Seminar Event Co-sponsored by International Association for Official Statistics and ASA Washington Statistical Society

Statistical linkage of multiple disparate data sources with an application to estimate COVID-19 vaccine hesitancy rates for small areas
Co-Chairs: Misha Belkindas and Yan Li
Date: Monday, November 15th, 2021
Time: 11:00AM – 12:00PM EST

Speaker: Partha Lahiri
  Professor and Director, Joint Program in Survey Methodology
  Professor, Department of Mathematics
  University of Maryland, College Park

Abstract:
The greater accessibility of administrative and Big Data and advances in technology are now providing new opportunities for researchers to solve a wide range of problems that would not be possible using a single data source. However, these databases are often unstructured and are available in disparate forms, making data linkages quite challenging. There is, therefore, a growing need to develop innovative statistical data linkage tools to link such complex multiple data sets. In this talk, we will focus on one important application of statistical data linkage to estimate small area proportions. We first present our general small area estimation (SAE) methodology. We then apply the proposed methodology to estimate vaccine hesitancy rates for the US states and the District of Columbia (small areas). We use data from two different surveys -- one probability survey representing the entire adult US population and the other a non-probability survey representing only active adult Facebook users -- and Census Bureau estimates of adult population counts at granular levels along with data from an independent COVID-19 data reporting website. The proposed SAE methodology could potentially help public policymakers target geographical areas for vaccination, public health campaigns and vaccine distribution. **This talk is based on collaborative research with Professor's Lahiri doctoral student Soumojit Das.**

About the speaker: Partha Lahiri is a Professor in the Joint Program in Survey Methodology (JPSM) and in the Department of Mathematics at the University of Maryland, College. He is a Fellow of the American Statistical Association and the Institute of Mathematical Statistics and an elected member of the International Statistical Institute. Professor Lahiri is the recipient of the 2020 SAE award for his outstanding contribution to the research, application, and education of small area estimation (SAE).

For additional information about this event, please contact Misha Belkindas, IAOS President or Yan Li, WSS Methodology Program Chair.

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