Reviewer’s report

Title: Access to health care for persons with disabilities in rural South Africa

Version: 1 Date: 01 Aug 2017

Reviewer: Neha Batura

Reviewer's report:

Thanks to the authors for their detailed and careful response. However, some of the previously raised concerns have not been adequately addressed.

The authors conduct a bivariate regression analysis using their dependent variable and household wealth; household size; and distance to the health facility. As the bivariate relationship is not statistically significant, they have excluded this from their multivariate regression. While commonly used, this is not the most rigorous way to do a regression analysis. Several times, one might not see a bivariate relationship between a dependent and independent variable, and that is because there are often several mechanisms at play in any situation, which can be accounted for when all variables along the causal pathway, so to speak, are included in a multivariate regression. As such, the specification of the final regression model is missing important control or confounding variables. The Rsq is not reported in the table, so it is not possible to interpret how strong the coefficient of determination is.

The authors have included a dummy variable for the type of household, whether with or without one or more disabled members. This is different from a household level effect. Irrespective of the presence of a disabled household member, there are unobserved phenomena that take place in households, that the data is not able to account for. To control for this, one could introduce dummies for each household, or area. These are not reported in the regression table, but the inclusion of these in the regression gives more precise estimates.

A query had been raised about the regression model used by the authors, and they have requested clarification. There are several regression models that can be used to analyse data- ordinary least squares, generalised least squares, logistic, probit, logit, and other models/ methods for non-linear data. What did the authors use?

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

No

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.
No

**Are the conclusions drawn adequately supported by the data shown?**
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