

Consideration of HPV Vaccine Effects

Dr. Angela Gallegos ; Joint work with Dr. David Uminsky and Aaron Steinberg

There are many models considering the effects of the HPV vaccine on HPV infection rates and cervical cancer development in the population. These models can be very detailed and account for many different screening practices. However, they are also primarily targeted at evaluating the cost effective nature of the vaccine and which age groups should be vaccinated for a cost effective practice. Our work focuses on a more basic epidemiological question about the effect of the vaccine: *Given a range of efficiencies of partial vaccines, is it better to focus on having a cohort finish the vaccine sequence or on initially vaccinating a larger cohort?* We utilize a Markov model to address this question and manipulate unknown parameters which reflect the effect of vaccine waning over time as well as levels of partial immunity which may be conferred through partially completing the vaccine sequence.