1035-92-1164   **Daniel Maxin*** (`daniel.maxin@valpo.edu`), Department of Mathematics & Computer Science, Valparaiso University, 1900 Chapel Drive, Valparaiso, IN 46383. *The interplay of abstinence and infertility with the existence of sub-threshold endemic states in epidemic models of persistent sexually transmitted diseases.* Preliminary report.

We analyze a logistic epidemic model for a generic mild and long-lasting sexually transmitted disease, without recovery and additional mortality. We study the effect of isolation from reproduction on the dynamics of the disease by including groups of individuals who, while sexually active, remain childless for life either by choice or due to social or medical reasons. We use modified one-sex and gender structured models and we derive threshold conditions on the vital parameters that separate a disease-free steady state from an endemic situation. We also study the nature of the bifurcation around the epidemic reproductive number and found that different isolation rates may lead to the existence of sub-threshold endemic steady states. This is a continuation of our previous research where we performed this analysis considering groups of abstinent people only (preprints available at http://faculty.valpo.edu/dmaxin/). (Received September 18, 2007)