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K K Saha* (sahakrk@ccsu.edu), Department of Mathematical Sciences, 1615 Stanley Street, New Britain, CT 06053. *Tests for the Equality of the Means in the Analysis of Clustered Count Data.*

Clustered count data occurring in a variety of applications in biology, toxicology, ecology, clinical medicine, epidemiology and other similar fields often exhibit extra-dispersion (overdispersion or underdispersion) than predicted by a simple Poisson model. This arises when the data are grouped or when the assumption of independence is violated. In this communication, we discuss several procedures for testing the equality of the means of clustered count data when extra-dispersions among the treatment groups are equal or unequal. The simulation study indicates that the statistic based on the adjusted count data, which does not require any specific model for the extra-dispersion, holds the best performance characteristics over the other statistics. Analysis of the real life data arising from biostatistical practices is presented. (Received September 08, 2008)