

INCORPORATING HISTORICAL INFORMATION IN TESTING FOR A TREND IN POISSON MEANS

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Abstract. An exact conditional test is developed for testing a trend in Poisson means when the historical control information is incorporated into the concurrent control data. An asymptotic conditional test is also developed as an alternative to the Tarone test. Asymptotic gains by the incorporation of the historical information is evaluated.

Key words and phrases: Poisson trend test, negative multinomial distribution, exact conditional test, asymptotic normality, asymptotic efficiency.