

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](#)

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News

Robin Patel to Receive 2022 Hamao Umezawa Memorial Award



The International Society of Antimicrobial Chemotherapy ([ISAC](#)) announced it has selected Robin Patel to receive the 2022 Hamao Umezawa Memorial Award (HUMA). Dr. Patel serves as ARLG's [Laboratory Center](#) Director and is the Director of the Infectious Diseases Research Laboratory at the [Mayo Clinic](#).

Dr. Patel's work focuses on developing improved diagnostic approaches to combat antibacterial resistance, researching the mechanisms of biofilm formation, and designing and conducting studies for new antibacterial treatment options.

[Learn more](#)

Robert Bonomo Named Director of VA SHIELD Coordinating Center

The U.S. Department of Veterans Affairs (VA) selected Robert Bonomo as the Director of the Coordinating Center for the VA Science and Health Initiative to Combat Infectious and Life-Threatening Diseases ([VA SHIELD](#)), a central biospecimen and data repository.



Dr. Bonomo is Chief of the Medical Service and Director of the Geriatric Research Education and Clinical Center (GRECC) at the Cleveland VA Medical Center as well as a member of the [ARLG Laboratory Center](#) Consortium Team. His work in antibacterial resistance includes research on the mechanistic basis of resistance to beta-lactam antibiotics and beta-lactamase inhibitors, the molecular epidemiology of multidrug resistant Gram-negative bacteria, and the implementation of molecular diagnostics in clinical care of patients with infectious disease.

[Read More](#)

Melinda Pettigrew Named YSPH Interim Dean



The Yale School of Public Health (YSPH) announced that Melinda Pettigrew will serve as the interim Dean of the school beginning July 1. Currently, she is the [Anna M. R. Lauder Professor of Epidemiology](#) (Microbial Diseases) and serves as the deputy dean of YSPH. Dr. Pettigrew is the Chair of the ARLG Diversity Working Group and a member of the [Laboratory Center Consortium Team](#).

[Read More](#)

CRACKLE II Study Summary Now Available!


A lay summary of results has been posted for the Consortium on Resistance Against Carbapenems in Klebsiella and other Enterobacteriaceae (CRACKLE-2) study.

The CRACKLE-2 study investigated types of carbapenem-resistant Enterobacteriaceae (CRE). CRE is a family of bacteria that resists treatment by a class of antibiotics called carbapenems. The World Health Organization lists CRE as one of the top three drug-resistant pathogens and recognizes CRE as a threat

to global public health. The goal of the study was to learn about patients infected with CRE, understand and describe the different types of CRE, and learn how each type affected different patient populations.

SUMMARY

OF RESULTS



WHAT IS THE STUDY TITLE?

Consortium on Resistance Against Carbapenems in *Klebsiella* and other *Enterobacteriaceae* (CRACKLE-2)

MANUSCRIPT OF PRIMARY RESULTS OR CLINICAL STUDY REPORT.

Molecular and Clinical Epidemiology of Carbapenem-Resistant *Enterobacteriaceae* in the United States: a Prospective Cohort Study.

And

Clinical outcomes and bacterial characteristics of carbapenem-resistant *Klebsiella pneumoniae* complex among patients from different clinical regions (CRACKLE-2): A prospective, multi-center, cohort study.

IS THE STUDY REGISTERED WITH CLINICALTRIALS.ORG?

NCT02665422

WHAT IS THE PURPOSE OF THE RESEARCH? WHAT IS THE PRIMARY ENDPOINT?

The CRACKLE-2 study investigated types of carbapenem-resistant *Enterobacteriaceae* (CRE). The goal of the study was to learn about patients infected with CRE, understand and describe the different types of CRE, and learn how each type affected different patient populations. The first manuscript focused on carbapenem-resistant *Enterobacteriaceae* in the United States. The second manuscript analyzed data from around the world, and a specific bacteria that is part of the *Enterobacteriaceae* family, called *Klebsiella pneumoniae*. Researchers used a rating scale called DOOR (desirability of outcome rankings), to compare patient outcomes at 30 days after infection.

WHAT HAPPENED DURING THE STUDY?

