

## **Predictors of poor patient adherence to HIV antiretrovirals among veterans and development of a clinical decision tool: a national study.**

Junior Investigator: Joanne LaFleur, Pharm.D., MSPH

Senior Investigator: Jonathan R. Nebeker, M.D., M.S.

### **Abstract**

*Rationale:* Poor patient adherence to antiretroviral therapy has frequently been observed in patients with Human Immunodeficiency Virus (HIV) and is associated with virologic failure, drug-resistance, and increased morbidity and mortality. The National Institutes of Health guideline for the use of antiretrovirals states that adherence is critical, with levels of 95% being considered optimal, and recommends that treatment be postponed if suboptimal adherence is considered likely. Thus, it is key for clinicians to be able to predict who is likely to achieve optimal adherence.

Although HIV infection is prevalent in the Veteran community with nearly 20,000 patients in 2002, adherence to antiretrovirals is not well studied among this subset of the population. The few published studies provide only a limited view of the determinants of suboptimal adherence among veterans. A large-scale study of adherence in a veteran population that is designed to look at multiple variables is warranted.

*Objective:* We propose to bring together a multidisciplinary team to identify patient characteristics and disease variables that are predictors of poor adherence among a national population of HIV-seropositive veterans and to create and validate a prediction rule to assist clinicians in deciding whether to postpone treatment.

*Methods:* Incident cases of HIV-seropositive, antiretroviral-naïve patients initiating therapy from 2000 – 2005 will be identified in a national Veterans Health Administration (VHA) dataset and will be followed forward for one year. Adherence ratios will be calculated using pharmacy data. Logistic regression models will be used to assess the relationship between patient and disease characteristics and poor adherence. Specific treatment regimens will be evaluated to determine whether patient adherence differs between the regimens. Confounding by physician selection of regimen will be evaluated and, if appropriate, controlled for with the use of propensity score modeling and instrument variable estimation. A final model that maximizes the predictive ability for patient adherence will be developed and validated.