



U.S. DEPARTMENT OF AGRICULTURE

Antimicrobial Resistance Virtual Public Meeting

August 30, 2022

Welcome

The U.S. Department of Agriculture will hold a public meeting to share what the Department has learned in furthering scientific knowledge on antimicrobial resistance (AMR) in the last decade with a look to the future. The meeting will be open to the public via Zoom and teleconference. A preregistered public comment session will be held during the meeting. Written comments, specifically highlighting what has been learned and challenges for furthering science on AMR across the One Health interfaces of food safety, animal and human health, and the environment are welcome. