SUPPLEMENTARY APPENDIX

Coroners' selection of death investigations to take to inquest

The process of selecting deaths for inquest is broadly similar across Australian jurisdictions.[1] All states and territories have statutory rules designating circumstances in which an inquest must be held (e.g. death while in custody or state care). For all other deaths, coroners have broad discretion about whether to incorporate an inquest into the death investigation. Considerations that appear to influence this decision include the degree of clarity about the circumstances of the death and the perception of whether matters of public interest are at stake.[1] Coroners may also decide to hold an inquest at the request of the deceased's family.

Data Source: the National Coroners Information System [NCIS]

Data entry is performed at local coroners' offices by coronial clerks who have direct access to the case files. A core set of data fields is then uploaded regularly to the NCIS from the local case management systems. Detailed coding manuals guide the data entry activities.[2] The Victorian Department of Justice houses the NCIS and operates a quality assurance program designed to identify and fix coding errors, and to ensure consistent coding across jurisdictions.[3] Examinations of the quality of the NCIS data suggest it reliably captures information on deaths reported to coroners.[4,5]

Construction of the *location of death* variable

We created the "location of death" variable using the Accessibility/Remoteness Index of Australia (ARIA), an area- based measure of remoteness. The ARIA assigns a remoteness score to areas, based on the distance by road to the nearest population centres; adjustments are made for islands without road access to mainland Australia.[6] The Australian Bureau of Statistics uses this remoteness score to classify localities into one of five categories: major cities, inner regional, outer regional, remote, and very remote.[7] Remoteness calculations are periodically revised using data from the most recent census.

We matched the postcode of the location of each death in our sample to its corresponding remoteness area, as specified in the 2006 census. This permitted a discretised classification of the remoteness of each death in our sample. For 787 deaths (16.7% of the sample) the postcode straddled two or more remoteness areas, so we classified the death by the remoteness area that covered the largest proportion of the postcode.

Construction of the *external cause* variable

The *Intent* variable in the NCIS has 10 categories:

1. Unintentional
2. Intentional self-harm
3. Assault
4. Legal intervention
5. Operations of war, civil conflict and acts of terrorism
6. Complications of medical or surgical care
7. Undetermined intent
8. Other specified intent
10. Still enquiring
11. Unlikely to be known

There are several problems with the *Intent* variable. The most significant is that its categories mix together the standard unintentional/intentional distinction for injuries with a typology of external causes that resembles ICD9/ICD10 external cause codes. We reconciled this awkward hybridization by converting the *Intent* variable categories to a typology that is closer to external cause codes. The table below shows and explains the recode, which produced the 9 categories for the *external cause* variable used in our analyses.

Our external cause categories	**Derivation from NCIS categories**
1. Transport	Unbundled from "Unintentional" category
2. Suicide	Same as NCIS category
3. Poisoning	Unbundled from "Unintentional" category
4. Assault	Same as NCIS category
5. Complications of medical care	Same as NCIS category
6. Fall	Unbundled from "Unintentional" category
7. Drowning	Unbundled from "Unintentional" category
8. Other external cause	Collapses together 3 NCIS categories ("Other specified intent", "Legal intervention", and "Operations of war, civil conflict and acts of terrorism"). Plus all "Unintentional" injuries that were not transport, poisoning, fall, or drowning.
9. Undetermined	Collapses together 3 NCIS categories: "Still inquiring", "Unlikely to be known," and "Undetermined"

The most significant recoding step was to unbundle the "Unintentional" category in the NCIS *Intent* variable. This category accounts for a majority of external cause deaths, but there is obviously great heterogeneity within it. We addressed this by creating 4 new stand-alone categories (transport, poisoning, falls, drownings). These were the most prevalent types of injuries in the NCIS's "Unintentional" category; the rest of the deaths in the NCIS "Unintentional" category went into the "Other external cause" category. To identify specific external causes in the "Unintentional" category, we referenced other NCIS variables that provide

information about the death (e.g. *incident activity*, *event type*, *mechanism of injury*, and *object or substance producing the injury*).

Delays in communicating case closures to the National Coroners Information System

Figure A1 reports the time elapsed between the date a case is closed by a coroner and the date that closure is reflected in the NCIS for inquests closed between 1 January 2007 and 17 July 2014.

While there were sometimes substantial delays in recording closures earlier in the operation of the NCIS, particularly in 2008, now all but a handful of cases are closed within a few months.

