Reviewer's report

Title: Gender differences in the utilisation of health-care services among the older adult population of Spain

Version: 1 Date: 4 February 2006

Reviewer: Edward J. J Callahan

Reviewer's report:

General

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Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

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Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

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Discretionary Revisions (which the author can choose to ignore)

Aurea Redondo Sendino, Pilar Guallar Castillon, Jose Ramon Banegas Banegas and Fernando Rodriguez Artalejo author an intriguing article for consideration for publication in BMC Public Health. Their manuscript “Gender differences in the utilisation of health-care services among the older adult population of Spain” uses data derived from a carefully designed and executed study using systematic sampling, interviewing, and anthropometric measurement of Spanish elders. They tackle two important issues: first, how is gender associated with the use of health services among elders? and second, is it possible that these differences in rates of health care utilization are confounded by other variable? The authors do innovative analyses of a solid data set to reach some interesting and important conclusions.

Perhaps the key innovation in this paper is the use of a specific statistical manipulation designed to allow the reader to understand the contribution of mediating factors on the outcome of health care utilization. They call this innovation the Percent Change in Crude Odds Ratios (PCECOR), a mathematically calculated evaluation of how odds ratios change when individual factors or clusters of factors are controlled. They report the percentage change in the odds ratio found after controlling for the variable in question, noting reductions in many odds ratios, as well as a 400% increase in the odds ratio of male utilization of hospitalization when the SF36, used as a measure of Health Related Quality of Life, is controlled as a potential mediating variable. This appears to be an innovative and logically sound way of answering this question. There are concerns about such a statistical analysis decision, however: first, the authors do not provide detailed information on how they calculated the PCECOR. The reader is left to assume the way that the figure is derived with incomplete information. Second, the question arises whether PCECOR is a more valuable analytic technique than simply running a prediction equation which accounts for these secondary influencing factors by forcing them into the equation? One could argue that it is not, because a single equation forcing in many potential mediating variables allows one to determine which variables have the most impact when considered jointly. By considering only one, two or three variables at a time, one may overestimate the impact of each of these variables: their influence appears additive rather than overlapping. Entering the predicted salient variables into the model concurrently likely provides a more accurate estimate of their relative impact on the outcome of interest, in this case utilisation.
The question is whether the PCECOR derived results agree substantially with a more complex logistic model involving the same elements analyzed singly or in small groups. If there is not such agreement (and this could be determined readily by comparing resultant equations using this data set), it would be important to consider the most conservative means of understanding the influence of mediating variable on the outcome of utilization. Is there, in fact, an advantage of using this different analytic technique? The most likely answer is that this presents simple and easily understood reflections of how odds ratios change when additional variables are considered. However, it is also likely that the PCECOR techniques overestimates the total amount of reduction in odds ratios associated with considering mediating variables by not always considering such mediating variables in the presence of other related variables. It remains to be demonstrated in a psychometrically oriented paper which analytic method produces the more mathematically sound and “face valid” analytic results. These questions are not addressed in the current manuscript. They might be addressed in another paper by the authors for the scientific audience with interest in statistical theory and application.

The authors divide factors explored into three categories using Anderson’s model of predisposing, need and enabling factors to identify key elements which might influence the utilization of health services. Factors are entered singly and in groups to allow a consideration of the data set within this conceptual frame. Again, however, as noted in the last paragraph, the potential of substantial intercorrelation of factors across different areas of the model is not tested.

An interesting cultural phenomenon is apparent in this manuscript as well. When describing the methodology used to calculate the Instrumental Activities of Daily Living (IADL) measures for male and female elders, the authors note the different rules for assessing independence in male and female elders. Eight activities of daily living are inquired about for the female elders in the study, but three of those activities are not explored for their male counterparts. The three excluded activities are preparing meals, doing household chores, and washing clothes. Scoring rules for this instrument are premised on cultural stereotypic assumptions about what elder males can do within their sex roles in the society: i.e. that there is no deficit in skills of daily living if they cannot cook their own meals, go shopping or clean their own home. These assumptions strip the scale of some important information on the ability to live independently and do so on the basis of sexual role stereotypes. Perhaps it is not an adequate rationale for failure to consider the abilities of individuals. It also leads to questioning the discovery that female elders have lower IADL scores than male elders: would those distinctions disappear if both genders answered the same questions? Are important lacks of ability in activities of daily living ignored for the sake of macho stereotypes? Does the scale fail to recognize important decreases in skills over time for some male elders who might have these skills as younger men but lose one, two or three of these abilities as they age? Are wealthy women who have never had to learn these skills seen as less independent than women who have not had household help for these tasks? It is likely that this means of assessing ability to engage in activities of daily living accurately reflects the usual functioning of both genders among Spanish elders; an interesting question is whether the same expectations for gender role exist among younger Spaniards or whether an evolution of gender roles may demand a different way of assessing independence in daily life in the future.

One interesting question raised by this paper is not directly addressed: how does the way women self-report their health status impact the health care delivery they receive? In earlier work by my colleagues and I, we found that new female patients establishing primary care reported more symptoms of depression and poorer health status than their male counterparts.1 However, the role of the physician in the interaction is key as well: even when controlling for the level of depressive symptoms present and the self-reported health status of the patient, women were more likely to be diagnosed as depressed than men, thus influencing laboratory tests run, health care delivered and overall costs.2-4 The authors explore data which reflects how women communicate differently about what they experience somatically as well as how that communication is received by physicians.
Since male and female physicians appear to interact with male and female patients differentially, there may be important implications for costs as well as for workforce development.


What next?: Accept after discretionary revisions

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: Yes

Declaration of competing interests:

I declare that I have no competing interests.