Author's response to reviews

Title: The 2003 Australian Breast Health Survey: Survey Design and Preliminary Results

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Version: 3 Date: 24 September 2007

Author's response to reviews: see over
Dear Editor

Thank you for the opportunity to revise our manuscript according to the suggestions of Professors Caplan and Paskett. In this revision, changes are shown in red font. In addition, we provide a point-by-point response in this cover letter.

We believe that their considered comments have improved the paper and thank them for their input.

Sincerely,

Elmer V Villanueva
on behalf of the Authors

**Comments: Lee Caplan**

*Stratification by capital city*

In planning the survey, we were guided by the Australian Bureau of Statistics’ (ABS) classification of geographical standards, in particular, that for remoteness. The Remoteness Structure includes all census collection districts which share common characteristics of “remoteness,” allowing them to be classified into broad geographical regions called Remoteness Areas.

The ABS has recommended the use of six classifications of Remoteness Areas: (1) Capital Cities; (2) Inner Regional Australia; (3) Outer Regional Australia; (4) Remote Australia; (5) Very Remote Australia; and (6) Migratory. We dichotomised this classification as a balance between our needs and ABS recommendations.

Action: Citation added.

*Weighting class*

There are several ways to adjust for survey nonresponse. Adjustment by weighting class corrects for nonresponse by dividing the sample into a number of groups according to some characteristics (in our case, by age and geographic strata) and assigning a weight equal to the inverse of its response rate.

Action: Citation added.

*“Population benchmarks”*

This refers to the 2001 Census of Population and Housing and the Labour Force Survey we used to calculate weights. These were defined in the paragraph preceding the quote.
"design effect”
Formally, the design effect is the ratio of the true variance of a statistic to the variance of the statistic for a simple random sample with the same number of cases. A design effect of 1.0 means the sampling design produces estimates of variance equivalent to simple random sampling. A design effect greater than 1.0 means the sampling design reduces precision compared to simple random sampling. For example, cluster sampling reduces precision. A design effect less than 1.0 means the sampling design (such as stratified sampling) increases precision compared to simple random sampling. The design effect is a well-known concept in survey sampling, much like the p-value is for hypothesis testing. Our preference is to leave this undefined, but would defer to the Professor Caplan’s preference.

Action: No change.

"information and services”
These refer to the availability and accessibility of information about breast cancer and the availability and accessibility of services for the screening, diagnosis and management of breast cancer. We’ve added a phrase to clarify this.

Action: Phrase added.

Tables 2 and 3
We are unclear about the nature of Professor Caplan’s difficulty, but appreciate that these tables provide technical information about the potential statistical precision of survey based on its design (Table 2) and the results of the call attempts to produce the final sample used in the computer-assisted telephone interviews (Table 3). Table 2 will be useful for researchers who wish to produce confidence intervals for particular survey results produced in subsequent publications.

Given that the present manuscript is the initial publication arising from the 2003 Breast Health Survey, we will be able to refer readers of subsequent publications to the information contained in this paper.

Action: No change.
Table 5
The number “69” is a response category. We’ve modified the table to clarify this.

Action: Modification of Table 5.

Response rate
We were very careful not to use the term “response rate” because it has several meanings and only recently have these meanings been codified (see The American Association for Public Opinion Research. 2006. Standard Definitions: Final Dispositions of Case Codes and Outcome Rates for Surveys. 4th edition. Lenexa, Kansas: AAPOR). Instead, we’ve provided information about the actual flow of respondents involved in the generation of the 3,006 interviews conducted.

On the whole, a final rate of 35% is usual for this form of research. Numerous studies have noted the decline in rates for telephone surveys in the past few years. See, for instance, Groves RM, Couper MP, eds. Nonresponse in Household Interview Surveys (New York: Wiley, 1998) and Groves RM, Dillman DA, Eltinge JL, Little RJ, eds. Survey Nonresponse. (New York: Wiley, 2002).

We have included a short comment in the discussion.

Action: Discussion point added.

Symptomatic women
We agree with Professor Caplan’s comment and have emphasised that area of the discussion in which we make this distinction.

Action: Emphasis added.

Comments: Electra Paskett
Mammogram history
We recognise this distinction and was hoping to report the “two-yearly” mammogram rate in a subsequent paper specifically focusing on early detection knowledge and behaviour. However, we accept Professor Paskett’s comments and have included the results in this paper.

Action: Results added.

Age cut-off
We sought to describe the self-reported behaviours of women in this study and, while we agree that the national population-based mammographic screening program of Australia specifically excludes
women younger than 40, we were interested in the receipt (and opinions of eligibility, of mammography by this age group, none the less. This analysis was conducted at the height of Kylie Minogue’s breast cancer diagnosis. You will recall that there was wide coverage emphasising that young women do get breast cancer and that early detection was critical. At the time, there was documented evidence of a 40% increase in screening bookings, although there was no information for those below 40%. We believe that this information is important to retain in an effort to gain descriptive insight (as opposed to normative policy) into the opinions and behaviours of Australian women.

Action: No change.

*Self-report*
We agree with this comment and have included addition points in the Discussion section.

Action: Discussion points added.

*Ovarian cancer*
We prefer to retain this element as it gives a full description of the 2003 BHS and is in line with the National Breast Cancer Centre’s as Australia’s peak body for breast and ovarian cancer control.

Action: No changes.

*Mammography usage*
Action: Statement added.

*Age-eligibility*
This figure is for age-eligible women.

Action: clarification added.

*Minor revisions*
Action: Revisions made as suggested