Author's response to reviews

Title: Patterns of prescription drug expenditures and medication adherence among Medicare Part D beneficiaries with and without the low-income supplement

Authors:

Stella M Yala MD (sylala@mednet.ucla.edu)
Norman Turk MS (NTurk@mednet.ucla.edu)
Susan Ettner PhD (settner@mednet.ucla.edu)
Obidiugwu Kenrik Duru MD, MSHS (KDuru@mednet.ucla.edu)
Carol M Mangione MD, MSPH (CMangione@mednet.ucla.edu)
Arleen F Brown MD, PhD (abrown@mednet.ucla.edu)

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Author's response to reviews: see over
Dr. Halton’s comments:

1. There are a lot of acronyms used in the manuscript ... All acronyms used in tables need to be defined.
   
   We have changed all references of OOP to “out-of-pocket,” and now define all remaining acronyms in both the text and the tables.

2. The absolute difference in adherence to medications appears to be very small in absolute terms (even though it statistically significant this is more a reflection of the sample size of the study). Even claiming modestly better adherence for LIS recipients is an overstatement for all but diabetes medication.
   
   We appreciate this comment, and have modified both the abstract and the last paragraph of the discussion to emphasize the improvement in adherence for diabetes medications.

3. The last sentence of the introduction doesn't make sense.
   
   We agree and have edited this sentence to make it clear.

4. The manuscript relies somewhat on local knowledge to understand the key differences between the LIS, non-LIS/GC and non-LIS/non-GC categories ... This may limit how interpretable it is for an international audience. Some information in the discussion e.g. paragraph starting line 256 p 11 may be better up front in a clearer description of the important differences between these groups. The relevance of the article may also be broadened by discussing the findings in relation to a broader body of evidence about the impact of healthcare subsidies on healthcare access amongst disadvantaged groups in other settings ...
   
   We also appreciate this comment, and have made changes throughout the manuscript to make it more relevant for readers outside the United States. As suggested, we have moved up information on the financing of the LIS benefit and the proportion of federal spending devoted to LIS recipients, which is now in the second paragraph (lines 73-76). We have also added a new paragraph to the discussion (lines 310-330), comparing the LIS benefit to subsidies in the UK, France, and Germany.
Dr. Couto’s comments:

1. The LIS population used in this study is quite small, and thus some general trends related to their medication adherence and utilization may not be representative of national trends. Namely since at least 2010 (and likely earlier), the higher adherence rates observed in the LIS population vs. the non-LIS population are not typically seen.

   We appreciate this point, and although some studies have demonstrated similar improvements in adherence among LIS beneficiaries, others have shown the inverse. We now cite the article by Couto et al. to ensure readers are aware that the literature is mixed on this issue.

2. Only including those with LIS throughout the year is not an issue, however in CMS reporting typically an individual is classified as LIS if they qualified even for a portion of the year. It is important to note this distinction.

   We have now made this clarification in lines 123-125 on page 5.

3. While higher utilization of medications may be a result of a richer benefit as postulated in paragraph 2, the cost per RX in the LIS group is slightly higher than in the non-LIS group, and while an adjustment for chronic conditions was done, unless severity was included, it [is] difficult to conclude that this higher rate of use of medications was driven by severity and lack of control and not a richer benefit.

   As with any observational study, it is difficult to prove causality, and we acknowledge that our findings could be related to the richer benefit as well as differences in the severity of chronic conditions. We have added this caveat to lines 273-275 in the discussion.

4. Recognition that the branded/generic mix of medications in the target therapy areas has changed considerably since 2006, and thus some of what is reported here re: costs and brand/generic mix may not be representative of current utilization patterns.

   This is an important limitation to note, and we have added this point to the limitations paragraph, in lines 373-376.

Thank you for your consideration of our revision; we look forward to your response.

O. Kenrik Duru, MD
for the study team