Author's response to reviews

Title: Screening Mammography Beliefs and Recommendations: A Web-based Survey of Primary Care Physicians

Authors:

Shagufta Yasmeen (shagufta.yasmeen@ucdmc.ucdavis.edu)
Patrick S Romano (psromano@ucdavis.edu)
Daniel J Tancredi (ditancredi@ucdavis.edu)
Naomi H Saito (nhsaito@ucdavis.edu)
Julie Rainwater (julie.rainwater@ucdmc.ucdavis.edu)
Richard L Kravitz (rlkravitz@ucdavis.edu)

Version: 3 Date: 20 August 2011

Author's response to reviews: see over
Response to reviewer: Paul L Reiter

Reviewer's report

Title: Screening Mammography Beliefs and Recommendations: A Web-based Survey of Primary Care Physicians

Version: 1 Date: 4 April 2011

Reviewer: Paul L Reiter

Reviewer's report:

This manuscript examines primary care physicians' beliefs and recommendations for screening mammography. Given the recent USPSTF statement on mammography use for younger women (less than 50 years of age) and older women (more than 74 years of age), this is an important public health issue. While some interesting data are presented, I have some concerns about this paper.

Major Compulsory Revisions

1. Data were collected from June – December 2009, and the USPSTF statement was published in November 2009. Thus, most of the data were likely collected prior to this important statement being published, meaning this paper mostly provides a pre-statement snapshot of physicians' beliefs (which have been examined previously and are much less interesting than post-statement beliefs). Did the survey attempt to capture the effect of this statement being released mid-study? Also, are there any comparisons that can be made between pre-and post-statements surveys?

Response

The data were collected prior to the most recent USPSTF statement published in November 2009. Yes, this paper provides physicians beliefs and recommendations before the statement.
The survey did not try to capture the effects of this statement as most of the responses were obtained by November 2009. There are no comparisons as the response rate declined after October 2009. Less than 10% of responses were obtained after November 2009.

2. As noted, the response rate is low (5.7%). Given this, is the sample nationally representative, as stated on p.5? While I agree that this is a national samples (physicians from all over the US participating), there would need to be comparisons made (specialty type, age, etc.) between respondents and non-respondents to establish that the sample is nationally representative. Are these comparisons available?

Response

These comparisons are not available as the survey was mailed as a web broadcast by AMA. We do not have information on non-respondents. However, we did compare late respondents to earlier respondents ($5 incentive vs $ 20), which is a commonly used technique for assessing potential differences between respondents and non respondents (References # 15: Sax, Gilmartin et al. 2003 # 16. STINCHOMBE, Jones et al. 1981 and # 17 Hutchison, J., N. Tollefson, et al. (1987)

Additional text on page 11; lines 256-263.

“Early respondents compared to third-wave respondents were more likely to be females (58% versus 44%, p = <0.001), 25-54 years of age compared to >=55 years (84% versus 69%), OBGs compared to FPs (OBGs 34% vs 23%, FPs 32% versus 41%), those reporting higher percent of new females patients seen per week (27% versus 26%) and physicians who were <= 9 years in practice (48% versus 38%) p =< 0.001. However, there were no differences in responses between early compared to late respondents in physician’s perceived belief in mammography effectiveness in reducing breast cancer mortality, responses to guideline influence, and recommendations for screening for women in different age categories.

3. The analyses are confusing in some areas. For example, both the abstract and results section (p. 10) provide p-values comparing OBGs to IMs and FPs, yet only one p-value is provided. Were IMs and FPs combined for these analyses? If not, providing 2 p-values for each outcome may be more helpful for readers (OBGs vs. IMs and OBGs vs. FPs).

Response
Revised to clarify the p values:
The ratings for USPSTF guidelines as “extremely influential” were higher for FPs (53%) and IMs (47%) than for OBGs (25%) (P < .001 for both comparisons?).
Please see the revised table 2 with p values in the abstract and the result section of manuscript (line # 208).

4. The text states that ordinal logistic regression was performed (p.8) but Table 3 states that multinomial logistic regression was done. These are very different analytic methods whose results need to be interpreted very differently. Please clarify what methodology was used.

