



Data Report: DR16-05

NATIONAL CORONIAL INFORMATION SYSTEM

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**Mains Water Scalding Fatalities in Australia
2001 - 2013**

PURPOSE

The purpose of this report is to provide information about deaths reported to an Australian State or Territory Coroner between 1/01/2001 and 31/12/2013, where the deceased died as a result of scalding caused by water sourced from a mains water supply tap.

Only cases where the coronial investigation had concluded and are closed on the NCIS are included.

INTENDED USE OF DATA

The data in this report is provided by the NCIS for the purpose requested by Jonathon Vaughan, Project Officer of the Australian Building Codes Board. The data contained here is approved for use to develop and inform a Regulation Impact Statement which assesses the need to alter building requirements in relation to mains supply water temperature controls.

As a result, the data may be published in the public domain.

NCIS DISCLAIMER

This dataset does not claim to be representative of all relevant cases within the time period specified. This may be due to; cases still under coronial investigation, missing data, occasional processing and coding errors. The Department of Justice & Regulation accepts no liability for any loss or damage that may arise from any use of or reliance on the data.

Any data provided is for the stated use of the requesting client only. A copy of this data report must not be published, placed in the public domain, or distributed to any external parties without first obtaining permission from the National Coronial Information System (NCIS). Any data used from this report must be cited as originating from the NCIS.

The data entered into the NCIS is collected from source material such as the police report of death, autopsy reports, toxicology reports and coronial findings from nine jurisdictions. It is acknowledged that quality and consistency of these documents may vary between and within each jurisdiction. There are also differences between jurisdictions as to legislation governing the reporting of a death to a coroner, which can impact on the type, quality and quantity of the information collected and reported by each jurisdiction. These differences will have an impact on the information available in the NCIS. It should also be noted the NCIS is the result of an administrative data set and data collection is the result of operational processes which differ between jurisdictions. Contributing data to the NCIS is not the primary purpose of the operational processes which can result in data limitations.

METHOD

Data Source

The data presented in this report was obtained by conducting a search of the National Coronial Information System (NCIS). The NCIS is an electronic database of coronial information containing case details from the coronial files of all Australian states and territories, except Queensland, dating back to 1st July 2000. Queensland data is contained from 1st January 2001. New Zealand data is available for deaths reported from 1st July 2007.

Case Identification

The Query Design Search Screen was used to identify cases of relevance. The method of case identification involved searching for cases where:

- **Date notified** = Between 01/01/2001 and 31/12/2013
 - **Case status** = Closed
 - **Jurisdiction** = All Australian States and Territories
 - **Object** = Hot Object/Substance NEC / Hot Liquid
- OR**
- **Object** = Thermal Mechanism / Heating / Contact with Hot Liquid, Steam, Other Hot Gas

The search was conducted on 12/02/2016.

Data Analysis

A manual review of the coding of all cases in the dataset was undertaken in order to confirm that the cases were of relevance. Duplicates were identified and subsequently removed.

The attached documentation (coronial findings, autopsy, toxicology and police report) of each case was reviewed to determine the temperature of the tap water, whether the tap had a temperature control device installed, and whether the deceased had a disability that contributed or potentially contributed to the death.

Cases were excluded where the hot water causing injury was not sourced from the mains water supply. This includes cases where cold water was heated by an external device, such as a kettle. Cases were also excluded where the scalding was not considered to have contributed to the death, or where the scalding was identified as occurring after death.

LIMITATIONS OF DATA SOURCE

Coded fields are not completed until the closure of a case and the extent of information contained in the attached text reports may vary. There are several other factors which may have influenced the number of cases identified within this dataset, these are outlined below. Given these factors, there is a possibility of under-reporting.

Availability of documentation within NCIS database

The level of attachment of documentation varies within the NCIS database according to the reporting jurisdiction.

Coronial findings in relation to non-inquest cases may not contain details about the circumstances surrounding death. While best efforts are made to obtain reports for all cases on the NCIS (where relevant investigations are conducted), the proportion of report attachment varies across jurisdictions. This variation has the potential to impact the accurate identification of relevant cases via keyword searching of documents on the NCIS.

For more information about document attachment, please refer to the NCIS Website

[\(http://www.ncis.org.au/data-collection-2/operational-statistics/\)](http://www.ncis.org.au/data-collection-2/operational-statistics/).

Reportable Deaths in Australian Coronial Jurisdictions

All Australian state and territory coroners investigate death in accordance with their respective Coroners Act. The definition of a 'reportable death' may vary between jurisdictions and therefore it is not always possible to compare frequencies of certain types of deaths between jurisdictions.

The NCIS Unit has created a comparison table to assist in the accurate interpretation of mortality data: http://www.ncis.org.au/wp-content/uploads/2015/12/NCIS-Reportable-Death_Jurisdictional-Comparison_FINAL_December-20152.xlsx

Only Closed Cases Included

Only cases that are closed on the NCIS following coronial investigation are included in this dataset. Therefore it is possible cases of relevance may still be under coronial investigation and not included in this report.

Quality Assessment of Closed Cases

The NCIS Unit conducts a quality assessment of the coding associated with cases that have been closed. While every effort is made to quality review closed cases in a timely manner, there may be a delay between the case being closed and the completion of the quality review. It cannot be guaranteed that all cases included in this report have been quality assessed.

Intent Classification

The determination of the 'intent' of a deceased person is subject to the individual determination of the Coroner investigating each fatality. In some cases, a statement as to intent will not be made by the Coroner. In these instances, only where the mechanism of death (e.g. hanging, car exhaust gassing) is highly indicative of an intentional act, or where a suicide note was present, will the death be coded as "Intentional Self-Harm" on the NCIS. The non-standard nature of intent determination may influence the classification of deaths which are identified in this report.

RESULTS

There were **fifty nine (59)** deaths identified with the date of notification between 01/01/2001 and 31/12/2013 that were reported to an Australian State or Territory Coroner where the deceased died as a result of scalding caused by water sourced from a mains water supply tap.

All deaths reported were closed cases where coronial investigation has been formally concluded.

Dashes (-) indicate that no deaths occurred. Figures are rounded to one decimal place.

From 2001 to 2013, there was an average of **four (4.5)** deaths of relevance reported per calendar year.

Table 1: Mains Water Scalding Fatalities by Year of Notification

Year of Notification	Frequency	Percentage [%]
2001	3	5.1
2002	6	10.2
2003	11	18.6
2004	9	15.3
2005	4	6.8
2006	4	6.8
2007	2	3.4
2008	5	8.5
2009	7	11.9
2010	-	-
2011	2	3.4
2012	4	6.8
2013 [^]	2	3.4
Total	59	100

[^] – May be an underestimate in the number of cases due to the proportion of open cases remaining for this year of data. As of 03/12/2015, **79.4%** of all 2013 Australian coronial cases on the NCIS have been closed. Excluding Victoria, **93.3%** of all 2013 Australian coronial cases on the NCIS have been closed.

For more detailed information, such as a jurisdictional disaggregation, see:

[\(http://www.ncis.org.au/data-collection-2/operational-statistics/\)](http://www.ncis.org.au/data-collection-2/operational-statistics/)

Table 2: Mains Water Scalding Fatalities by Jurisdiction of Reporting

Jurisdiction	Frequency	Percentage [%]
New South Wales	25	42.4
Victoria	17	28.8
Queensland	7	11.9
Tasmania	4	6.8
South Australia	5	8.5
Western Australia	1	1.7
Northern Territory	-	-
Australian Capital Territory	-	-
Total	59	100

