



VA is the largest single provider of HIV care in the U.S., with nearly 20,000 patients with the disorder treated annually. Accordingly, VA Research funds a full range of studies in this area, from basic research aimed at understanding the process of HIV infection, to studies aimed at improving the delivery of care for this population.

### *Examples of VA research advances*

- **Vaccine Development**—Work done at the VA New York Harbor Healthcare System in Manhattan showed that antibodies against a novel region of the HIV envelope called the V3 loop have anti-viral activity against different subtypes of HIV. This work is important for the national design of broadly effective HIV vaccines.
- **Story of discovery**—VA researchers at the South Texas Veterans Healthcare System in San Antonio showed that people with a below-average number of copies of a particular immune-response gene have a greater likelihood of acquiring HIV and, once infected, of progressing to full-blown AIDS. Researchers examined blood samples from 4,308 HIV-positive and HIV-negative volunteers of various geographical ancestries. Depending on the study sub-population, each copy of the gene CCL3L1 decreased the risk of HIV infection by 4.5 percent to 10.5 percent. These findings have important implications for the treatment and prevention of HIV infection and AIDS.
- **Predictor of disease progression**—VA research has shown that a person's genetic makeup (the genes CCL3L1 and CCR5) could be a more accurate predictor of disease progression than currently used laboratory markers, such as CD4+ T cell counts and viral loads. The researchers also demonstrated that the combination of laboratory and genetic markers captures a broader spectrum of AIDS risk than either set of markers alone.

### **Facts About HIV/AIDS**

Acquired immune deficiency syndrome or acquired immunodeficiency syndrome (AIDS) is a collection of symptoms and infections caused by damage to the immune system from the human immunodeficiency virus (HIV). At the end of 2003, nearly 1.2 million people in the United States were living with HIV/AIDS. CDC has estimated that approximately 40,000 persons in the United States become infected with HIV each year. Although treatments for AIDS and HIV exist to slow the virus progression, there is no known cure.



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Sept. 2007