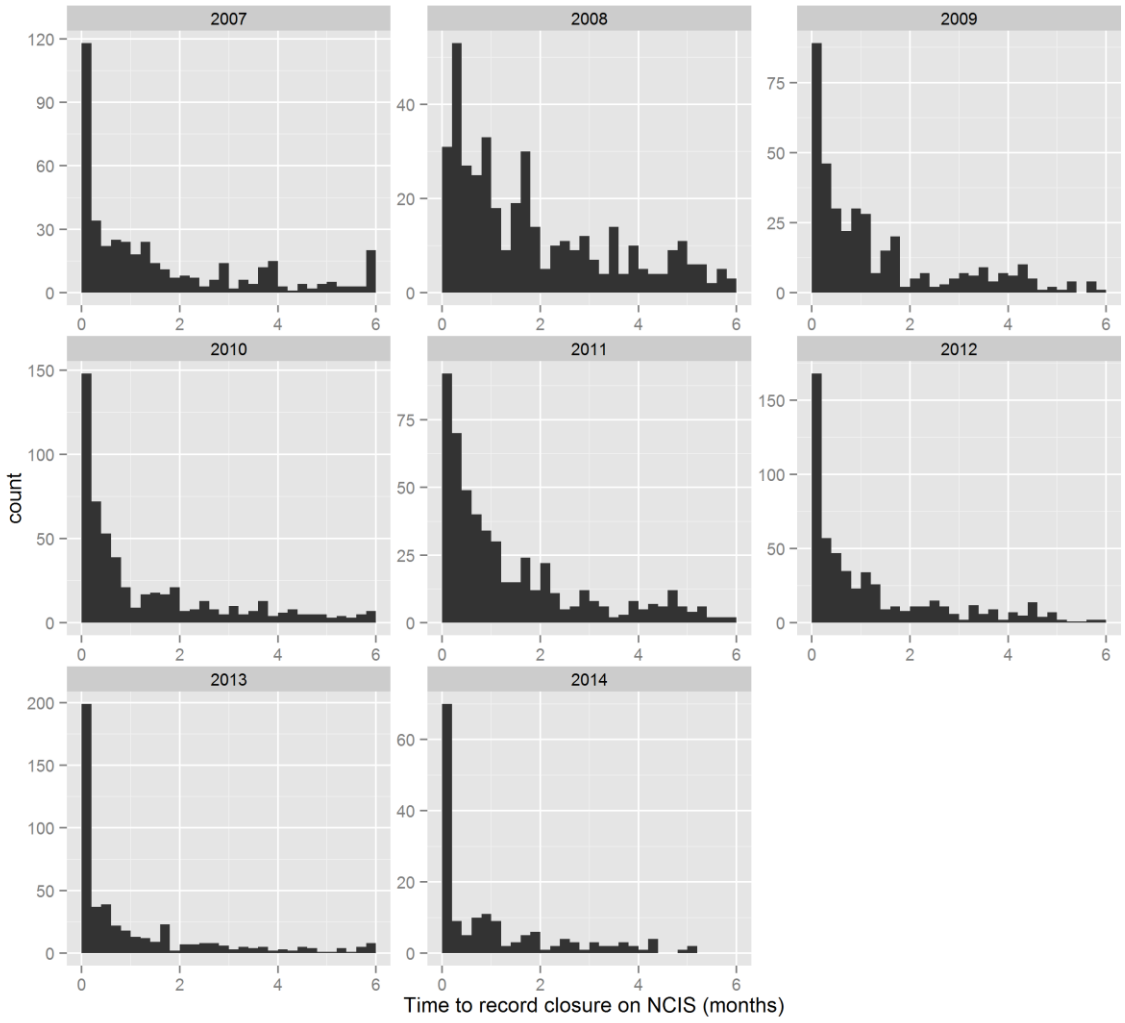

Figure A1: Time to record closure on the NCIS by coroner closure year

Inquest cases that closed implausibly quickly

The NCIS recorded a total of 5,459 deaths closed at inquest between 1 January 2007 and 31 December 2013**.** In several state-years, however, we observed a small number of inquest cases that closed in an implausibly short period of time.

Specifically, a total of 191 cases in our study period were recorded as having proceeded to inquest but had closure periods of less than 60 days. Figure A2 shows these cases, by state and year. (If a state-year is not shown in Figure A2 then there were no inquest cases that closed in under 60 days in that state-year.)