Table 3: Mains Water Scalding Fatalities by Sex of the Deceased

Sex	Frequency	Percentage [%]
Male	29	49.2
Female	30	50.8
Total	59	100

Table 4: Mains Water Scalding Fatalities by Age Range of the Deceased

Age Range [Years]	Frequency	Percentage [%]
0 - 10	1	1.7
11 - 20	1	1.7
21 - 30	1	1.7
31 - 40	1	1.7
41 - 50	7	11.9
51 - 60	6	10.2
61 - 70	6	10.2
71 - 80	10	16.9
81 - 90	20	33.9
91 - 100	6	10.2
Total	59	100

Table 5: Mains Water Scalding Fatalities by Drug or Alcohol Contribution

Contribution Status	Frequency	Percentage [%]
No	54	84.7
Yes	9	15.3
Total	59	100

Table 6: Mains Water Scalding Fatalities by Disability Status

Disability Status	Frequency	Percentage [%]
No	30	50.8
Yes*	21	35.6
Unknown	8	13.6
Total	59	100

* – Disabilities most often identified involved an altered mental status or level of consciousness, such as dementia, diabetes, and epilepsy. Disabilities were only able to be included where a specific mention of the condition was made. Cases involving general reduced balance and motor control as a result of normal ageing processes, without an associated medical condition are not included in this table. Due to the relatively large proportion of persons aged 81 years and older, this may be an underestimate of the prevalence of disability among scalding fatalities.

The World Health Organisation defines disability on the basis of bodily impairment, activity limitations, and participation restrictions.

For more information, see the World Report on Disability 2011: What is Disability? located at: (http://whqlibdoc.who.int/hq/2011/WHO_NMH_VIP_11.01_eng.pdf)

Table 7: Mains Water Scalding Fatalities by Intent of the Deceased

Intent Status	Frequency	Percentage [%]
Unintentional	56	94.9
Assault	1	1.7
Unknown	2	3.4
Total	59	100

Table 8: Mains Water Scalding Fatalities by Water Temperature of Tap

Water Temperature	Frequency	Percentage [%]
"Hot"	43	72.9
"Boiling", "Excessively Hot", "Scalding"	3	5.1
70° C	2	3.4
55° C	1	1.7
Unknown	10	16.9
Total	59	100

* – The classification "Boiling", "Excessively Hot", "Scalding" was grouped from the constituent terms. All temperature references were taken from the attached coronial findings or police reports. Differences in reported temperature may occur due to the lack of standardised terminology and measurement methodologies.

Table 9: Mains Water Scalding Fatalities by Temperature Control Device Status

Temperature Control Device Status	Frequency	Percentage [%]
Not Present	4	6.8
Unknown	55	93.2
Total	59	100

*Table 10: Mains Water Scalding Fatalities by Location of Fatal Incident**

Location Code	Frequency	Percentage [%]
Home	51	86.4
Medical Service Area	5	8.5
Public Building, or Recreational/Cultural Area	1	1.7
Commercial Area (Non-Recreational)	1	1.7
Residential Institution Area	1	1.7
Total	59	100

* – The reference manual containing definitions for location codes used on the NCIS is available at <http://www.ncis.org.au/wp-content/uploads/2014/06/DataDictionary-Version3b-revised.pdf>

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DATA SOURCES

Data on the NCIS has been provided by each State and Territory Coroner's Office around Australia and New Zealand. Additional codes are provided by the Australian Bureau of Statistics (ABS) and Safe Work Australia.



ACT Coroner's Court



Coroner's Court
of New South Wales



QUEENSLAND
COURTS



MAGISTRATES COURT of
TASMANIA



CORONIAL DIVISION



Coroners Court
of Victoria



Coroner's Court of Western Australia



CORONIAL SERVICES
OF NEW ZEALAND
Purongo O te Ao Kakarauri

NOTE: In some States/Territories the Coroner's Office is part of the Magistrate's Court.

FUNDING AGENCIES

Operational funding for the NCIS is provided by the following agencies:

- Each State and Territory Justice/Attorney-General's Department
- Australian Department of Health
- Australian Institute of Criminology
- Safe Work Australia
- Australian Competition and Consumer Commission
- Australian Department of Infrastructure and Regional Development
- The New Zealand Ministry of Justice