ARLG
Antibacterial Resistance Leadership Group

January 2024
Q1 Newsletter

Welcome to the ARLG Newsletter! Here, you will receive important updates from ARLG regarding recent events, grants, publications, and the committees that help us work toward our mission: to prioritize, design, and execute clinical research that will impact the prevention, diagnosis, and treatment of infections caused by antibiotic-resistant bacteria.

Get Involved with ARLG

ARLG continuously accepts proposals for clinical studies designed to prevent, diagnose, treat, or eradicate antibiotic-resistant bacterial pathogens. We also award grants and fellowships to qualified investigators. If you are interested in getting involved with ARLG, apply now or contact us for more information.

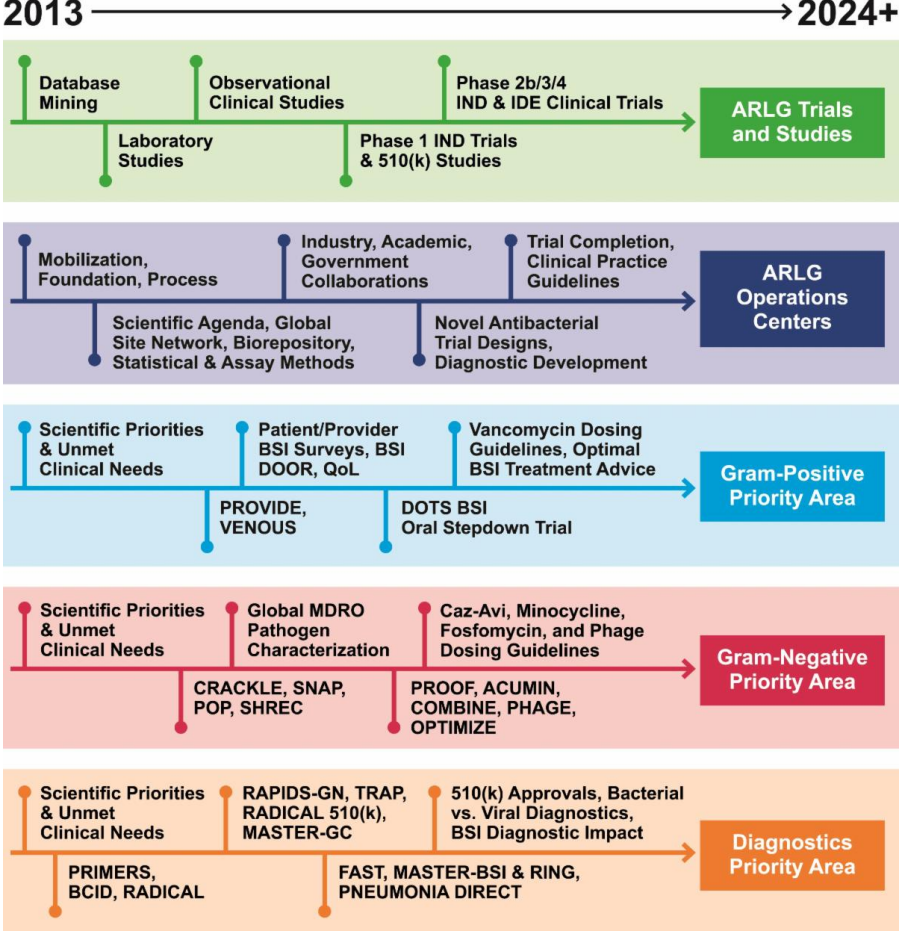
Submit a Proposal

Contact Us

News

ARLG Innovation and Evolution Supplement Published in *Clinical Infectious Diseases* Journal

The ARLG has published a new supplement in *Clinical Infectious Diseases* (CID) that features ARLG's scientific accomplishments and future directions (Volume 77, Supplement 4, 15 October 2023). As part of the Infectious Diseases Society of America's (IDSA) family of journals, the focus of CID is presenting novel research, reviews, and perspectives about all aspects of infectious diseases with an emphasis on clinical practice-changing studies. CID Supplement 4 entitled "The Antibacterial Resistance Leadership Group (ARLG): Innovation and Evolution" includes eight individual articles authored by a host of ARLG members on topics ranging from the operational structure and goals of each ARLG Center, the progress made in gram-positive and gram-negative bacterial infection research, diagnostics, innovations, and mentoring.