A majority of these cases (101/191) occurred in New South Wales in 2009, suggesting some systematic problem with case closure coding in that state-year. Because the time period recorded in the NCIS is unlikely to be an accurate reflection of the true duration of these cases, we elected to exclude from the analysis all of the 2009 cases from New South Wales (n=363).

This left 5,096 cases in our study sample.

(Note: Although we refer generally to such investigations that proceed to inquest as "inquest cases", or just "cases", deaths and inquests are not always coincident units because inquests sometimes address multiple deaths.)

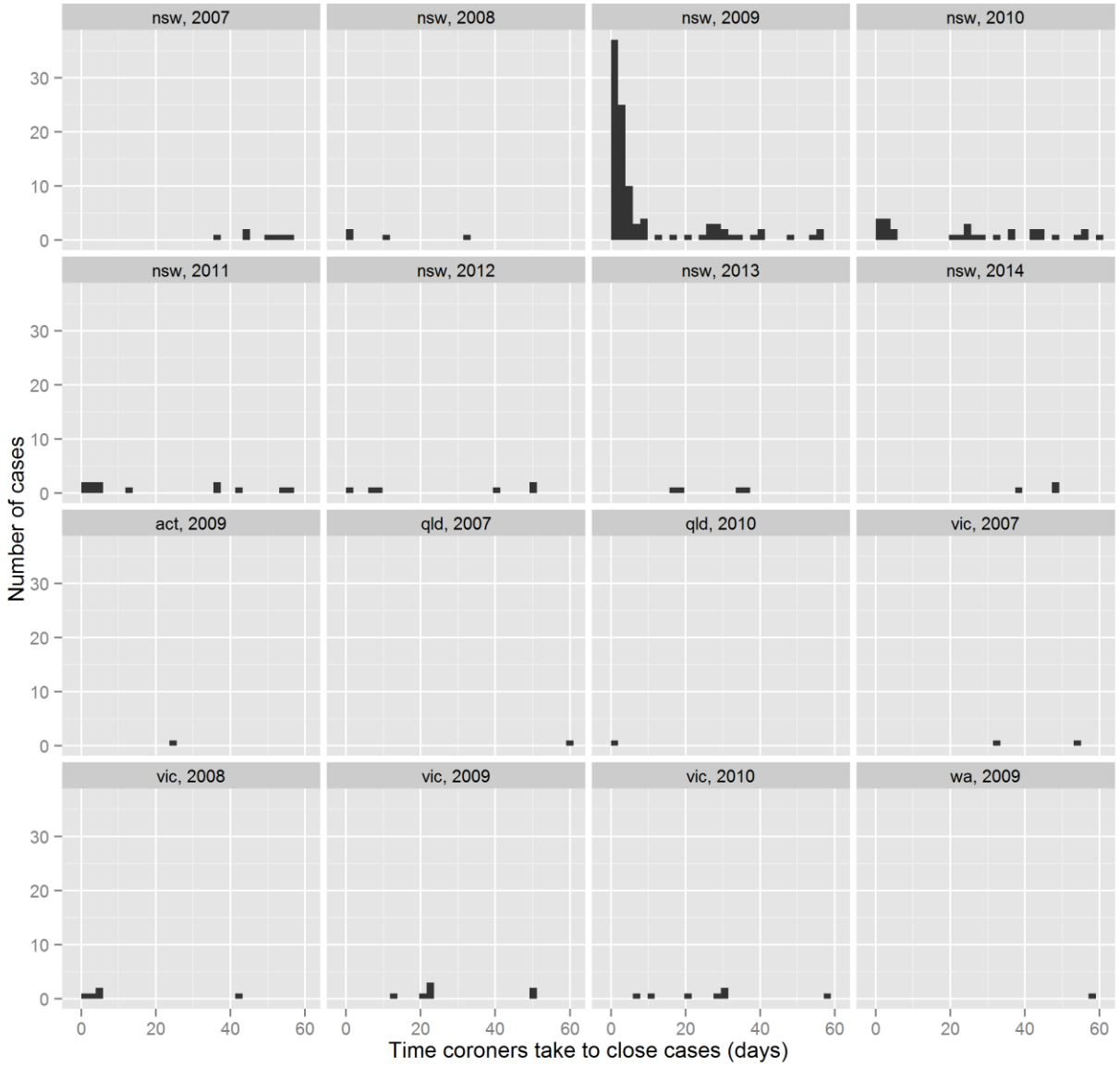

Figure A2: Duration, state, and year of inquest cases closed in <60 days

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