RE: Performance of InSilicoVA for assigning causes of death to verbal autopsies: multisite validation study using clinical diagnostic gold standards

Dear Dr. Schiavo,

In this paper we review InSilicoVA, a previously published statistical method for predicting cause of death from verbal autopsy data. The original work was published in the Journal of the American Statistical Association as an estimation framework. The authors of the method also published an open-source software package that implements their method, which we used in this study.

Verbal autopsy is the only solution for reducing ignorance about who dies of what in over two thirds of the world's population, where deaths occur without any contact with the health system. It is also the only feasible method for gathering data related to monitoring progress towards global development goals, such as the SDG. Computer algorithms that automatically code cause of death are essential for creating scalable routine surveillance systems that utilize verbal autopsy. Many Bloomberg Data for Health countries are in the process of incorporating routine verbal autopsy into national civil registration and vital statistics systems. These countries are relying on scientific journals to support national policy decisions about strategic health information system choices.

Using the software provided by the original authors, we could not reproduce the accuracy the authors initially reported. We found results that are consistently worse than the Tariff method, which we previously showed to be most accurate. Additionally, we found that the software leads user to use unvalidated inputs that produce extremely poor results. Countries need independent evaluation and review of important methods published in respected scientific journals to provide optimal support for, and confidence in, their policy decisions to improve health.

Thank you for your consideration.

Sincerely,

Abraham D. Flaxman Associate Professor of Global Health Institute for Health Metrics and Evaluation