Read more

ARLG member, Kerry LaPlante, named Dean of the University of Rhode Island College of Pharmacy

Kerry LaPlante, PharmD, FCCP, FIDSA, FIDP has been named Dean of the University of Rhode Island (URI) College of Pharmacy. Dr. LaPlante, a member of both the ARLG Pharmacokinetics Working Group and the ARLG Diagnostics Subcommittee, will be the first woman to serve as Dean, beginning her tenure January 2024.

Read more

Robin Patel, MD Appointed to the Presidential Advisory Council on Combating Antibiotic-Resistant Bacteria

Robin Patel, MD, Director of ARLG's Laboratory Center, has been named a Voting Member of the Presidential Advisory Council on Combating Antibiotic-Resistant Bacteria (PACCARB). PACCARB is a federal advisory council that provides advice, information, and recommendations to the President's Secretary of Health and Human Services (HHS) regarding the fight against antimicrobial resistance (AMR) in the fields of human, animal, and environmental health.

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ARLG Spotlight - Darek Hareza, MD, MHS

Dariusz (Darek) Hareza, MD, MHS
ARLG Fellow
Johns Hopkins University School of Medicine

About my role

As an infectious diseases fellow, I am conducting research investigating the molecular epidemiology and clinical outcomes of patients infected with non-CTX-M extended-spectrum beta-lactamase producing Enterobacterales (ESBL-E).

About my research

I aim to investigate the significance of identifying non-CTX-M extended-spectrum beta-lactamases (ESBLs) in enhancing patient outcomes. More specifically, I am studying whether there are particular antibiotics that can optimize the clinical outcomes of patients with non-CTX-M ESBL-E bloodstream infections utilizing whole genome sequencing of a cohort of 500 hospitalized patients with ceftriaxone-resistant Enterobacterales bloodstream infections.

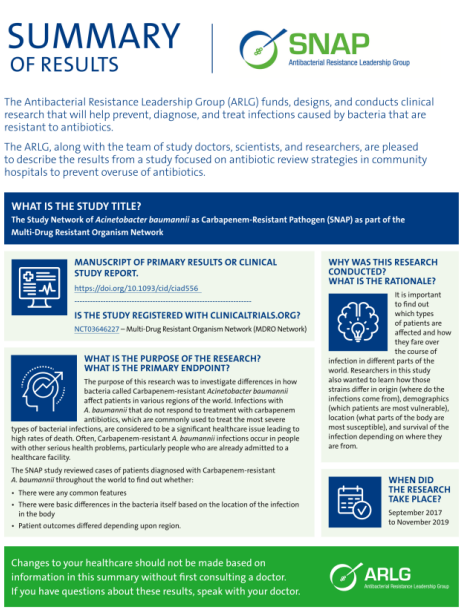
Why is this research important?

This research aligns with ARLG's mission to identify ways to optimize treatment for gram-

negative bacterial infections. While rates of most other multidrug-resistant organisms have remained stable in the United States, ESBL-E infections have been rising over the past decade, and clinical outcomes of patients infected with these organisms are poor.

Read more

SNAP Study Summary Now Available



SUMMARY OF RESULTS | SNAP Antibacterial Resistance Leadership Group

The Antibacterial Resistance Leadership Group (ARLG) funds, designs, and conducts clinical research that will help prevent, diagnose, and treat infections caused by bacteria that are resistant to antibiotics.

