Reviewer's report

Title: The Impact of Chronic Disease Self-Management Programs: Healthcare Savings through a Community-Based Intervention

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Reviewer: Sharon Johnston

Reviewer's report:

The article by SangNam Ahn et al. makes an important contribution to the literature and policy debate on chronic disease self-management support interventions. Potential cost savings to the health system resulting from a significant increase in uptake of the well studied and evidence-based CDSMP are presented. These are based on survey data of self-reported health care utilization from program participants compared to self-reported utilisation on a national survey by people living with one or more chronic conditions.

Minor essential revision:
Check the numbers in Table 1 as $714 seems to add up to $715.

The following points are recommendations for discretionary revisions:

1. Is the question posed by the authors well defined?

The purpose of the study is clearly stated in the third paragraph of the introduction. It is laid out as a purpose not a research question. This could be phrased as a research question more like: examining reductions in healthcare utilization among CDSMP participants to identify what potential cost savings to the health system might result from participation?

2. Are the methods appropriate and well described?

The methods are appropriate and well described. The comparison sample is drawn from a nationally representative sample within an appropriate timeframe. However, more information on some aspects of the methods would facilitate the readers understanding and valuing of the results. What percent of the total CDSMP participants completed the surveys at baseline, 6 months and 12 months? If less than the total sample, how did the characteristics of the responders compare to the total sample of participants?

The mean cost of a workshop was listed based on expert opinion in two States. More information on why these experts are considered experts and also the range in costs would be important as the discussion bases much on this mean cost. Readers should be aware if there is a wide range and expansion of the program could be at a much lower or much higher cost per workshop.
3. Are the data sound?

The data are sound but again a bit more detail would help with the interpretation. The first paragraph of the results presents reductions in ER use but does not give the timeframe for comparison- was it the six months pre-intervention? Was the reduction at 12 months or the second 6 months compared to the 12 months pre-intervention? The table 1 does not give this information either. It would help if it did.

The Table 1 line “Potential annual healthcare savings per CDSMP participant might be more clear if moved to the bottom of the lines used to make its calculation as it appears to be a sum of the right-most column. (The sum should add up to $715 not 714).

4. Does the manuscript adhere to the relevant standards for reporting and data deposition?

Yes the manuscript adheres to the relevant standards for reporting and data deposition.

5. Are the discussion and conclusions well balanced and adequately supported by the data?

The discussion only presents one set of numbers based on the mean cost and achieving a program penetration of 5% of the total population living with a chronic condition. A more rich discussion might consider the range in costs per workshop of scaling up, whether achieving a reach of 5% of all people living with a chronic condition could be done based on current implementation practices. There is substantial literature on how the CDSMP is implemented and who it is reaching and who it is not reaching. Could the costs of delivering the workshop go up in a significant way to reach that 5% goal? Are these more rural people with smaller group sizes? Would the costs of recruiting and advertising go up to expand the reach? The cost savings appear sizeable and would likely still be justified by further investment but this argument remains to be made.

The authors do state that to better integrate and leverage CDSMP for improvement collaboration among healthcare organisations and other agencies must be strengthened. What is the evidence that such collaboration impacts the CDSMP- relevant studies should be cited. The authors state that useful quality measures related to self-management would be established. Which ones in addition to the routinely collected measures validated during the original study and collected around the world are needed? This is an interesting statement but needs more information. Finally the authors state that providers should be incentivised to support evidence-based practices to self-management. Is there any evidence of this improving uptake or referral or outcomes? How would this alter the overall cost of implementing a workshop and expanding the reach to 5% of all Americans living with a chronic condition?

6. Are limitations of the work clearly stated?
The limitations might add that the full cost of scaling up is not known and needs to be studied.

7. Do the authors clearly acknowledge any work upon which they are building, both published and unpublished?

Yes although some statement in the discussion should be referenced if they are based on previous studies. (see above in point 5)

8. Do the title and abstract accurately convey what has been found?

Yes.

9. Is the writing acceptable?

Yes the writing is acceptable.

Additional discretionary revision:

As the audience for BMC Public Health will be international, the first paragraph of the introduction could state it is health care expenditures in the United States

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**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