Response

Sorry for this error.
Ordinal logistic and logistic regression was performed. Corrections are made on page 7 (statistical methods, and table 3).

5. The discussion section needs to better relate this study’s findings to the existing literature on physicians and mammography recommendations. For example, a recent study was published by Meissner et al. in Cancer that may be particularly relevant. Also, given the timing of data collection, the authors should better clarify the potential contribution of this paper.

Response
Please see the revised discussion section.

Minor Essential Revisions

ABSTRACT
6. Can the word “predictor” be used given the cross-sectional nature of the data? Also, the results portion of the abstract seems to repeat the same data twice.

Response
Corrected in the abstract (line # 14).
This may just be an error that occurred during manuscript submission though.
BACKGROUND

7. The various recommendations should be better described. For example, ACS recommendations are annual mammograms for women ages 40+, while ACOG recommends annual screening for women ages 50+ and every 1-2 years for those ages 40-49. Providing these additional details would be useful for readers.

Response

Revised as follows (line # 44-53)

The USPSTF recommends against routine screening mammography for average-risk younger (ages 40 to 49) women, in favour of “individualized, informed decision making about when to start mammography screening” and suggests that biennial mammography be encouraged from ages 50-74 [3]. The American Cancer Society (ACS) differs slightly, providing no specific age for cessation and stating that comorbidity is the only qualifying factor for exclusion from screening. The American College of Obstetricians and Gynecologists (ACOG) [4] recommends mammography for women 40 years of age and older, with no specific age for cessation. The American Geriatrics Society recommends mammography for older women unless they are unlikely to live 5 years or have significant comorbidities that would preclude breast cancer treatment [5, 6].

METHODS

8. How were responses of “not sure” and “not familiar with this guideline” coded for their respective items and handled in analyses? Were participants who provided these responses excluded from analyses involving these items?

Response

The response options “not sure” and “not familiar with this guideline” were rarely endorsed, so these responses were not analyzed separately. Participants who provided these responses (not sure: # 2 responses) and (“not familiar with this guideline”: # 24 responses) were treated as
missing. The survey was designed in a way that questions could not be skipped, so these were the only reasons for missing values.

9. How many individuals participated in pilot testing and what type of physicians were they?

Response

The questionnaire items and the format were pilot tested for clarity and face validity in two separate settings: 11 primary care physician participants in a health services research seminar at the University of California Davis, and a web based questionnaire to 12 colleagues in 3 primary care specialties.

10. How long after the first round of surveys were the second and third rounds sent out?

Response

The second round was sent approximately after 12 weeks.

11. In describing the data analyses, the scale for recommendations is described as “always”, “rarely”, and “sometimes”, yet the survey methodology section lists options of “always”, “often”, “rarely”, and “never”. Please clarify. Also, how were participants who responded “never” handled in analyses (currently not described in data analysis)?

Response

For screening mammography recommendations, we compared “always” and “often” to “sometimes”, “rarely”, and “never” for the 40-49 and 70-80 year old groups. For the 50-69 years old group, we compared “always” to any other option, as no IM physician answered “often”.

12. Why were early responders compared to late responders? Is there reason to think the two groups would differ? A more common approach would be to compare respondents to non-respondents, as described above.
Response

To determine the nonresponse bias we used the method described by (References: 15, 16, and 17). To estimate nonresponse, some researchers equate individuals who respond later in the administration period (usually after significant coaxing) with nonrespondents; this group is then compared with the early respondents to determine types of bias. However, this method still may not capture the true extent of nonresponse bias in the data.

RESULTS

13. It says 11,922 physicians were invited to participate. Why were 78 not invited (given that 12,000 were sampled)? I apologize if this was described and I missed it.

Response

The numbers were revised to n= 11,922 sampled physicians

14. States that age, number of years in practice, and percent female patients (which is not included in Table 1) did not differ by specialty. Did the other variables (e.g., race) differ?

Response

Table 1. Rows with % added.