The ARLG, along with the team of study doctors, scientists, and researchers, are pleased to describe the results from a study focused on antibiotic review strategies in community hospitals to prevent overuse of antibiotics.

WHAT IS THE STUDY TITLE?
The Study Network of *Acinetobacter baumannii* as Carbapenem-Resistant Pathogen (SNAP) as part of the Multi-Drug Resistant Organism Network

MANUSCRIPT OF PRIMARY RESULTS OR CLINICAL STUDY REPORT.
https://doi.org/10.1093/cid/ciad556

IS THE STUDY REGISTERED WITH CLINICALTRIALS.ORG?
NCT03646227 – Multi-Drug Resistant Organism Network (MDRO Network)

WHAT IS THE PURPOSE OF THE RESEARCH? WHAT IS THE PRIMARY ENDPOINT?
The purpose of this research was to investigate differences in how bacteria called Carbapenem-resistant *Acinetobacter baumannii* affect patients in various regions of the world. Infections with *A. baumannii* that do not respond to treatment with carbapenem antibiotics, which are commonly used to treat the most severe types of bacterial infections, are considered to be a significant healthcare issue leading to high rates of death. Often, Carbapenem-resistant *A. baumannii* infections occur in people with other serious health problems, particularly people who are already admitted to a healthcare facility.

The SNAP study reviewed cases of patients diagnosed with Carbapenem-resistant *A. baumannii* throughout the world to find out whether:

- There were any common features
- There were basic differences in the bacteria itself based on the location of the infection in the body
- Patient outcomes differed depending upon region.

WHY WAS THIS RESEARCH CONDUCTED? WHAT IS THE RATIONALE?
It is important to find out which types of patients are affected and how they fare over the course of infection in different parts of the world. Researchers in this study also wanted to learn how those strains differ in origin (where do the infections come from), demographics (which patients are most vulnerable), location (what parts of the body are most susceptible), and survival of the infection depending on where they are from.

WHEN DID THE RESEARCH TAKE PLACE?
September 2017 to November 2019

Changes to your healthcare should not be made based on information in this summary without first consulting a doctor. If you have questions about these results, speak with your doctor.

ARLG Antibacterial Resistance Leadership Group

The **S**tudy **N**etwork of ***A**cinetobacter baumannii* as Carbapenem-Resistant **P**athogen (SNAP) study is part of the **M**ulti-**D**rug **R**esistant **O**rganism (MDRO) Network of studies aimed at providing observational data to help design randomized clinical trials for MDRO infections, developing new diagnostic and treatment paradigms, and informing clinical practice.

The SNAP study investigated differences in how Carbapenem-resistant *A. baumannii* affects patients around the world, enrolling cases from five different global regions. Learning which strains of *A. baumannii* are most prevalent in various parts of the world and why, as well as which strains pose the greatest risk for poor health outcomes, is essential in helping doctors better treat patients at risk.

Read More

Events

7th Annual Texas Medical Center AMR and Stewardship Conference

Join us for the 7th Annual Texas Medical Center Antimicrobial Resistance and Stewardship Conference. The event, which will be held January 17-19 in Houston, Texas features an outstanding line-up of internationally-renowned experts in

antibacterial resistance research, including presentations from many ARLG members.

Learn More

Past ARLG Grand Rounds Now Available

Have you missed any of the ARLG Grand Rounds events? If so, you're in luck. ARLG's Events page now contains an archive of past presentations. There, you will find information about the topics and speakers along with links to presentation videos and slides.

Here are the most recent Grand Rounds presentations currently available:

Brave New World: Promise And Perils Of Generative AI For ID Professionals	Ilan Schwartz, MD Associate Professor of Medicine, Division of Infectious Diseases, Duke University School of Medicine	January 5, 2024
En Vogue Trends: The Good, The Bad, and The Ugly: Opportunities and Pitfalls for the ARLG	Toshimitsu Hamasaki, PhD, MS Scott Evans, PhD, MS	October 6, 2023
Evolving Clinical Resistance and Treatment Strategies for Novel β-lactam Agents against Pseudomonas aeruginosa	Ryan K. Shields, PharmD, MS	June 2, 2023

Learn more

Study Milestones

View recent ARLG study updates.

