Reviewer's report

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

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Reviewer: Jeffrey Kullgren

Reviewer's report:

This is an interesting and generally well-written manuscript that describes a latent class analysis categorizing access barriers among older adults in Wisconsin. Revisions in the following areas would improve the manuscript:

Major Compulsory Revisions

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.

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

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.

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?

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.

Minor Essential Revisions

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.).

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

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?

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."

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

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.

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.

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

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

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).

Discretionary Revisions

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.

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

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.

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."

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

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.

Minor issues not for publication

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

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..."

Level of interest: An article of importance in its field

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.