Author's response to reviews

Title: Patterns of perceived barriers to medical care in older adults: a latent class analysis

Authors:

Joshua M Thorpe (jthorpe@pharmacy.wisc.edu)
Carolyn T Thorpe (cthorpe@wisc.edu)
Korey A Kennelty (knelty@wisc.edu)
Nancy Pandhi (pandhi@wisc.edu)

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Author's response to reviews: see over
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Professor Maria Karen Goddard  
Associate Editor  
BMC Health Services Research  

Professor Goddard,

Thank you very much for sending us reviewer comments on our paper “Patterns of perceived barriers to medical care in older adults: a latent class analysis.” We are delighted to have the opportunity to respond to the reviewer’s comments and submit a revised manuscript. I believe the requested clarifications and changes suggested by the reviewer make the paper stronger and also clearer to the intended audience. Changes are bolded in the manuscript and highlighted in the response to reviewers (below).

Again, thank you for your consideration of the revised manuscript. Please do not hesitate to contact me if you have questions.

Sincerely,

Joshua M. Thorpe, PhD, MPH  
Assistant Professor  
Division of Social and Administrative Sciences  
UW-Madison School of Pharmacy  
777 Highland Avenue  
Madison, WI 53705-2222  
Phone: 608-890-2091  
Fax: 608-262-5262  
thorpe2@wisc.edu
Response to Reviewer Comments

Major Compulsory Revisions

Comment 1. Background, fifth paragraph: The authors state they examined only three of the five Penchansky and Thomas access dimensions. What about the other two (i.e., accessibility and acceptability)? If you were unable to measure barriers in these dimensions due to the survey design then this should be clearly stated.

Reply Comment 1: This was an important omission, and we appreciate the Reviewer bringing this to our attention.

In regards to accessibility, the WLS did not have sufficient items to distinguish between the overlapping Availability/Accessibility dimensions. We now acknowledge this in multiple places, including the limitations. We have also relabeled these items as Availability/Accessibility throughout.

(Conceptual Model)

We organize perceived access items into their corresponding dimensions of access described by Penchansky: availability/accessibility, acceptability, accommodation, and affordability [19]. Availability and accessibility are related constructs pertaining to the adequacy of supply of healthcare providers and location of providers relative to patients.

(Measures; Perceived Access)
The CSS items loading on the availability/accessibility dimensions of access were:

(Limitations)

Third, although we included in our latent class analysis a range of access items representing multiple dimensions of access, the WLS items for measuring perceived access were not designed to evaluate the full complexity of access dimensions described by Penchansky; as a result, there was insufficient item “coverage” to establish discriminant validity between Availability and Accessibility dimensions.

In regards to acceptability, we did originally examine acceptability items but failed to report this step in the manuscript. The prevalence of dissatisfaction on these items were very low, and they did not assist in distinguishing the latent class structure that exists among the other “A”s. We therefore went on to exclude these items (as well as the prescription services item) from the final latent class model, as is consistent with latent class methods. We now explicitly acknowledge this in the text.

(Aim 1 Results)

[Paragraph 1] In addition, the following items were dropped because of their low probability of occurrence in the sample and their inability to assist in distinguishing latent classes: access to prescription services, your doctor is
honest with you, your doctor pays attention to you, and your doctor may share embarrassing information [38].

[Paragraph 6] The defining characteristic of Class 4 is perceived problems in all represented dimensions of access (recall that perceived barriers pertaining to Acceptability were deleted due to low prevalence and failure to cluster with other classes). Therefore, we labeled this class “Severe Barriers Group.”

Comment 2. Methods, second paragraph: Please describe how access barriers were classified into one of the dimensions in the Penchansky and Thomas framework.

Reply Comment 2: Per the reviewer’s comment, we provide greater description of how items were organized according to Penchansky and Thomas. This includes reference to a factor analysis we conducted on these items (Medical Care, In press).

Factor analysis from previous work on the CSS revealed four distinct dimensions,[26] with item factor loadings corresponding to four of the access dimensions described by Penchansky and Thomas: availability/accessibility, accommodation, affordability, and acceptability. The CSS items loading on the availability/accessibility dimensions of access were: (item 1) access to medical care in an emergency [emergency care], (item 2) access to hospital care [hospital care], (item 3) services available for getting prescriptions filled [prescription services], (item 4) access to specialty care if you need it [specialty care], (item 5) access to mental health care [mental health care], (item 6) convenience of the location of the doctor's office [convenience of office location]. CSS items loading on the accommodation dimension of access were: (item 7) availability of medical information or advice by phone [advice by phone], (item 8) arrangements for making appointments for medical care by phone [phone appointments], (item 9) length of time you wait between making an appointment for routine care and the day of your visit [wait for appointment], (item 10) length of time spent waiting at the office to see the doctor [time in waiting room], (item 11) amount of time you have with doctors and staff during a visit [time with doctor]. The CSS item representing the affordability dimension of access was: (item 12) their ability to afford health care costs [out-of-pocket costs]. In addition to CSS items, the WLS evaluated respondents’ perceptions of interpersonal aspects of health care providers, representing the acceptability dimension of access, by asking respondents the extent to which they agreed that the doctor (item 13) is totally honest about all treatment options available [doctor is honest]; (item 14) always pays complete attention to what the patient is saying [doctor pays attention]; (item 15) would share embarrassing information about you [doctor shares embarrassing information].