PHAGE	Study of the Safety and Microbiological Activity of Bacterio**PHAGE**s in Persons with Cystic Fibrosis	Stage 2a Complete – Interim Analysis

	Colonized with *Pseudomonas aeruginosa*	
DIFFR	Clostridioides **DIFF**icile **R**NA	Manuscript in Progress
MeChaTeBla	Mechanistic and structural characterization of the interaction of a novel antibiotic with clinically relevant β-lactamases	Manuscript in Progress
REPROCESS	**R**acial Dispariti**E**s in Carba**P**enem-**R**esistant Bacteria: Epidemi**O**logy and **O**ut**C**om**E**s of U**S** Patient**S**	Data Analysis
INNOVATIONS QoL	Quality of life (QoL) assessments in studies of patients undergoing treatment for intra-abdominal infections, complicated urinary tract infections, skin and skin structure infections, and hospital-acquired or ventilator-associated bacterial pneumonia. The first study includes a systematic review of the literature and subgroup analysis and the second study involves conducting interviews with clinicians and patients with c-UTIs.	First study: Manuscript in Progress Second study: Data Analysis
SNAP-MDRO	**S**tudy **N**etwork of **A**cinetobacter baumannii as Carbapenem-Resistant **P**athogen-**M**ulti-**D**r ug **R**esistant **O**rganism Network	Published
DARMA	**D**isparities in **A**ntibacterial **R**esistance: A Series of **M**eta-**A**nalyses	Data Analysis

Go to the ARLG Studies page for more milestones and updates!

Learn More

Recent Publications

View the following recent ARLG publications.

Jezek A, del Rio C Antibacterial Resistance, Research and Funding 2024. Clin Infect Dis. 2023 Oct 15;77(Supplement_4):S277-S278. doi:10.1093/cid/ciad473

Chambers HF, Cross HR, Evans SR, Patel R, Fowler Jr. VG. The Antibacterial Resistance Leadership Group: Scientific Advancements and Future Directions. Clin Infect Dis. 2023 Oct 15; 77(Supplement_4):S279-S287. doi:10.1093/cid/ciad475

Cross H, Evans SR, Chambers HF, Patel R, Fowler Jr. VG. Under the Hood: The Scientific Leadership, Clinical Operations, Statistical and Data Management, and Laboratory Centers of the Antibacterial Resistance Leadership Group. Clin Infect Dis. 2023 Oct 15; 77(Supplement_4):S288-S294. doi:10.1093/cid/ciad529

Doernberg SB, Arias CA, Altman DR, Babiker A, Boucher HW, Creech CB, Cosgrove SE, Evans SR, Fowler VG, Fritz SA, Hamasaki T, Kelly BJ, Leal SM, Liu C, Lodise TP, Miller LG, Munita JM, Murray BE, Pettigrew MM, Ruffin F, Scheetz MH, Shopsin B, Tran TT, Turner NA, Williams DJ, Zaharoff S, Holland TL; Antibacterial Resistance Leadership Group. Priorities and Progress in Gram-Positive Bacterial Infection Research by the Antibacterial Resistance Leadership Group. Clin Infect Dis. 2023 Oct 15; 77(Supplement_4):S295-S304. doi:10.1093/cid/ciad565

Satlin MJ, van Duin D, Tamma PD, Lodise TP, Van Tyne D, Rodvold KA, Rouphael N, Bonomo RA, Doi Y, Antibacterial Resistance Leadership Group. Priorities and Progress in Gram-Negative Bacterial Infection Research by the Antibacterial Resistance Leadership Group. Clin Infect Dis. 2023 Oct 15; 77(Supplement_4):S305-S313. doi:10.1093/cid/ciad547

