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Alex Capaldi* (alex.capaldi@valpo.edu), 1900 Chapel Drive, Valparaiso, IN 46383. *Model Selection for an Outbreak of Influenza in a Boarding School.*

Epidemiologists often strive to calculate the basic reproductive number, R_0 , for an outbreak to use as a summary of the strength of the infection. This is frequently done indirectly by fitting a model to data. However, choosing an appropriate model to fit to the data is a non-trivial step in the modeling process. In this presentation, we apply the Akaike information criterion to select a model from a series of ODE and PDE epidemic models fitted to an outbreak of influenza in a boys' boarding school in England. We find that an uncommonly used epidemic model, a Susceptible-Infective-Confined-Recovered (SICR) model, is the best fitted, most parsimonious model and produces an estimate of R_0 of 4.25. (Received September 13, 2010)