



Infectious Disease

One of the earliest contributions of VA researchers to medical science was the establishment of effective treatments for tuberculosis, back in the 1930s and 1940s. Since then, VA researchers have helped advance the understanding, prevention, and treatment of numerous infectious diseases, ranging from the common cold to major public-health threats such as AIDS.

Examples of VA research advances

- **MRSA in the crosshairs**—A pilot study at the VA Pittsburgh Health Care System showed that routine screening of newly admitted patients for methicillin-resistant *Staphylococcus aureus*, or MRSA, could dramatically cut the spread of the dangerous antibiotic-resistant germ, which is estimated to cause more than 94,000 serious infections and nearly 19,000 deaths each year in the United States. VA hospitals nationwide have since adopted routine screening of all new patients. Screening every patient is costly, though, so researchers at the Baltimore VA are now exploring ways to identify those patients at higher risk for the infection and determining whether targeted screening would be more cost-effective.
- **Salmonella in space**—A VA research project that may lead to the development of a vaccine to prevent Salmonella poisoning was aboard the NASA space shuttle that launched March 11, 2008. Worms grown in space will be fed salmonella, which undergoes unique biological changes in microgravity. Studying the worms when they return to earth will help researchers identify a weakened strain of salmonella for use in a vaccine.
- **Predicting HIV disease progression**—A team led by a VA researcher in San Antonio found that specific combinations of two genes—CCL3L1 and CCR5—could be a more accurate predictor of the progression of HIV infection to AIDS than currently used laboratory markers, such as CD4 cell counts and viral loads. The researchers also found that the combination of lab and genetic markers captures a broader spectrum of AIDS risk than either set of markers alone.

Facts About Infectious Diseases

Infectious diseases are generally classified according to the source of the infection. The major types are viral, bacterial, parasitic, and fungal. In the VA health care system, two viral diseases of special concern are HIV-AIDS and hepatitis C. VA maintains special websites devoted to these conditions: www.hiv.va.gov/ and www.hepatitis.va.gov. VA investigators are studying these and a wide range of other infectious diseases and working toward developing effective new preventive strategies, vaccines, and drugs. In recent years, bioterror—the use of bacteria, viruses, or toxins to harm people—has become a concern for public health officials, and VA hospitals take part in a national program called BioSense to help track and investigate suspected bioterror events.

