CCSU
DEPARTMENT OF MATHEMATICAL SCIENCES

COLLOQUIUM

Friday, October 21
3:00 – 4:00 PM
Maria Sanford, Room 101

LIKELIHOOD-BASED APPROACH FOR TESTING THE HOMOGENEITY OF RISK DIFFERENCE IN A MULTICENTER RANDOMIZED CLINICAL TRIAL

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Joint work with Krishna Saha, CCSU

Abstract: Lipsitz et al. (1998) proposed various test procedures for testing the homogeneity of the risk difference in a multicenter randomized clinical trial when the data are sparse. However, in some situations, these test procedures showed serious liberal behaviors. To improve these test procedures, Lui and Kelly (2000) considered three different suggested approaches, but still these test procedures behave very similar by showing improvement only in power. To overcome these limitations, we develop some likelihood-based test procedures for testing the homogeneity of the risk difference based on the binomial and the beta-binomial models. We also propose to improve the existing test procedures using the correct variance estimators by taking within center correlation into account. Our proposed test procedures are then compared with existing test procedures, by Monte Carlo simulations, in terms of size and power. An illustrative application of the proposed test procedures is presented.

Note: This will be a remote presentation via WebEx.

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For further information: gotchevi@ccsu.edu; 860-832-2839; https://web.ccsu.edu/colloquium/