In these studies, researchers collected data about patients from electronic health records (EHRs). They also collected a copy of the bacteria, that had been previously collected by the patient's physician, and analyzed the bacterial DNA.

WHEN DID THE RESEARCH TAKE PLACE?

Between April 30, 2016 and November 30, 2018

The DOOR scale ranks a patient's outcome from best to worst:


Best:

- Alive with no negative events
- Alive with 1 negative event
- Alive with 2 or 3 negative events

Worst: Death

Researchers also compared the overall patient death rate and bacterial characteristics between patients from China, South America, and the US.


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.



Read More

Events

David van Duin to Present at COMBACTE GA



The 2022 COMBACTE General Assembly will take place in Lisbon, Portugal May 30 – 31.

The agenda promises two full days of interesting updates including a presentation from David van Duin about ARLG's [Multi-Drug Resistant Organism \(MDRO\) Network](#).

View the full event agenda [here](#).

Learn more

Don't Miss Post-ECCMID Day and 2022 On-Demand Content

This year's European Congress of Clinical Microbiology & Infectious Diseases (ECCMID) featured an exciting array of clinical microbiology and international infectious diseases experts presenting their latest findings.

If you missed any sessions, you're still in luck. Your registration includes access to on-demand content until July 26, 2022.To help you plan, we've added some highlighted presentations and speakers to our website.

Speaking of great content, don't forget to mark your calendars for May 19, 2022. This year's event includes a Post-ECCMID online learning day on the topic of Antimicrobial Resistance and Stewardship. The event is free for ECCMID registrants.

ARLG Grand Rounds 2022

Tune in for ARLG’s 2022 upcoming Grand Round Series. This year will feature an exciting variety of speakers and topics. Don't miss the next event:

Date	Topic	Speaker
August 5, 2022	ARLG FAST Trial	Ritu Banerjee, MD, PhD Professor, Pediatric Infectious Diseases Director, Antibiotic Stewardship Program Vanderbilt University Medical Center

You can check out ARLG’s event page for ongoing updates about each session and how to attend.

[Learn more](#)



Study Milestones

View recent ARLG study updates.

GENO-SMART	GENOmics, Susceptibility, Clinical Epidemiology and Metagenomics of Antibiotic Resistance Tool (GENO-SMART)	Preparing Proof of Concept Platform Launch
MDRO:SHREC	Study of Highly Resistant Escherichia coli (SHREC)	Analysis Complete Manuscript in Progress
PHAGE	Study of the Safety and Microbiological Activity of BacterioPHAGEs in Persons with Cystic Fibrosis Colonized with <i>Pseudomonas aeruginosa</i>	Site Start-up
STEP FMT	Strain Temporal Engraftment and Persistence after Fecal Microbiota Transplantation	Planning

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

[Learn More](#)



Recent Publications

View the following recent ARLG publications.

Iovleva A, Mustapha MM, Griffith MP, Komarow L, Luterbach C, Cober E, Richter SS, Arias CA, Jacob JT, Salata RA, Satlin MJ, Wong D, Bonomo RA, van Duin D, Cooper VS, Tyne DV, Doi Y. Carbapenem-Resistant *Acinetobacter baumannii* in US hospitals: diversification of circulating lineages and antimicrobial resistance. *mBio*. 2022 Mar 21;e0275921. doi: 10.1128/mbio.02759-21. Online ahead of print.

Lodise TP, Scheetz M, Carreno JJ, Chambers H, Fowler V Jr., Holland HL; on behalf of the Antibacterial Resistance Leadership Group. Associations between Vancomycin Exposure and Acute Kidney Injury Within the Recommended Area Under the Curve Therapeutic Exposure Range Among Patients with MRSA Bloodstream Infections. *Open Forum Infect Dis*. 2022 Jan 22;9(2):ofab651. doi: 10.1093/ofid/ofab651. eCollection 2022 Feb.

Howard-Anderson J, Davis M, page AM, Bower CW, Smith G, Jacob JT, Andersson DI, Weiss DS, Satola SW. Prevalence of Colistin Heteroresistance in Carbapenem-Resistant *Pseudomonas aeruginosa* and Association with Clinical Outcomes in Patients: An Observational Study. *J Antimicrob Chemother*. 2022 Feb 23;77(3):793-798. doi: 10.1093/jac/dkab461.

