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Buffy Joy Lloyd and **Omayra Ortega*** (omayra.ortega@asu.edu), Arizona State University, School of Mathematical and Natural Sciences, Phoenix, AZ. *An Age-Based Stochastic Model of HPV.*

Approximately 630 million people are infected with Human Papillomavirus (HPV) worldwide with six million new cases every year [4]. With over 200 different types identified, HPV is the most common sexually transmitted infection contributing to multiple adverse health outcomes including cervical cancer. In our study, we develop a stochastic model which describes the transmission of HPV infection in both men and women. We separate the women into the age groups of 12-19, 20-29, 30-65, 65+ and observe the rates of progression to disease, pre-cancerous cells, cancer and death in women. Our studies show that the 12-19 age group progresses to infection with HPV at the lowest rate, while the number of women presenting with Low-Grade Squamous Intraepithelial Lesion (LSIL) peaks during the ages of 30-65 and women progressing to oncogenic HPV types peak at the age of 65+. (Received September 15, 2013)