Hanson KE, Banerjee R, Doernberg SB, Satlin MJ, Simner PJ, Tillekeratne LG, Patel R for the Antibacterial Resistance Leadership Group. Priorities and Progress in Diagnostic Research by the Antibacterial Resistance Leadership Group. Clin Infect Dis. 2023 Oct 15; 77(Supplement_4):S314-S320. doi:10.1093/cid/ciad541

Evans SR, Patel R, Hamasaki T, Howard-Anderson J, Kinamon T, King HA, Collyar D, Cross HR, Chambers HF, Fowler VG, Boucher HW, for the Antibacterial Resistance Leadership Group. The Future Ain't What It Used to Be…Out With the Old…In With the Better: Antibacterial Resistance Leadership Group Innovations. Clin Infect Dis. 2023 Oct 15; 77(Supplement_4):S321-S330. doi:10.1093/cid/ciad538

Harris AD, Souli M, Pettigrew MM, for the Antibacterial Resistance Leadership Group. The Next Generation: Mentoring and Diversity in the Antibacterial Resistance Leadership Group. Clin Infect Dis. 2023 Oct 15; 77(Supplement_4):S331-S335. doi:10.1093/cid/ciad532

Woodworth MH, Conrad RE, Haldopoulos M, Pouch SM, Babiker A, Mehta AK, Wang C, Strudwick A, Friedman-Moraco R, Ziegler TR, Liu KH, Jones DP, Mehta C, Weiss DS, Larsen CP, Konstantinidis KT, Kraft CS. Randomized Trial: Fecal Microbiota Transplant Promotes Reduction of Antimicrobial Resistance by Strain Replacement. Sci Transl Med. 2023 Nov 1; 15(720):eabo2750. doi:10.1126/scitranslmed.abo2750

Wang M, Ge L, Chen L, Komarow L, Hanson B, Reyes J, Cober E, Alenazi T, Zong Z, Xie Q, Liu Z, Li L, Yu Y, Gao H, Kanj SS, Figueroa J, Herc E, Cordova E, Weston G, Tambyah PA, Garcia-Diaz J, Kaye KS, Dhar S, Munita JM, Salata RA, Vilchez S, Stryjewski ME, Villegas Botero MV, Iovleva A, Evans S, Baum K, Hill C, Kreiswirth BN, Patel R, Paterson

DL, Arias CA, Bonomo RA, Chambers HF, Fowler VG Jr., Satlin MJ, van Duin D, Doi Y, Mutli-Drug Resistant Organism Network Investigators. Clinical Impact of Carbapenem-Resistant Acinetobacter baumannii Infection: A Snapshot from an International Cohort. Clin Infect Dis. 2023 Sep 9; Clin Infect Dis. 2023 Sep 20;ciad556. doi: 10.1093/cid/ciad556. Online ahead of print.

Hareza DA, Cosgrove SE, Simner PJ, Harris AD, Bergman Y, Conzemius R, Jacobs E, Beisken S, Tamma PD for the Antibacterial Resistance Leadership Group. Is Carbapenem Therapy Necessary for the Treatment of Non-CTX-M ESBL-Producing Enterobacterales Bloodstream Infections? Clin Infect Dis. 2023 Nov 16; Clin Infect Dis. 2023 Nov 16:ciad703. doi: 10.1093/cid/ciad703.

Parmar K, Fackler JR, Lee M, Agrawal P, Barreto-Sanz M, Ellison DW, Filippov AA, Nikolich MP, Tamma PD, Souli M, Evans S, Komarow L, Greenwood-Quaintance KE, Cunningham SA, Patel R, for the Antibacterial Resistance Leadership Group. Interlaboratory Comparison of Pseudomonas aeruginosa Phage Susceptibility Testing. J Clin Microbiol. 2023 Dec 19; J Clin Microbiol. 2023 Dec 19;61(12):e0061423. doi: 10.1128/jcm.00614-23.