

# Veterans health administration outlines recommendations to combat 'crisis' of MDROs

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The Veterans Health Administration, the largest integrated healthcare system in the United States, is leading efforts to prevent the spread of dangerous multi-drug resistant organisms (MDROs), as detailed in a series of articles published in the February issue of *Infection Control & Hospital Epidemiology*, the journal of the Society for Healthcare Epidemiology of America. The articles, authored by experts in each area, identify gaps in the existing knowledge about MDROs and set a research agenda in four specific areas: transmission dynamics, antimicrobial stewardship, the microbiome, and special populations.

"Multi-drug resistant organisms cause infections that are very difficult to treat. This threat goes beyond the medical community. It is a public health crisis waiting to happen," said Eli Perencevich, MD, MS, director of the Center for Comprehensive Access & Delivery Research and Evaluation (CADRE) at the Iowa City Veteran's Affairs Health Care System. "The Veteran's Health Administration is uniquely positioned to be a leader in this area and has the ability to make a real impact. These four articles will help set the research agenda and provide a starting point for other healthcare systems to implement, or improve upon, in their own approaches."

Funded by VA's Health Services Research and Development Service (HSR&D), a group of infectious disease researchers convened in Iowa City, Iowa, in September, 2016. Conference participants included

experts in antimicrobial stewardship, medical anthropology, clinical medicine, epidemiology, infection prevention, pharmacy, and sociology. The participants were divided into four subgroups, to work together to identify key knowledge gaps and important targets for future investigation. The focus of the four articles are summarized below:

1. Transmission dynamics: Resistant pathogens are spread via human hands and environmental surfaces. Disrupting this transmission is essential to controlling MDROs. In this article, the researchers outline the keystones of transmission prevention and opportunities for further investigation in hand hygiene, active surveillance, isolation measures, and enhanced environmental cleaning interventions. (Establishing a Research Agenda for Preventing Transmission of Multidrug-Resistant Organisms in Acute-Care Settings in the Veterans Health Administration, Perencevich EN, et al)

2. Antimicrobial stewardship: Strategies to improve the use of antibiotics and antifungals can reduce antibiotic resistance and improve clinical outcomes for patients. To improve antibiotic stewardship strategies in inpatient and outpatient settings, research must focus on optimizing structures for teams leading these efforts, refining the activities implemented, determining dosing and duration of use, and using metrics for predicting changes in resistance. (Research Agenda for Antimicrobial Stewardship in the Veterans Health Administration, Suda KJ, et al)

3. Microbiome: Microbiome research is in its infancy, particularly in the context of how it influences MDRO infections in healthcare settings. There may be ways to manipulate the human microbiome to eradicate or prevent colonization by resistant pathogens. This article notes the importance of establishing a framework for microbiome research and prioritizing certain study designs, such as longitudinal studies and randomized controlled trials. It also recommends further study of the

efficacy of Fecal Microbiota Transplantation, and of additional microbiota research beyond the gastrointestinal tract. (Research Agenda for Microbiome Based Research for Multidrug-resistant Organism Prevention in the Veterans Health Administration System, Kates A, et al)

4. Special populations: Protocols commonly used to reduce the risk of healthcare-associated infections and MDROs in the hospital setting may be inappropriate or inadequate for healthcare personnel and patients in other settings. The authors of this paper outline specific care settings that should be prioritized, including long-term care, spinal cord injury/disorder, rehabilitation, mental [health](#) care, ambulatory care, and home-based care. (Setting a Research Agenda in Prevention of Healthcare-Associated Infections (HAIs) and Multidrug-Resistant Organisms (MDROs) Outside of Acute Care Settings, Evans C, et al)

"Drug-resistant bacteria are not a new phenomenon and even the appropriate use of antimicrobials will nonetheless promote further resistance," said Perencevich. "Sustained, coordinated, and aggressive efforts to better understand and implement prevention strategies may help to evolve the current crisis into a more manageable problem."

**More information:** Daniel J. Livorsi et al, Setting the Research Agenda for Preventing Infections From Multidrug-Resistant Organisms in the Veterans Health Administration, *Infection Control & Hospital Epidemiology* (2018). [DOI: 10.1017/ice.2017.302](https://doi.org/10.1017/ice.2017.302)

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