Williams DJ, Creech CB, Walter EB, Martin JM, Gerber JS, Newland JG, Howard L, Hofto ME, Staat M, Oler RE, Tuyishimire B, Conrad TM, Lee M, Ghazaryan V, Knisely J, Pettigrew MM, Fowler VG, Chambers HF, Zaoutis TE, Evans S, Huskins WC; and the DMID 14-0079 Study Team. Short- vs Standard-Course Outpatient Antibiotic Therapy for Community-Acquired Pneumonia in Children: The SCOUT-CAP Randomized Clinical Trial. *JAMA Pediatr*. 2022 Mar 1;176(3):253-261. doi: 10.1001/jamapediatrics.2021.5547.

Shropshire WC, Dinh AQ, Earley M, Komarow L, Panesso D, Rydell K, Gomez-Villegas SI, Miao H, Hill C, Chen L, Patel R, Fries BC, Abbo L, Cober E, Revolinski S, Luterbach CL, Chambers H, Fowler VG, Bonomo RA, Shelburne SA, Kreiswirth BN, van Duin D, Hanson BM, Arias CA. Accessory Genomes Drive Independent Spread of Carbapenem-Resistant *Klebsiella pneumoniae* Clonal Groups 258 and 307 in Houston, TX. *mBio*. 2022 Mar 31;e0049722. doi: 10.1128/mbio.00497-22. Online ahead of print.

Howard-Anderson J, Earley M, Komarow L, Abbo L, Anderson DJ, Gallagher JC, Grant M, Kim A, Bonomo RA, van Duin D, Munoz-Price LS, Jacob JT; The Antibacterial Resistance Leadership Group. Poor outcomes in both infection and colonization with carbapenem-resistant Enterobacterales. *Infect Control Hosp Epidemiol*. 2022 Feb 2;1-7. doi: 10.1017/ice.2022.4. Online ahead of print.

Pettigrew MM, Kwon J, Gent JF, Kong Y, Wade M, Williams DJ, Creech CB, Evans S, Pan Q, Walter EB, Martin JM, Gerber JS, Newland JG, Howard L, Hofto ME, Staat MA, Fowler VG, Chambers HF, Huskins WC; on behalf of the Antibacterial Resistance Leadership Group. Comparison of the respiratory resistome in children receiving short vs. standard course treatment for community acquired pneumonia. *mBio*. 2022 Mar 24;e0019522. doi: 10.1128/mbio.00195-22. Online ahead of print.

Patel R, Polage CR, Dien Bard J, May L, Lee F, Fabre V, Hayden MK, Doernberg SDB, Haake DA, Trautner BW, Grigoryan L, Tsalik EL, Hanson KE; on behalf of the Antibacterial Resistance Leadership Group and the Infectious Diseases Society of America. Envisioning Future Urinary Tract Infection Diagnostics. *Clin Infect Dis*. 2022 Apr 9;74(7):1284-1292. doi: 10.1093/cid/ciab749.

Kwon J, Kong Y, Wade M, Williams DJ, Creech CB, Evans S, Walter EB, Martin JM, Gerber JS, Newland JG, Hofto ME, Staat MA, Fowler VG, Chambers HF, Huskins WC, Pettigrew MM; on behalf of the Antibacterial Resistance Leadership Group. Gastrointestinal Microbiome Disruption and Antibiotic-Associated Diarrhea in Children Receiving Antibiotic Therapy for Community-Acquired Pneumonia. *J Infect Dis*. 2022 Mar 6;jiac082. doi: 10.1093/infdis/jiac082. Online ahead of print.

Thaden J, Tamma P, Pan Q, Doi Y, Daneman N. Survey of Infectious Diseases Providers Reveals Variability in Duration of Antibiotic Therapy for the Treatment of Gram-Negative Bloodstream Infections. JAC Antimicrob Resist. 2022 Feb 9;4(1):dlac005. doi: 10.1093/jacamr/dlac005. eCollection 2022 Mar.

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