

On making valid statistical inferences by combining data from multiple sources

J. N. K. Rao, Carleton University

ABSTRACT

Survey samplers have long used probability samples from multiple sources in conjunction with census and administrative data to make valid and efficient inferences on population parameters. This topic has received a lot of attention more recently in the context of data from non-probability samples such as web surveys and social media. In this talk, I will discuss some methods, based on models for the non-probability samples, which could lead to useful inferences when combined with probability samples. I will also explain how big data may be used as predictors in small area estimation.

J. N. K. Rao is a Distinguished Research Professor at Carleton University. He is also a consultant and member of the methodology advisory board at Statistics Canada. He received the first medal for outstanding contributions to small area estimation at the International Conference on Small Area Estimation, Paris 2017. He published the second edition of his highly cited Wiley book on small area estimation in 2015 jointly with Professor Isabel Molina of Carlos III University, Madrid, Spain.