a number of sponsors, grants etc. They release statistics in a Surf Safety Report annually (latest release on 1 December). The information comes from a combination of the IRD and cross-checked to the NCIS.

For 2004/05, 57 people drowned of which 11% (n=6) were from overseas. This was up from 2003/04 when 40 people drowned of which 9% (n=2) were from overseas.

Surf Life Saving Queensland has said they can make available the data they collect in Queensland, which is then transferred to Surf Life Saving Australia (SLSA), and includes:
- Nationality (country);
- Age;
- Sex; and
- Activity of time of drowning (e.g. swimming, wading, surf board riding, rock fishing, etc).

Limitations: SLSA reported that they do not allow access to the database by any outside organisations due to privacy issues. Executive members of SLSA can access more in-depth data, where it is recorded, i.e. nationality, age, gender, activity at time of drowning (e.g. swimming, surfboard riding). However, it was reported that this data is not always recorded – as the priority is saving lives not recording data. Permission would need to be obtained from the National SLSA (Sydney) to investigate whether this can then be published because of the abovementioned privacy issues.

Australian Institute of Health and Welfare

Australia’s national agency for health and welfare statistics and a major contributor to National Data Network (NDN).

Limitations: There is very little information collected in the national Hospital Morbidity Database specifically for ‘overseas visitors’ however two pieces of information/data may be relevant in the Australian Hospital Statistics:
- In Table 7.7 the category ‘Not elsewhere classified’ includes ‘resident overseas’, however this category also includes ‘resident at sea’ and ‘no fixed address’ and may have been allocated to patients whose residence state was unknown. Therefore the figure for ‘Not elsewhere classified’ is likely to overestimate overseas visitors.
- The ‘funding source’ which is presented in Tables 7.2 to 7.6. For overseas visitors who are covered by a reciprocal health care agreement and elect to be treated as public patients, the funding source should be recorded as ‘Reciprocal health care agreements’. This is only used for visitors from the United Kingdom, the Republic of Ireland, the Netherlands, Malta, Italy, Sweden, Finland and New Zealand. For overseas visitors with travel insurance the funding source would be ‘Other’. Of course, the ‘Other’ category will also include any Australian resident patients whose funding source does not fall into one of the main categories

The data also includes country of birth for each patient, however many Australian residents were born overseas.

Royal Australian College of General Practitioners

The Australian General Practice Statistics and Classification Centre (AGPSCC) is conducting a national program of continuous data collection in general practice. The program is called Bettering the Evaluation and Care of Health (BEACH). It was launched in March 1998 by the then Minister for Health and Family Services, Dr Michael Wooldridge and began data collection in April 1998. The BEACH project is a continuous collection of morbidity and treatment data from general practice across Australia which aims to provide a quality database covering general practice activities. Each year a random sample of 1,000 recognised general practitioners each record details of 100 consecutive consultations generating an annual database of 100,000 doctor-patient encounters.
Limitations: The identity of International visitors was not specifically recorded on their database, they kept postcodes but it is probable that these people would just give the postcode of their temporary accommodation in Australia rather than their country of residence.

**National Occupational Health and Safety Commission**

The Australian Occupational Health and Safety Research Database gathers together information on OHS research from around Australia. This database may be searched or browsed.

*Limitations:* There are only 82 projects in the database at present. None relate to International Visitor Safety.

**Royal Life Saving Society Australia**

Royal Life Saving Society Australia (RLSSA) does not maintain a database but they do produce *The National Drowning Report* which reports drownings in inland waterways and swimming pools. The report is available on their website.

*Limitations:* The RLSSA appear to take their statistics from ABS and Coroners’ Reports. In the past they have collected some information on whether people were international tourists or not but the data was too unreliable and could not be used.

**Queensland Emergency Services: Fire Department**

This department does not keep records of any rescues of people (either injuries or fatalities) but they are aware of the need for this information.

*Limitations:* No data collected

**Activity Specific or Location Specific Information**

**Diving and Snorkelling**

Workplace statistics on diving show 58 deaths in the last eight years of which 47 were heart attacks. There are no visitation numbers. A report on recreational diving incidents from 1998-2005 does not specifically identify international visitors. Dave Windsor conducted a study in 1996 funded by Great Barrier Reef Marine Park Authority.

Dive Queensland together with Tourism Queensland, The Association of Marine Park Tourism Operators and The Department of Industrial Relations (Qld) are developing a research proposal which will seek to establish a dive and snorkelling industry demographic and participation profile. This, however, will not be looking at safety.

*Limitations:* There is inconsistent gathering of data with some data being accessed via NCIS and ABS.

**Irukandji Jellyfish Task Force**

The task force tracks irukandji jellyfish related incidents. Two deaths were recorded in Queensland in 2003/04.

*Limitations:* Narrow agenda

**Queensland Parks and Wildlife Service**

*Limitations:* QPWS does not keep any records of incidents.

**Tropical North Queensland**

*Limitations:* There are no useful accident/incident statistics known for north Queensland tourism operators.

