

Mathematical Sciences & Bioinformatics

Spring 2022

Colloquium

Dr. George Luta

Georgetown University

⋮ Online (Zoom) Meeting ⋮

⋮ Friday, March 4 ⋮ 3pm ⋮

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Statistical Methods to Construct Confidence Intervals for Measures of Health Disparities

Abstract

Health disparities are differences in health status across socioeconomic groups. Analytic methods, such as the Taylor series approximation method, are commonly used to estimate the standard errors of estimated measures of health disparities, and to construct confidence intervals for these measures. However, the confidence intervals constructed using these methods do not have good coverage properties for situations involving sparse data. In this presentation we introduce a new method to construct confidence intervals for measures of health disparities based on approximate fiducial quantiles. We use a simulation study to compare the coverage properties of the 95% confidence intervals constructed using the two types of methods. Based on the results of the simulation study, we recommend the use of the new method for the construction of confidence intervals for measures of health disparities.

George Luta is a Professor of Biostatistics at Georgetown University. He has 24 years of experience as a biostatistician, and his collaborative and independent research work has resulted in more than 140 peer-reviewed publications. His current honorary appointments include being a Visiting (Adjunct) Professor in the Department of Clinical Epidemiology at Aarhus University (Aarhus, Denmark) and an Honorary Senior Research Fellow at the Parker Institute (Copenhagen University Hospital, Frederiksberg, Denmark). Dr. Luta is an Elected Member of the International Statistical Institute.

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