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The threat of multidrug-resistant infections to the U.S. military

Expert Testimony, Research, and Commentary.

Overview

Multidrug-resistant infections are on the rise across the United States and around the world, posing a grave threat to our nation's military veterans and active-duty personnel. Although our men and women in uniform increasingly survive severe wounds sustained in combat, their injuries can leave them susceptible to life-threatening infections for which little or no treatment is available.

A 2012 study found that doctors in Veterans Affairs hospitals are more frequently turning to last-resort antibiotics to fight the rising number of infections. The rate at which doctors prescribed these treatments in VA facilities increased by 25 percent from 2005 to 2010, despite the physicians' reluctance to use them because of severe side effects. In some cases, the bacterial infections were so severe that doctors were left with no treatment options at all.

New antibiotic treatments are needed. Medical experts and members of the veteran and military community have called on Congress to act on legislation that can spur the development of antibiotics to treat these unmet medical needs.

> "**American military personnel and military veterans are dying because they have infectious disease superbugs that existing antibiotics will not kill**. The impact of these new superbugs on the American population is staggering, with the Centers for Disease Control and Prevention recently estimating that **2,000,000 infections with antibiotic-resistant bacteria occur each year in the United States, and that 23,000 of our military, veterans, and fellow citizens die as a result**."
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> Anthony A. Wallis, *Association of the United States Army, letter of support to Representatives Phil Gingrey and Gene Green on Antibiotic Development to Advance Patient Treatment Act, May 4, 2014*

> **The rising numbers of antibiotic-resistant bugs [threatens] Americans in hospitals, on the battlefield, in their homes, and in our schools.** Unfortunately, there are still regulatory barriers to getting promising new antibiotics approved. The clinical trials necessary to get a drug approved can be difficult and expensive, but sometimes only a limited subset of the population really needs the drug. Studying drugs for the limited population that needs them most would make clinical testing more feasible and affordable."
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> Rick Jones, *National Military and Veterans Alliance, testimony before the House Armed Services Subcommittee on Military Personnel, April 9, 2014*

> Wounds that were once fatal can now be survived, and many injured soldiers go on to lead healthy and productive lives. But for [too many], **grave wounds received in battle are rendering soldiers vulnerable to drug-resistant infections**.
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> The threat is growing. Pathogens continue to develop resistance to existing drugs, and there are too few new antibiotics in the research and development pipeline. **Doctors are running out of treatment options for infections, which—though once curable—have since become deadly**."
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> Retired Rear Adm. James J. Carey, *national chairman, the Flag and General Officers' Network, The Hill, June 10, 2014*

> **MDRO [multidrug-resistant organism] infections** have become an international health problem during the past several decades and now **pose a challenge to the care of our wounded military personnel**."
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> Duane R. Hospenthal et al., *"Multidrug-Resistant Bacterial Colonization of Combat-Injured Personnel at Admission to Medical Centers After Evacuation from Afghanistan and Iraq," Journal of Trauma, July 2011*

> Since the onset of Operations Iraqi Freedom and Enduring Freedom, **infection and colonization with MDROs ... have complicated the care of injured U.S. military personnel returning from Iraq and Afghanistan**."
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> Col. Duane R. Hospenthal, M.D., Ph.D., *U.S. Army, infectious disease consultant to the Army surgeon general and chief of the infectious disease service, Brooke Army Medical Center, Fort Sam Houston, Texas, and Col. Jonathan Jaffin, M.D., U.S. Army, director of health policy and services, Office of the Army Surgeon General, before the House Armed Services Subcommittee on Oversight and Investigations, Sept. 29, 2010*

> In 2010, **treating infections in the setting of widespread bacterial resistance has challenged the Military Health System (MHS) as it has hospitals throughout the U.S. and rest of the world**. The difference for the Department of Defense (DOD) has been the concomitant care of thousands of young, injured service members coming from the wars in Iraq and Afghanistan. Increasingly, **many of these critically injured patients are colonized or infected with MDROs, especially Gram-negative bacteria, that demonstrate resistance not just to first-line antibiotics, but to all the major antibiotic classes in our armamentarium**. This situation limits treatment options with either second-line drugs with greater toxicity or, in some cases, no drugs to which the organism demonstrates sensitivity.... **Persistent infections, prolonged hospitalizations, more numerous and extensive surgical procedures, and loss of limb and life have been attributable to MDROs**.... Given the continuing operational tempo of our overseas contingency operations, **we can expect that injuries and infections with MDROs will continue in our facilities at all levels**." ."
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> Cap. Gregory J. Martin, *Medical Corps, United States Navy, and Judith English, Bureau of Medicine and Surgery, U.S. Navy, testimony before the House Armed Services Subcommittee on Oversight and Investigations, Sept. 29, 2010*

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