OBGs: higher % of female patients as expected. OBGs saw higher % of new patients compared to family physicians (p=<0.000)
The survey did not have a question on % of female patients seen by race/ethnicity

15. p. 10: States that “data not shown”. Why are these data not provided if differences do exist?
Response
Please see additional text on page 11 line # 256-263.
Early respondents compared to third-wave respondents were more likely to be females (58% versus 44%, p= <0.001), 25-54 years of age compared to >=55 years (84% versus 69%), OBGs compared to FPs (OBGs 34%vs 23%, FPs 32% versus 41%), those reporting higher percent of new females patients seen per week (27% versus 26%) and physicians who were <= 9 years in practice (48% versus 38%) p=<0.001. However, there were no differences in responses between early compared to late respondents in physician’s perceived belief in mammography effectiveness in reducing breast cancer mortality, responses to guideline influence, and recommendations for screening for women in different age categories.

16. For physicians’ recommendations, the data described in the text do not appear to match what is presented in Figure 2 (assuming Figure 2 shows % who always recommends, this is not described in the figure).

Response
Figure 2 revised.

17. The vignettes mentioned in the results should be better described in the methods. For example, it would be helpful to describe the comorbidities examined in the methods section so readers know this prior to the results section.

Response
Case vignettes are described on page 5 line # 103-112
Written case simulations (vignettes) were designed on the basis of a fractional factorial design that ensures absence of collinearity. For the clinical vignettes (case scenarios), the dependent variable was the physician’s decision to recommended mammography or not and the independent variables were age (young and old), health status (comorbidities present/absent), and severity and comorbidity burden (associated within life expectancies of < 5 and >=5 years). Mammography screening decision-making was assessed by asking physicians whether they would recommend or not recommend mammography screening for hypothetical cases; physicians responded “definitely would not recommend,” “probably would not recommend,” “probably would recommend,” or “definitely would recommend.”
18. Table 2: It would be useful to provide information on all the comparisons (i.e., do FPs differ from OBGs, etc.), not just the overall p-value.

Response

Table 2 revised with p values overall and by specialty differences.

19. Table 3: Do OBGs differ from IMs for recommendations for 40–49 year olds?
Currently, this comparison is not made but the provided data suggests that it does. This would be important to show.

Response

We used family physicians as reference category for multivariate models. IM physicians were not significantly different compared to family physicians in their responses. In addition we combined response categories for women between ages 40–49 (always and often versus sometimes, rarely and never”). The response for always and often for FPs was 85% versus 82% for IMs.

Please see the attached table for various response categories.

<table>
<thead>
<tr>
<th>PartA3: How often do you recommend screening mammography to 40-49y/o</th>
<th>FP</th>
<th>IM</th>
<th>OB&amp;GYN</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Response categories</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1:never</td>
<td>2 (1%)</td>
<td>0</td>
<td>1 (0.9%)</td>
<td>3 (0.7%)</td>
</tr>
<tr>
<td>2:rarely</td>
<td>5 (3%)</td>
<td>6 (4%)</td>
<td>1 (0.9%)</td>
<td>12 (3%)</td>
</tr>
<tr>
<td>3:sometimes</td>
<td>18 (11%)</td>
<td>22 (14%)</td>
<td>2 (1.7%)</td>
<td>42 (10%)</td>
</tr>
<tr>
<td>Responses 1, 2, 3 combined</td>
<td>25 (15%)</td>
<td>28 (18%)</td>
<td>4 (3.5%)</td>
<td>57 (13.7%)</td>
</tr>
<tr>
<td>Response categories</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4:often</td>
<td>44 (26%)</td>
<td>43 (27%)</td>
<td>17 (15%)</td>
<td>104 (24%)</td>
</tr>
<tr>
<td>5:always</td>
<td>99 (59%)</td>
<td>86 (55%)</td>
<td>93 (81%)</td>
<td>278 (63%)</td>
</tr>
<tr>
<td>Responses 4 &amp; 5 combined</td>
<td>143 (85%)</td>
<td>129 (82%)</td>
<td>110 (96%)</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>168</td>
<td>157</td>
<td>114</td>
<td>439</td>
</tr>
<tr>
<td></td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>
Level of interest: An article whose findings are important to those with closely related research interests.

Quality of written English: Needs some language corrections before being published.

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I declare that I have no competing interests.