**Other States’ Information Sources**

**New South Wales**

- Injury Risk Management Research Centre (Uni NSW)
- Hospital separations: The Inpatient Statistics Collection (ISC)
- Traffic Accident Data Systems (TADS): Provided on a yearly basis by the NSW Roads and Traffic Authority and includes all traffic accidents, recorded by the police, in which a person was killed or injured or at least one motor vehicle was towed away.
• **Motor Accidents Authority datasets:** The Motor Accidents Authority datasets originate from the Third Party personal injury insurance scheme for motor vehicles registered in NSW.

**Victoria**


• **Victorian Workcover Authority:** Statistical Summary Report 2004/05 provides details of claims lodged from September 1985 to June 2005.
Chapter 4

KEY ISSUES

The key issues identified in this study are:

- Inadequate identification of International Tourists. The biggest problem is that International Visitors are often not coded on most databases. In addition to this there may be questions as to the validity, accuracy and consistency of coding. QTR have committed substantial resources to ensure that their data I accurately coded which may be a model for future consideration.

- Data duplication:
  - There is a high probability of data duplication from a range of sources e.g. a fatality in workplace (such as a death on a commercial rafting trip) may appear in the NCIS database as well as the Department of Industrial Relations data and even the QHAPDC and QISU if they were admitted via an emergency department
  - QISU, QHAPDC and QTR may have duplicate data.

- Some reports rely on the media for some of their data, such as RLSSA.

- Diving fatalities that result from dive charter or tourist charter operations. These frequently involve overseas visitors, but they are not marine incidents, by the national definition and do not appear in the Maritime Safety database.

- Without access to the DIR Workplace injuries database we miss injuries and accidents sustained on adventure travel participants (other than diving or snorkeling).

- Dated data: the latest data for which the Australian Transport Safety Bureau can provide these is the year 2000. This delay is because the data comes from the Police and the coroners’ offices, and the full year's data takes time to obtain. NOHS latest year is 2000/01.

These issues are not unique to Queensland. Early in 2005, the Monash University Accident Research Centre convened a workshop to discuss the future of hospital admission and Emergency Department injury surveillance in Victoria and ways in which this function could be enhanced. The workshop brought together the main stakeholders in injury data collection in Victoria and key interstate authorities and researchers. The informal workshop sessions included presentations on injury surveillance in Victoria (current status, applications and dissemination), the injury data needs of government agencies and the possibilities for value-adding to injury data (potential advances and future directions). Discussion in these sessions identified some possible future developments including automating the coding of Emergency Department narratives and the potential for data linkage between health sector datasets and with relevant datasets from other sectors.

Limitations of the current Victorian injury surveillance system were identified. These included:

- Problems with the timeliness of data for identifying emerging issues, policy relevance and case identification for research purposes;
- Poor coding of activity, location and alcohol codes, inability to identify consumer products and high usage of ‘garbage’ codes in ICD10-AM coded hospital admissions data; and
- Lack of exposure data, data from non-hospital primary care practitioners and data on long-term outcomes of non-fatal injury.

At this stage the available data that would contribute to the information sought by the NVSP is as follows:

1. **Number of international visitor injuries and fatalities**

   **Data Available:**
   - Queensland Hospital Admitted Patient Data Collections
   - Queensland Injury Surveillance Unit
   - Queensland Trauma Registry
   - National Coroners Information System
   - Fatal Road Crash Database
   - Victims of Crime

   **Future Direction:**
   - Ensuring accuracy and consistency of coding of usually country of residence
   - Avoiding duplication
• Accessing data from other source such as GPs, Ambulance, Surf Life Saving, Workcover
• Investigate access to other state, territory and national data

2. Causes of deaths and hospital admissions (types of admissions)

Data Available:
• Queensland Hospital Admitted Patient Data Collections
• National Coroners Information System

Future Direction:
• Ensuring timely data
• Investigate access to other state, territory and national data

3. Number of international visitors involved in security incidents (personal, property) and the nature of these incidents

Data Available:
• Victims of Crime by Tourist Type Reports (ad hoc)

Future Direction:
• Cleaning up data to ensure that numbers of victims can be identified, not number of offences
• Investigate access to other state, territory and national data

4. Frequency of incidents/accidents

Data Available:
• Queensland Hospital Admitted Patient Data Collections
• Queensland Injury Surveillance Unit

Future Direction:
• Obtain participation numbers for specific activities such as diving, 4WD, abseiling

5. Location of incidents/accidents

Data Available:
• Queensland Hospital Admitted Patient Data Collections
• Queensland Injury Surveillance Unit
• Victims of Crime by Tourist Type Report (ad hoc)

Future Direction:
• More accurate data collection of locations/activities

6. Visitors most at risk (age, gender, origin), i.e. demographics of visitors involved in accidents/fatalities/incidents

Data Available:
• Queensland Hospital Admitted Patient Data Collections
• Queensland Injury Surveillance Unit
• Victims of Crime by Tourist Type Reports (ad hoc)

