Reviewer's report

Title: The changing environment of telephone surveys: are telephone surveys viable for collecting information on health

Version: 1 Date: 13 November 2009

Reviewer: Joanne O'Toole

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Major Compulsory Revisions

In the Abstract in the methods section, the first paragraph states that: ‘A representative annual population health survey of South Australians aged 15 years and over was conducted in 1999, 2004, 2006, 2007 and 2008. It then, in the second sentence goes on to state that: ‘Self-reported information on mobile phone ownership and usage, landline telephone connection and listing in the White Pages was provided by participants. This implies that for all years this information was provided. However, land line listing in the Australian White Pages was reported for some (i.e. 2006, 2007, 2008) but not all years (i.e. 1999 and 2004) – see Table 1.

Whilst the abstract reports the proportion of mobile only households in 1999 (1.4%) and Table 1 reports telephone landline and mobile status of household for 1999 and 2004 the discussion makes no reference to either 1999 or 2004 data. The discussion refers solely to trends observed in the years 2006, 2007 and 2008. The inclusion of 1999 and 2004 data is therefore queried particularly based on the fact that for 1999 and 2004 in Table 1 there is no data on the proportion of households with landline and/or at least one mobile telephone listed in the directory and for 2004 households with a landline were not asked if there were any person in the household that had a mobile phone. In addition, in the Methods section (Data items) it is stated that: ‘Information about landline telephone connection and listing in the Australian White Pages…. as a residential number were included in the 1999, 2002, 2004, 2006, 2007 and 2008 surveys’. However, this is not the case as there is no information about landline and/or mobile listing in 1999 and 2004. Also, there is no mention elsewhere about a survey in 2002.

The aim of the study (Different to that in the Abstract) is stated to be ‘to determine if telephone surveys are still viable in collecting information on health status and other health related issues, by assessing the prevalence of mobile only households and the proportion of households that have a mobile phone or landline telephone listing in the Australian White Pages’. In fact no conclusion is made about the viability of telephone surveys. Rather, this paper quantifies the trends in the prevalence of mobile only households and the proportion of households with mobile phone or landline telephone listing in the Australian White Pages over time.

The time span of relevance for this paper is uncertain. The Methods section
(Survey design and sample selection) gives the response rates from 1994 to 2004 surveys, yet reference throughout the rest of the text is (at the earliest) to the 1999 survey.

In the Discussion, first paragraph last sentence it is stated that ‘However, the mobile only prevalence can potentially reach up to 25-30% of the South Australian population in the next few years since over 20% indicated that they were very likely or somewhat likely to switch to a mobile only household’. This is an unsupported assumption, as households indicating that they were ‘very likely’ or ‘somewhat likely’ to switch to a mobile only are somewhat dependent upon infrastructure being available for this ‘conversion’ to be achieved. Currently telephone landline is the means by which many households connect to the Internet via dial-up and ADSL, hence the ‘conversion’ rate to mobile only households will depend upon the availability of the Internet via other means (This also probably explains the greater prevalence in other countries). This was not explored and there is no evidence that the potential increase to 25-30% will occur within a few years. Also, the percentage range given of 25-30% makes the assumption that the 8.1% of households indicating that they were ‘very likely’ as well as the 12.1% that were ‘somewhat likely’ will all convert leading to prevalence potentially reaching 8.7% (current) + 8.1% + 12.1% = 28.9%. Had the 12.1% of households that were only ‘somewhat likely’ not been included the percentage prevalence would only be 16.6%. Note that should the same assumption have been made for 2006 data we would have expected in 2008 (allowing for the ‘next few years’ from 2006) that the prevalence would have been 5.2% + 6.9% + 11.0% = 23.1% or if not including the ‘somewhat likely category the prevalence would be 5.2% + 6.9% = 12.5%. Yet in 2008 there were only 8.7% mobile only households.

In the discussion, second paragraph it is stated that: ‘…mobile only households have different demographic characteristics to households with landlines and/or mobiles…’. However, we have no proof of this as we only have data that shows the trend of demographic and health characteristics for mobile only household versus the trend of demographic and health characteristics for households with landlines and/or mobile phones listed in the Australian White Pages.

In the discussion, third paragraph it is contended that: ‘Even though the proportion of mobile only phones is low, the rapid increases seen internationally may result in an inadequate sampling frame for South Australia and Australia as a whole’ is not supported by data and is speculative. As discussed above factors such as availability of other infrastructure will determine the conversion rate from landline only or landline and mobile phone to mobile phone only. In fact when considering the increases in mobile only households from 2006 to 2008, we see significant increases from 2006 to 2008 but not between 2007 and 2008 (considering the 95% confidence intervals). There is no data to suggest that the ‘rapid increases seen internationally’ are being replicated here. In addition, even if the rapid increases were evident from data, the adequacy of sampling frame (used by researchers) for South Australia or Australia as a whole is not just dependent upon the proportion of mobile phone only households but their listing
in directories. For example, if the number of mobile only households increased markedly and they were listed in directories, this sampling frame would be more adequate than if they increased markedly and were not. Also, as the prevalence of 'mobile only households' increases (to become the majority of households), the issues of representativeness and bias may, in fact, diminish.

In the discussion, third paragraph, last sentence, the statement: ‘...In terms of health indicators, people in the normal weight range or underweight would be under-represented in surveys using the Australian White Pages’ cannot be made based on available data. Similarly, the prior sentence stating that young people, those who have never married, those who reside in rural areas, people on lower income levels, unemployed and students will be excluded in particular is not accurate. The information presented in Table 3 shows the trend year by year for those household listed in the White Pages but to assess whether there is under or over representation of particular characteristics requires information about household characteristics of those not listed in the White Pages.

From Table 1, we do not know the percentage of mobile phones listed in directories as the percentages provided are composite ones ie household and/or mobile listings. Yet in the discussion on page 9, paragraph 2 we are told that: ‘Mobile phones are the opposite; they are rarely listed (7.3% of mobile phone users found in this study)....’Does this 7.3% pertain to 2008? Are these results given elsewhere?

Minor Essential Revisions
See above comments

Discretionary Revisions
None

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:

I declare that I have no competing interests.