

Submission in response to ABS Discussion paper

**Assessment of Methods for Developing Life Tables for
Aboriginal and Torres Strait Islander Australians
(3302.0.55.002)**

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Introduction

The following comments are based on discussions which occurred at the Australian Mortality Data Interest Group's Indigenous Mortality Workshop in November 2008 and also independent discussions between Richard Madden and Lisa Jackson Pulver as well as between Richard Madden and Lee Taylor and Helen Moore from the NSW Department of Health. Advice and data to support the comments were provided by the aforementioned staff of the NSW Department of Health.

The comments and conclusions focus on:

1. the preferred approach of the ABS for deriving measures of Indigenous life expectancy for 2006, namely that a direct method using the CDE Indigenous Mortality Quality Study presents the best option for deriving measures of Indigenous life expectancy for 2006.; and
2. the proposed future directions for the calculation of Indigenous life expectancy beyond 2006.

Conclusion

The preferred approach proposed by the ABS in the Discussion Paper for deriving measures of Indigenous life expectancy is supported in principle in relation to the use of the direct demographic method rather than the indirect method previously used by the ABS, and also in the use of linked data to enhance the estimation of the number of deaths occurring in the Indigenous population. However, further issues would need to be addressed and changes made to the methods before the details of the approach could be supported. These same issues relate to the proposed future directions for the calculation of Indigenous life expectancy beyond 2006.

These issues include:

1. The validity of the methodology used for identifying Indigenous deaths in the CDE Indigenous Mortality Quality Study. Instead, we propose that the inclusion of deaths identified in **either** collection, is more valid;
2. Expanding the enhancement of the estimation of Indigenous deaths through the use of population-based administrative

data sources in addition to the census. For the 2006 life expectancy estimates, this could include the use of hospital admissions data linked to deaths data, and in the future may be expanded to include other sources of administrative data such as emergency department visits and notifiable diseases. The use of other sources also addresses the dual concerns of utilising data that is contemporaneous with deaths data and incorporates a greater diversity of methods of Indigenous identification;

3. Criteria for identifying Indigenous deaths using linked data from a variety of sources need to be determined and agreed among interested parties, including Indigenous groups and state and territory governments. These criteria may include the handling of issues relating to data linked from two different time periods or using different methods of reporting Indigenous status; the handling of biases in estimates that may be introduced through the differential enhancement of Indigenous death identification in selected age groups (usually older age groups); and the appropriate cut-off points to be used to count a death as Indigenous where multiple records (such as hospital admissions) are linked to a death record.
4. Given the high profile of Indigenous mortality and life expectancy, it is essential that the ABS publish consistent estimates of population, life expectancy and deaths in a single publication over the longest feasible time period.

Detailed comments are as follows:

ABS Correction Factors for Indigenous Deaths

In chapter 4, these are calculated as 18% for NSW and 12% for Australia. The Australian figure includes results for WA and NT where the correction factors are negative (9% and 8% respectively). These extraordinary results for WA and NT imply that Indigenous deaths are over reported in the Deaths statistics, a claim that has never been made seriously and lacks face validity. An alternative, and far more plausible, conclusion is that the method used by the ABS to calculate correction factors is wrong.

The first key flaw in the methodology is acknowledged by the ABS: On P29, it is stated that 26% of Indigenous death records for Australia could

not be linked to census data, and that these figures are even higher in WA and NT (35% and 40% respectively).

The second problem is the methodology itself. Deaths of people recorded as Indigenous in the Deaths statistics are compared to Deaths recorded as Indigenous using the census (corrected by the PES). But there is no discussion of including a death as Indigenous if it is Indigenous in **either** collection.

We consider this alternative to be a plausible approach. Whether it should be used depends on the evaluation of several criteria that need substantial discussion among interested parties. The ABS Discussion paper is deficient in the absence of such a discussion. In addition, other administrative data sources containing information about Indigenous status of individuals could also be used to link to deaths data to enhance the estimates of the number of Indigenous deaths. Criteria to be considered include:

1. Are the two data sets collected close together in time. If there is a significant time difference, people may change their reporting of being Indigenous: over time, social conditions may change, the individuals perceptions may change. The use of data contemporaneous with deaths data (such as hospital admissions data) in inter-censal years would assist in addressing this issue.
2. Are the reporters the same? Obviously for a death, the reporter will not be by the individual concerned: the reporter could be a family member, a friend, a funeral director, an elder, a Minister of religion or a health practitioner. In the census, it could be the person him or her self, a family member or even the ABS enumerator on remote areas. In an administrative collection, reporting could be by the individual concerned, a family member or a staff member. Reporting could be different in all these circumstances, assuming the reporter is making the best effort to identify. Table 4.3 shows the differences between reporting in Deaths and the census to be substantial for records of high enough quality to be linkable.
3. What proportion of records need to be Indigenous before a conclusion of Indigenous is made? If a dialysis patient is admitted to hospital 100 times in a year, and one admission shows the patient as Indigenous and 99 do not, it would be reasonable to decide the patient is non-Indigenous. But it is more difficult if 90 admissions show Indigenous and 10 show non-Indigenous.
4. What biases are being introduced into the estimates of Indigenous deaths through the use of linked data and how might these be

overcome? The Discussion Paper raises the issue of the differential enhancement of identification of Indigenous deaths in older age-groups in the Census-Deaths data linkage. This is also an issue with Hospital admission-Deaths linked data, as older people are more likely to be hospitalised. This may be overcome in the medium to longer term through the use of a diversity of linked data sources. In particular, data sources which may be more sensitive to the capture of health event data of relevance to causes of deaths in younger Indigenous people (such as injuries and poisonings) may be useful. Data from emergency data visits may be worthwhile investigating further in this regard.