Future Direction:
• More accurate collection of country of residence information
7. **Analysis of results to ascertain frequency of incidents, cause of accidents/fatalities, markets most at risk**

*Data Available:*
- No accurate data available

*Future Direction:*
- Develop more accurate methods for obtaining relevant participation and visitor numbers
Chapter 5

DISCUSSION AND RECOMMENDATIONS

In the current climate, it is not an option to obtain the following information in a coordinated, timely and accurate manner. It is essential for additional work to be done at a state and national level prior to being able to move toward the NVSP’s aims:

- Number of international visitor injuries and fatalities;
- Causes of deaths and hospital admissions (types of admissions);
- Number of international visitors involved in security incidents (personal, property) and the nature of these incidents;
- Frequency of incidents/accidents;
- Location of incidents/accidents;
- Visitors most at risk (age, gender, origin), i.e. demographics of visitors involved in accidents/fatalities/incidents; and
- Analysis of results so can ascertain frequency of incidents, cause of accidents/fatalities, markets most at risk.

National Strategies

Though this study focused on Queensland data sources, the following recommendations for further work highlight the need to explore other Australian data sources, investigating other organisations conducting similar projects as well as exploring viable models from overseas to ensure that an accurate national picture is obtained which would provide a clear direction forward for a National Visitor Safety Agenda:

- Investigate comparable visitor injury data sources from other Australian states and territories.
- Investigate if comparable studies exist in other countries such as New Zealand, Scotland and Canada (c.f. Bentley & Page et. al’s work) to explore:
  - Lessons learned and insights gained from similar studies
  - How data collection has been able to influence tourists’ intentions to travel
  - Policies that support effective data collection and collation.
- Research what, if any, impact that visitor safety is having upon intentions to travel to Australia.
- Research what are the major causes of concern over visitor safety in Australia, e.g. terrorism and security, crime, political unrest, racism, disease and health issues (e.g. SARS, HIV, Bird Flu) and dangerous animals (c.f. Lepp & Gibson 2003; Sonmez & Graefe 1998).
- Research if there are any positive impacts upon travel intentions based upon safety issues, such as anecdotal evidence of increases in tourism following crocodile attacks.

Queensland Strategies

At the Queensland state level there are several steps that can be taken immediately that would assist in ensuring valid, accurate and timely state data. In seeking to achieve valid, accurate and timely data it is worth recalling the resources committed by the QTR to achieve this for a pool of just 15 hospitals: the appointment of at least two people in addition to ongoing education, training and information of coders. These strategies focus on the key areas of:

- Accurate and valid data;
- Complete data;
- Timely data; and
- Comparative participation figures.

1. Communication and coordination between key data collection organisations (e.g. QTR, QH and QISU) to evaluate current data entry practices and to identify and implement strategies to resolve any issues related to data accuracy, data duplication, timeliness of data availability as well as addressing other issues such as:
   - QTR: Gaining access to data from other public hospitals as well as private hospitals.
   - QH and the QHAPDC: Ensuring the accuracy, validity and consistency of coding for international visitors.
2. Bringing together key outdoor and tourism stakeholders to develop an integrated industry wide participation and injury data collection strategy that targets key activity areas such as diving, snorkelling, 4WD, climbing, abseiling, base jumping, mountain biking, rafting, skydiving, sea kayaking and horse riding. For this to be effective substantial resources may be required. Stakeholders could include operators, resource managers, industry associations, government departments, accommodation providers and emergency response organisations, e.g.:
   o Association of Marine Park Tourism Operators
   o Australian Parachute Federation
   o Department of Emergency Services
   o Dive Queensland – the Queensland Dive Tourism Association
   o Maritime Safety Queensland
   o Outdoors Queensland
   o Queensland Ambulance Service
   o Queensland Parks and Wildlife Service
   o Sport and Recreation Queensland
   o Surf Life Saving Queensland
   o Tourism Queensland
   o Workcover Queensland.

3. Working with the Queensland Police Service to generate a regular report of the numbers of overseas visitors who are victims of crimes, not just the number of incidents.

4. Working with resource managers such as Queensland Parks and Wildlife Service and the Great Barrier Reef Marine Park Authority (GBRMPA) to develop a participation and injury data collection strategies.

5. Exploring a state level agreement with the National Coroner’s Information System for regular reporting of relevant deaths.
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Queensland Transport - Road Safety http://www.roadsafety.qld.gov.au
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The Sustainable Tourism Cooperative Research Centre (STCRC) is established under the Australian Government’s Cooperative Research Centres Program. STCRC is the world’s leading scientific institution delivering research to support the sustainability of travel and tourism - one of the world’s largest and fastest growing industries.

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- **Sustainable Enterprises**: Enterprises that adhere to best practices, innovate, and harness the latest technologies will be more likely to prosper.

- **Sustainable Destinations**: Infrastructural, economic, social and environmental aspects of tourism development are examined simultaneously.

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