

On Measuring Functional Attribution in Disease Prevention Research

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1:30PM-2:50PM

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Abstract:

In disease prevention research, researchers often need to assess a prevention strategy that targets key disease-associated risk factors to reduce a population's disease burden. In this talk, we focus on the fraction of the total disease burden associated with the risk factors targeted by the prevention strategy that is calculated by time-varying attributable risk functions (ARF). We present some generic ARFs and develop nonparametric and semiparametric model-based procedures to estimate, compare, and predict ARFs. In addition to numerical simulation studies, we demonstrate the use of ARFs for a human immunodeficiency virus (HIV) behavior intervention trial in prevention of HIV transmissions among men who have sex with men (MSM).

Reading List:

Chen, Wang, Zhang, and Prentice (2026) Estimating attributable risk functions for censored time-to-event in disease prevention research, *Lifetime Data Analysis*, Vol 32, Article 24 , <https://link.springer.com/article/10.1007/s10985-026-09704-2>