This list is not meant to be complete. The list, and decisions about the criteria, are partly technical, partly judgmental. Community consultation is essential in developing and weighting the list of criteria.

An Example of an Alternative Approach

To illustrate the different correction factors that can result, the method of Taylor et al (2008) has been applied to the NSW deaths data used by the ABS in Chapter 4.

Taylor et al linked ABS Deaths data for NSW and the NSW Hospitals Admitted Patient Data Collection (APDC) for 2002-2006. They used the following rule for deciding a death to be Indigenous:

A death is recorded as Indigenous if the person is identified as Indigenous in the Deaths collection, or if the person is included in the linked data collection and is recorded as Indigenous in the linked Hospital record.

The ABS reported overall 2,433 Indigenous deaths in NSW for the 5 year period 2002-2006.

Of these, 2,156 had linked records in the APDC. In addition, a further 968 deaths linked to a Hospital record that was Indigenous. Using their augmentation rule, these two figures were added, giving a total of 3,124 Indigenous deaths in the linked data set, an increase of 44.9%.

They then added this result to the 277 Indigenous deaths (2,433-2,156) that were not part of the linked data set. That gives a total estimate for Indigenous deaths in NSW in the period 2002-2006 of 3,401 (3,124+277). This is a correction factor of 39.8% relative to the ABS number of 2,433.

This approach provides enhancement with data that is directly contemporaneous with the Deaths data. The completeness of identification in hospital admissions data is of course itself an issue (which was investigated by the AIHW in 2007), but the issue does not negate the use of the data set as a source of augmented identification.

Consultation on Augmentation Criteria

Criteria for augmentation of Indigenous status in the statistical collections were discussed above. It was pointed out that the issues involved are partly technical and partly judgmental. On technical issues, the ABS should augment its own skills through consultation with other experts in government agencies and elsewhere. The Taylor and Moore methodology described here is only one of many possible scenarios.

The judgmental issues are more complex and many views should be sought and taken into account. Indigenous people in particular know the issues surrounding identification well, and how these vary over time and in different settings.

The gap between Indigenous and non-Indigenous life expectancy is now a major issue in Australia. The Government has placed high importance on improvement in Indigenous life expectancy. It is essential that the debate goes forward based on a consensus on methodology. The consensus must involve the fullest possible consultation with technical experts and with the Indigenous community.

Need for consistent estimates of Indigenous Population, Deaths and Life Expectancy

The ABS has previously published Indigenous population estimates at various points in time. Consistent estimates for 1991, 1996 and 2001 were published in 2004 (*Experimental Estimates and Projections, Aboriginal and Torres Strait Islander Australians 30 June 1991 to 30 June 2009, 3238.0*, ABS 2004). Madden and Jackson Pulver (2009 forthcoming) have developed a longer time series of Indigenous population estimates consistent with the most recent ABS published estimates.

This publication also includes life expectancy estimates for the period 1996-2001. Earlier estimates for life expectancy had covered the period 1991-996, but these were not restated in line with the 1996-2001 estimates.

Deaths data is not comparable over time. Deaths 2007 (3302.0, ABS 2008) includes a table of Indigenous deaths registered from 1991 to 2007. The table is rightly highly qualified about variations in data quality over the period, and the lack of completeness in all years.

Given the high profile of Indigenous mortality and life expectancy, it is essential that the ABS publish consistent estimates of population, life expectancy and deaths in a single publication over the longest feasible time period. It would be essential for the reader to heed the assumptions and cautionary notes that would be included in such a publication. But the reader would then have in one place a consistent single set of estimates to guide debate.

Continuing fragmented publications diminishes the credibility of all the estimates. Moreover, it creates room for other estimates to achieve credibility beyond their due. In this respect, the ABS decision not to continue to publish indirect estimates of Indigenous life expectancy is welcome, and encourages readers to ignore such estimates produced elsewhere.

References

Taylor L and Moore H, Enhanced reporting of Aboriginality through record linkage, Presentation to NSW Statistical Forum, November 2008

3302.0.55.002 - Discussion Paper: Assessment of Methods for Developing Life Tables for Aboriginal and Torres Strait Islander Australians, 2006.

<http://www.abs.gov.au/ausstats/abs@.nsf/mf/3302.0.55.002>

3302.0 Deaths, Australia, 2007. <http://www.abs.gov.au/ausstats/abs@.nsf/mf/3302.0>