ARLG UPDATE
Antibacterial Resistance Leadership Group

To prioritize, design, and execute clinical research that will reduce the public health threat of antibacterial resistance

ARLG Update

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Meet Our Committees
Stewardship and Infection Prevention

Chair: Ebbing Lautenbach


Ebbing Lautenbach

The ARLG research agenda focuses on four high priority areas: infections caused by gram-negative bacteria, infections caused by gram-positive bacteria (primarily MRSA and VRE), reducing the time to availability of antibiotic susceptibility data in serious bacterial infections, and stewardship of our remaining antibiotics.

Antibacterial exposure is a powerful selective pressure for emergence and spread of resistant organisms. Stewardship can reduce this pressure by limiting use of antibacterials, duration of use, and the spectrum of antibacterials that are used. As up to 50% of antibacterial use is inappropriate, strategies such as antibacterial restriction and prospective audits and feedback implemented at the institutional level can significantly reduce antibacterial use. Infection-prevention programs can reduce selective pressure by preventing the spread of organisms, both susceptible and resistant, and thus the need for antibacterial therapy. Our long-term objectives are to identify and develop institutional and provider-based strategies, approaches, and programs to reduce the use and environmental impact of antibacterials, and thus selective pressure for antibacterial resistance.

The Stewardship and Infection Prevention Committee is currently soliciting clinical studies to:

- Assess antibacterial stewardship strategies for non-use or early discontinuation of antibacterial therapy to reduce emergence and spread of antibiotic-resistant bacteria
- Evaluate transmission dynamics or emergence of carbapenem-resistant, expanded-spectrum cephalosporin-resistant, or quinolone-resistant gram-negative bacilli in health care and community settings
- Examine strategies (e.g., stewardship, decolonization, probiotics) to prevent occurrence or recurrence or to reduce the risk of resistant gram-negatives, *Clostridium difficile* infection, VRE, or MRSA

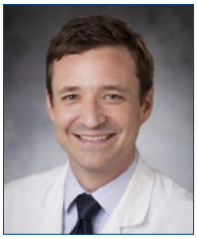
For more information about the ARLG, its leaders, or its current projects, please visit arlg.org

Committee Member	Institution
Ebbing Lautenbach (Chair)	University of Pennsylvania
Deverick Anderson	Duke University
Scott Evans	Harvard University
Anthony Harris	University of Maryland
Timothy Jenkins	University of Colorado
Louis Rice	Brown University
Daniel Sexton	Duke University
Robert Weinstein	Rush University

The ARLG is featured in the recently released NIAID's Antibacterial Resistance Research Program: Current Status and Future Directions which provides background information on current threats and NIAID programs.

ARLG Project Spotlight
DICON1

DICON1
Antibacterial Resistance Leadership Group



Deverick Anderson

A multicenter, 3-stage cluster randomized historically-controlled crossover trial to determine the feasibility and outcomes from two antimicrobial stewardship interventions in community hospitals.

Principal Investigator: Deverick Anderson

The goal of DICON1 is to evaluate the feasibility of implementing formulary restriction and preauthorization versus prospective audit and feedback in resource-limited community hospitals.

To accomplish this, DICON1 has been designed as a 3-stage cluster, randomized, historically controlled, crossover trial in which one of two stewardship strategies, formulary restriction and preauthorization and post-antibiotic prescription review, will be utilized. The strategies will be deployed for patients hospitalized in one of the four participating community hospitals who receive one of the targeted or alternative antimicrobials.

Current ARLG Projects

Name	Title	Principal Investigator(s)
PRIMERS	*Rapid gene detection of MDR GNB to direct and improve patient outcomes*	Robert Bonomo and Barry Kreiswirth
DICON1	*A multicenter, 3-stage cluster randomized historically-controlled crossover trial to determine the feasibility and outcomes from two antimicrobial stewardship interventions in community hospitals*	Deverick Anderson
NICU-AR	*Data mining antibacterial resistance studies in NICU patients*	Brian Smith
CRACKLE	*Carbapenem-resistant Klebsiella pneumoniae in hospitalized patients*	David van Duin
ZEST	*A phase 2, multi-center, randomized, double-blind study to assess safety, tolerability and effectiveness of study drug in the treatment of patients with complicated UTIs*	Brad Spellberg
BCID	*Clinical and economic impact of rapid identification and susceptibility testing of pathogens growing in blood culture bottles*	Ritu Banerjee

Recent Publications

Chambers HF, Bartlett JG, Bonomo RA, Chiou C, Cosgrove SE, Cross HR, Daum RS, Downing M, Evans SR, Knisely J, Kreiswirth BN, Lautenbach E, Mickley BS, Patel R, Pettigrew MM, Rodvold KA, Spellberg B, Fowler VG Jr. **Antibacterial Resistance Leadership Group: Open for Business.** *Clin Infect Dis.* 2014 Mar 31. [Epub ahead of print]

Fowler VG Jr, Proctor RA. **Where does a Staphylococcus aureus vaccine stand?** *Clin Microbiol Infect.* 2014 May;20 Suppl 5:66-75. doi: 10.1111/1469-0691.12570.

Asakura K, Hamasaki T, Sugimoto T, Hayashi K, Evans SR, Sozu T. **Sample size determination in group-sequential clinical trials with two co-primary endpoints.** *Stat Med.* 2014 Mar 27. doi: 10.1002/sim.6154. [Epub ahead of print]

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