

## **HIV/AIDS**

The Human Immunodeficiency Virus (HIV) infection is a condition that causes a chronic, progressive disease that leads to early death if untreated. HIV is characterized by persistent viral replication throughout an extended period of time in which patients experience few or no symptoms, while their immune system is under siege. Over the course of 5-10 years, HIV typically results in significant immune depletion and dysfunction, chronic symptoms, and vulnerability to a variety of opportunistic conditions that characterize AIDS (Acquired Immune Deficiency Syndrome). There are 650,000 to 900,000 infected adults in the United States. More than 38,000 patients received HIV care in the VA between 1993 and 2001, making it the largest provider of HIV care in the U.S.

The HIV/AIDS Quality Enhancement Research Initiative (QUERI-HIV/AIDS) utilizes the QUERI process (see back page) to improve the quality of care and health outcomes of veterans with HIV. QUERI-HIV/AIDS also produces critical information on best practices deemed essential for the effective care of veterans with HIV.

## **QUERI-HIV/AIDS Projects and Findings**

Current QUERI-HIV/AIDS activities include the completion and dissemination of earlier projects and the active development of a new implementation research portfolio. Following are some examples of current projects that focus on health issues of critical importance to veterans with HIV.

### ***Describing HIV-Infected Veterans in Care***

The Quality Enhancement Database (QED) for HIV is a research-standard database, created from the VA HIV registry, which is used to monitor trends in care and measure quality improvement outcomes. QED inpatient files from 1993 to 2001, containing data for 102,355 unique hospitalizations for men (less than 5% of VA's HIV-infected population are women; their figures are not reported here), reveal some interesting trends.

QUERI-HIV/AIDS research has shown that 55% of HIV patients in VA care during 2001 received acceptable combinations of antiretroviral (ARV) drugs (where clearly indicated), ranging from 27 to 82% per facility. However, 4% received single drugs or combinations of drugs that are not recommended, ranging from 0 to 21 percent of patients per site. QUERI-HIV/AIDS research projects emphasize the importance of optimizing therapy by addressing gaps in provider adherence to evidence-based guidelines for appropriate HIV care, such as prescribing ARV drugs and opportunistic infection prophylaxis, and monitoring immune and virologic status at regular intervals.

While total encounters at primary care or infectious disease clinics have remained

steady, the frequency of these encounters has declined, as have the number of hospital stays. While this drop was observed for hospitalization of all diagnoses, a decline in hospital stays where an AIDS-related condition was the primary discharge diagnosis was most evident. Among stays for HIV-related conditions, the most frequent diagnoses recorded were for the most common opportunistic infections associated with AIDS. However, there was a rapid and dramatic increase in the percentage of primary discharge diagnoses for acute Hepatitis C – up from approximately 8% in 1993 to 43% in 2001. In addition, alcohol and drug dependency remain among the top five overall primary discharge diagnoses for those with HIV.

### ***Identifying VA Patients with HIV***

Not all veterans at risk for HIV within the VA are being appropriately screened, and some that have screened positive for HIV are not receiving evidence-based care. In order to increase access to care, QUERI-HIV/AIDS investigators plan to review screening policies and suggest policy reforms where needed. This project also will include characterizing certain VA sites by the cost-effectiveness of their on-site screening practices and providing a detailed cost-effectiveness analysis of screening. This is a comprehensive effort to accurately

### **The QUERI-HIV/AIDS Executive Committee**

Each QUERI Executive Committee is co-chaired by a research expert and a clinician. The Co-Research Coordinators are: **Steven Asch, MD, and Allen Gifford, MD**; the Clinical Coordinator is **Deborah Cotton, MD, MPH**. QUERI-HIV/AIDS's Executive Committee includes: **Candice Bowman, PhD, RN** (Implementation Research Coordinator); Sam Bozzete, MD, PhD; Sophia Chang, MD; Robert Eng, MD; Matthew Goetz, MD; Mark Holodniy, MD; **Maria Inacio, MS** (Administrative Coordinator); Amy Justice, MD, PhD; Don MacIver; Mark Mischan; Larry Mole, PharmD; Douglas K. Owens, MD; Michael Rigsby, MD; David Rimland, MD; Michael Simberkoff, MD; Joel Tsevat, MD; and Paul Volberding, MD.

identify all HIV-infected veterans with probable HIV infection and examine their potential access barriers to appropriate HIV care.

### ***Improving Adherence to Guidelines***

This project assesses the implementation of interventions to promote quality care by testing computerized clinical reminders and a group-based social support strategy in several VA sites. Preliminary findings suggest that guideline adherence is increased by these interventions. Cost feasibility and sustainability measurements of the interventions will be available early next year.

### ***Improving Medication Adherence***

Even when combination ARVs are appropriately prescribed for HIV, patient adherence to these medications is a serious clinical concern, and a major QUERI-HIV/AIDS focus. Non-adherence can lead to ineffective viral suppression, substantial risk of drug-resistant HIV, and waste of pharmaceutical resources. The Adherence Care Enhancement (ACE) Clinic is an intensive clinical pharmacist education and support program aimed at improving adherence to combination ARV medications among HIV-infected veterans. While this intervention is coming to an end at the four study sites, the evaluation that is being conducted by the ACE team should yield results by early next year. If successful, the potential exists for broad dissemination.

### ***Studying the Relationship Between HAART and Metabolic Disorders***

Over the past several years, lipodystrophy (defective metabolism of fat) has been recognized as a complication of HIV disease and treatment, particularly treatment with protease inhibitors. In addition, there is now increasing concern regarding hyperlipidemia, osteoporosis, and the potential for an increased risk of cardio/cerebrovascular events (i.e., myocardial infarction and stroke). QUERI-HIV/AIDS recently completed a study of short-term association of highly active antiretroviral therapy (HAART) and cardio/cerebrovascular events that showed no relationship. The same investigators are now assessing the hazard ratios of inpatient stay and/or mortality for cardio- or cerebrovascular disease among those patients who have received various classes of HAART versus those who have not, as well as time-varying measures of ever or cumulative exposure to classes of HAART therapy as covariates. Results should be available in late 2004.

### ***Evaluating the Impact of Comorbidities on HIV Infection***

Hepatitis C Virus (HCV) and HIV infection are increasingly common comorbid conditions. The existence of HIV co-morbidity has a deleterious impact on the effectiveness of HCV therapy in unexpected ways, including increasing the risk of adverse reactions and patient non-compliance. QUERI-

HIV/AIDS has taken the first step toward assessing the impact of HIV infection on outcomes of HCV therapy in the VA health care system. This study will be the basis for many other comparative studies between these important subgroups of patients.

## **Quality Enhancement Research Initiative**

QUERI currently focuses on nine conditions that are prevalent and high-risk among veteran patients: Chronic Heart Failure, Colorectal Cancer, Diabetes, HIV/AIDS, Ischemic Heart Disease, Mental Health, Spinal Cord Injury, Stroke, and Substance Use Disorders.

## **The QUERI Process**

The QUERI process includes six steps:

- 1) identify high-risk/high volume diseases or problems;
- 2) identify best practices;
- 3) define existing practice patterns and outcomes across VA and current variation from best practices;
- 4) identify and implement interventions to promote best practices;
- 5) document that best practices improve outcomes; and
- 6) document that outcomes are associated with improved health-related quality of life.

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***VA's Research and Development QUERI Website:*** [www.hsrd.research.va.gov/queri](http://www.hsrd.research.va.gov/queri)

***VA's QUERI HIV Website is available at:*** [www.va.gov/queri-hiv/](http://www.va.gov/queri-hiv/)