Author's response to reviews

Title: A Simulation Model Approach to Analysis of the Business Case for Eliminating Health Care Disparities

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Dear Ms. Pafitis,

We are pleased to submit a revised version of our manuscript entitled “A Simulation Model Approach to Analysis of the Business Case for Eliminating Health Care Disparities” (MS 2848121744381294).

Per your e-mail on January 25, we have made several changes to address the very helpful comments of the two referees. Most of these changes have to do with the request by referee 1 (Dr. Fiscella) that we incorporate the costs of false positive mammograms into the modeling analysis and the paper. We have done this, and have added text at several points, as well as three references and appropriate changes to tables and figures.

The two other suggestions by Dr. Fiscella are not possible to address in a reasonable time frame, and we would strongly prefer to address them in a later paper, since the suggestion on unnecessary surgery would require a major restructuring of the model. Unnecessary surgery related to tumor histology is indeed an issue of growing significance, but the literature on that issue is still developing, and we are not aware of appropriate articles on that issue that are specific to any race or ethnic group. Taking this issue fully into account would alter many of the model parameters having to do with recurrences, days lost from work in various cancer stages, and QALYs gained. It would take several weeks to months to assemble the relevant literature, incorporate it into the current model, test the impacts, and summarize the results. Since the concept refers most directly to hypothetical survival effects that would have occurred in the absence of surgery that is now being performed, we feel that our analyses do accurately model the effects of mammography and subsequent treatment choices as they are currently being made. If the concept of unnecessary surgery begins to have a significant influence on treatment choices, survival, and quality of life, then our model can be adjusted in the future to take those changes into account.

Similarly, his suggestion on incorporating the effects of controller medication on long-term pulmonary function is beyond the scope and intent of our modeling effort. We chose a five-year time frame to represent a typical decision time frame by either employers or health plan administrators about initiatives to increase either preventive service use or management of chronic illness. Although there would certainly be longer-term effects beyond five years, our current model structure and analysis presented here does not seek to address those effects. Again, another paper reporting longer-term analysis would perhaps be the best way to address this issue, as the paper is relatively long and complex as it is.

The comments from Dr. Roberts, although more extensive than those of Dr. Fiscella, are mainly complimentary about the paper, and we do appreciate those comments. She did point out the variation in use of headings in the sections on breast cancer and asthma, and we have changed the headings so that the two sections match. The mismatch seemed to be in the Results section; headings in the Appendix do follow a parallel structure, but many of the subheadings are inherently different for the two clinical areas.
because the key modeling concepts and variables are different. We will be happy to take the suggestions of the journal’s copy editor on any changes to tables that would represent improvements.

The point about asymmetry between the two models in terms of the treatment of spouses missing days of work is a good one, but there is relatively little that we can do about this given the state of published information available. Given our focus on racial/ethnic disparities, a full treatment of the issue raised here would require us to have race- or ethnicity-specific information about days lost from work by spouses of working women with cancer. We have not been able to locate information at this level of granularity, but would be happy to address the issue in a future round of analysis if relevant information does become available.

We did not follow the discretionary suggestion to cite the paper by Cochrane et al. The paper makes some important points about the issue of appropriate inhaler use, but since the HEDIS measure of asthma medication use does not include any attention to the issue of appropriate use of inhalers, it seemed best to keep the model (and related discussion) simpler and focus it on known relationships between general patterns of medication adherence (including the mix of appropriate and inappropriate uses represented in the various studies cited) and costs and outcomes. The HEDIS measure reflects primarily the filling of controller medication prescriptions, and does not get into detail about exactly how those medications are used. Modeling the effects of initiatives to promote more appropriate or effective use of inhalers that are provided is beyond the scope of our current effort. As in the case of other suggested enhancements to the model, we would prefer to deal with these in subsequent publications and let this paper illustrate a novel approach to addressing questions of a “business case” for disparity reduction in specific quality of care measures.

The manuscript version that is being uploaded has all changes identified using the “track changes” function of Word.

Thank you very much for your review and for the referees' helpful comments. Please let me know if there are any other changes that would be helpful, or any questions I can address.

Sincerely,

David R. Nerenz, Ph.D.
Director, Center for Health Policy and Health Services Research