Comment 3. Latent Class Analysis (Aim 1 Results), third paragraph: In the description of Class 2, how did the authors infer that dissatisfaction with access to mental health, emergency, and specialty care constitutes an “availability” barrier? For example, couldn’t a respondent who reported being dissatisfied with their access to mental health care have been dissatisfied due to non-availability reasons such as the cost of that care (affordability), the travel distance
(accessibility), the hours of operation (accommodation), or some personal characteristics of the mental health providers (acceptability)? This is in fact the point of multidimensional access frameworks like the Penchansky and Thomas model; one cannot assume that "access" relates only to financial, availability or other particular reasons.

**Reply Comment 3.** The reviewer raises an excellent point. The discriminant validity of these dimensions/items was established using factor analysis -- an analysis we now briefly describe and cite (see reply comment 2). While not obvious based on the wording of “availability” items, these items factored together and showed concurrent validity with measures related to healthcare workforce. For example, respondents in rural areas, those living in primary care shortage areas, and those living in counties with higher provider-to-population ratios had higher “availability” scores. Scores on other dimensions of access were not significantly associated with these workforce indicators.

As we mentioned above, however, we cannot distinguish between availability and accessibility…in fact, as pointed out by the Reviewer below, convenience of location of the doctor’s office (we agree this should be considered “accessibility”) factored with other “availability” items. We acknowledge this as a limitation.

**Comment 4.** Latent Class Analysis (Aim 1 Results), third paragraph: On a related note, many might consider "convenience of the location of the doctor’s office" to be an accessibility barrier, though the authors do not discuss accessibility barriers. How was this particular barrier categorized and why?

**Reply Comment 4.** See replies # 3 and 4 above.

**Comment 5.** Latent Class Analysis (Aim 1 Results), fifth paragraph: Based on the access barriers described by the authors, members of Class 4 did not actually perceive problems in all dimensions of access; accessibility and acceptability barriers were not discussed.

**Reply Comment 5.** We revised to make this important point clearer:

The defining characteristic of Class 4 is perceived problems in all represented dimensions of access (recall that perceived barriers pertaining to Acceptability were deleted due to low prevalence and failure to cluster with other classes). Therefore, we labeled this class “Severe Barriers Group.”

**Minor Essential Revisions**

**Comment 6.** Background, second and third paragraphs: The limitations of contemporary research in access to care (use of utilization as a metric and inattention to co-occurring barriers) are accurate, though could be communicated much more
clearly. Please either have a separate paragraph for each limitation of the current literature, or explicitly order them so they can be clearly identified (e.g., "One limitation is...A second limitation of the current access literature is...", etc.).

**Reply Comment 6.** We have revised accordingly (i.e., First..., Second, etc).

**Comment 7.** Background, fifth paragraph: Discussion of the conceptual model should be moved to the Methods section.

**Reply Comment 7.** We have revised accordingly.

**Comment 8.** Methods, fifth paragraph: Please provide more information on how "diagnosed conditions" were defined. Are these only chronic conditions (as per standard definitions of these types of conditions) or could they also include acute conditions?

**Reply Comment 7.** We provide more details as follows:

In the WLS, diagnoses of 21 common **chronic** conditions were assessed via self-report by asking respondents for each of the 21 conditions, “Has a doctor told you that your have...”.

**Comment 9.** Methods, sixth paragraph: Since the authors’ definition of "unmet need" includes "reported difficulty or delay in seeking any type of medical care", it would be more accurate to describe this variable as "unmet need or delayed care."

**Reply Comment 9.** We agree and have revised accordingly throughout.

**Comment 10.** Concurrent Validity of Latent Classes (Aim 2 Results): In this section, please clearly identify who the reference group is (presumably Class 1 members).

**Reply Comment 10.** We have clarified as follows:

**All results are relative to the “No Barriers Group”.**

**Comment 11.** Factors that Predict Latent Class Membership (Aim 3 Results): Instead of depicting the RRR and p-values, it would be more useful to identify the RRR and 95% CI. That way readers can easily determine how precise these parameter estimates are.
**Reply Comment 11.** We have added 95% CIs per the reviewer’s suggestion.

