ABOUT INFECTIOUS DISEASES

• Infectious diseases can be caused by bacteria, viruses, fungi, or parasites. These microorganisms can be present on a person’s skin or inside their body. While most microorganisms are harmless, some can cause disease under certain conditions.

• Some infectious diseases are passed through the air by coughing or sneezing. Other diseases are transmitted through insect or animal bites, ingesting contaminated food or water, or being exposed to pathogens in the environment.

• Certain infectious diseases can be treated with antibiotics. However, many have become resistant to antibiotics. Bacteria, for example, can mutate so that they are no longer susceptible to antibiotics. When that happens, it is more difficult to treat those infections and patients often require extended hospital stays. Antibiotic resistance has become a public health threat.

• VA has determined that nine infectious diseases are related to military service in the first Gulf War, Iraq, and Afghanistan. They include malaria, brucellosis, campylobacter jejuni, coxiella burnetli (Q fever), mycobacterium tuberculosis, nontyphoid salmonella, shigella, visceral leishmaniasis, and West Nile virus.

VA RESEARCH ON INFECTIOUS DISEASES: OVERVIEW

• VA researchers are advancing the understanding, prevention, and treatment of numerous infectious diseases, ranging from the common cold to major public health threats such as COVID-19, tuberculosis, AIDS, hepatitis C, and influenza.

• Some researchers are focusing on infectious diseases that may endanger American troops serving abroad, such as malaria and leishmaniasis. Others are searching for new approaches to treat infectious diseases, focusing on how pathogens change and drug resistance evolves.

• VA’s Health Services Research and Development service is partnering with the Centers for Disease Control and Prevention (CDC) to create a research network that will identify ways to better protect patients and employees from infectious diseases in VA medical centers. Researchers will carry out studies in infection control and the proper use of antimicrobial drugs to best meet the growing threat of multi-drug resistant pathogens.

SELECTED MILESTONES AND MAJOR EVENTS

1946 – Developed and tested effective therapies for tuberculosis through multicenter clinical trials that led to the development of the VA Cooperative Studies Program

2005 – Demonstrated the effectiveness of a new vaccine for shingles, a painful skin and nerve infection affecting older adults

2011 – Published findings showing a 60% or greater decrease in MRSA infections from a VA-wide infection control initiative

2014 – Learned that treatment for pneumonia that included the antibiotic azithromycin (Zithromax) was associated with a significantly lower risk of death and a slightly increased risk of heart attack

2015 – Found that patients who received antiretroviral therapy within a year of their infection were half as likely to develop AIDS, compared with those who waited longer

2016 – Determined that a hospital infection-control program aimed mainly at MRSA can also significantly reduce transmission of bacteria that cause infections such as pneumonia, blood infections, surgical infections, and meningitis

2018 – Found that people on a single tablet regimen for HIV infection had better outcomes than those on a multi-pill regimen to suppress the virus

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