August 8, 2018

To the Editor:

Please find enclosed our jointly authored paper “Demand and Supply Inflation in Floating Catchment Areas (FCA) Methods” that we wish to submit for publication consideration to PLoS ONE.

Floating Catchment Area methods, beginning with the Two-Step Floating Catchment Area (2SFCA) approach, have become very popular tool for the analysis of accessibility, in particular to health care facilities. Despite numerous innovations in the implementation of these methods, there is not, to the best of our knowledge, an adequate solution to the issue of demand overestimation. Further, there has not been in the literature any discussion about the related issue of supply overestimation. These two issues stem from an artifact inherent in previous implementations of FCA methods.

In this paper, we discuss these two artifacts, which we term demand and supply inflation. We show that they stem from double counting population and level of service in the calculation of accessibility. Then, we propose a simple and intuitive way to rectify these artifacts. We illustrate the differences by mean of simple abstract examples and then a case study of accessibility to family physicians in the Hamilton CMA, in Ontario, Canada.

The manuscript is a research article, according to the classification of the journal. It is a new submission, so there have been no prior interactions with the journal regarding this submission.

We would like to suggest Dr. Tayyab Ikram Shah as an ideal Academic Editor for this manuscript.

We thank you for the attention paid to this submission and look forward to hearing back from you in due course.

Sincerely,

Antonio Páez

(on behalf of the coauthors)