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Istvan Lauko, Gabriella Pinter and Rachel Elizabeth TeWinkel* (tewinke2@uwm.edu),
Department of Mathematical Sciences, PO Box 413, Milwaukee, WI 53201-0413. *Exploration of a
Monkeypox Model.*

We build off of a monkeypox model with both human and animal populations where the infection is transferred within these populations and from animals to humans. There has been an increase in the incidence of monkeypox in human populations in recent years – partially due to the eradication of smallpox. The smallpox vaccine provides some protection against monkeypox, but since the eradication of smallpox, there is decreased presence of those vaccinated against it in human populations. Hence, we model infectivity in the human population as a function of time instead of being constant. We also investigate what changes when the birth and migration rates are functions of time instead of constants. We will present simulation results showing possible outcomes and will discuss what considerations may help minimize the impact of monkeypox. (Received September 22, 2018)