**Comment 12.** Discussion, second paragraph: The problem of poor medication adherence is unlikely related to nonfinancial access barriers as suggested here. It is more related to dynamics such as patient engagement and patient-physician communication, so this example should be deleted.

**Reply Comment 12.** We agree and have deleted this example.

**Comment 13.** Discussion, third paragraph: Travel times are described in the Penchansky and Thomas model as an accessibility barrier and not an availability barrier.

**Reply Comment 13.** As per previous comments, we have relabeled the “Availability” group as the “Availability/Accessibility” group. Because we are not attempting to distinguish between these dimensions of access (and acknowledge as Limitation), we believe travel times can appropriately be discussed in this paragraph as a possible explanation.

**Comment 14.** Discussion, sixth paragraph: Please expand on the important point that this survey may not have captured all potential access barriers.

**Reply Comment 14.** Expanded on this important limitation as follows:

Third, although we included in our latent class analysis a range of access items representing multiple dimensions of access, the WLS items for measuring perceived access were not designed to evaluate the full complexity of access dimensions described by Penchansky; as a result, there was insufficient item “coverage” to establish discriminant validity between Availability and Accessibility dimensions.

**Comment 15.** Discussion, sixth paragraph: Another limitation here is that this survey could potentially overestimate access barriers, as barriers were defined on the basis of perceived satisfaction as opposed to barriers that were actually experienced (e.g., conditional on having experienced unmet need).

**Reply Comment 15.** While we agree that different individuals may evaluate the same access circumstances differently – i.e., under the same objective circumstances (insurance, travel times) some may be perfectly satisfied while others may report dissatisfaction, we believe that a patient-centered approach argues we should allow each respondent to evaluate their own circumstances. Therefore, we believe a report of dissatisfaction with an aspect of access is valid from the patient’s perspective and may signal a mismatch between patient’s needs and the healthcare system.

**Discretionary Revisions**

**Comment 16.** Background, second paragraph: Utilization is only one of many access
measures that are commonly used, and many researchers in this area would quickly agree this is a rudimentary metric. Therefore, it would be sufficient to make this point in just one or two sentences.

**Reply Comment 16.** While we agree that researchers with a high level of familiarity with this topic will quickly agree, our experience has been that the majority of health services researchers do not make a distinction between access/use. In fact, many health services researchers go as far as to equate affordability with access. Therefore, we believe it important to explicate the argument in greater detail.

**Comment 17.** Background, third paragraph: Another important limitation of recent research in access to care is a potential overemphasis on financial barriers, often to the exclusion of nonfinancial barriers. It would be prudent to add this point here.

**Reply Comment 17.** We agree (see Reply Comment # 16) and have now highlighted financial barriers as a determinant of considerable focus.

**Comment 18.** Methods, seventh paragraph: Did the authors consider a sensitivity analysis to test whether their findings were robust to their use of imputation?

**Reply Comment 18.** We did examine the robustness of the LCA analysis to imputation by using a full information maximum likelihood (FIML) approach, and results of the LCA were not altered substantively.

**Comment 19.** Discussion, second paragraph: The discussion of potential limits of policies that target only financial barriers in populations with multifaceted barriers is an important one. Therefore, this issue should be discussed in a separate paragraph.

**Comment 19.** We agree this is an important issue and highlight the issue in the Discussion. However, because this study was exploratory in nature, we are hesitant to place too much emphasis on any particular risk factor above other potentially important barriers.

**Comment 20.** Discussion, second paragraph: Healthy People is not mentioned elsewhere in the paper, so I would consider removing that reference. It would be sufficient to just say "...improving access to care for older adults."

**Reply Comment 20.** We agree and have deleted this reference.

**Comment 21.** Table 1: Consider deleting the minimum and maximum columns in the table, as these convey little useful information.

**Reply Comment 21.** We agree and have deleted the min/max columns.

**Comment 22.** Figure 2: Consider using a bar graph instead of a line graph, as the latter usually suggests a change in a group on the y-axis over time on the x-axis.
Reply Comment 22. While we do not necessarily disagree with the reviewer, the line graph is consistent with most publications using LCA and is the default in both Mplus and LatentGold.

Minor issues not for publication

Comment 23. Background, third paragraph: Missing parenthesis after "...and many cancers [2, 3]."

Reply Comment 23. Correction made.

Comment 24. Discussion, first paragraph: Change "For older adults in the community, many of whom with..." to "For older adults in the community, many of whom have..."

Reply Comment 24. Correction made.