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Jonathan Forde* (forde@hws.edu), 4178 Scandling Center, Hobart and William Smith Colleges, Geneva, NY 14456, and **Bailey Meeker**. *A Model of Varicella-Zoster Virus Reactivation*.

Varicella-Zoster Virus (VZV) is a alpha-herpes virus which causes varicella (chickenpox) as a result of primary infection, remains latent in the host for life after the initial inflammation, and can cause zoster (shingles) as a result of reactivation in later life. This reactivation is generally thought to occur as a result of diminished immune control in aging patients. It is known that exposure to individuals infected with VZV (such as children with chickenpox) boosts the immune response, decreasing the likelihood of reactivation. The development of a VZV vaccine has raised questions about the advisability of universal vaccination, as it increases the number of cases of zoster likely to occur. In this paper, we present a differential equations model of the virus-host interaction over the course of infection, up to reactivation. At the population level, we also present a model with the random effect of immune boosting and mortality. (Received February 10, 2009)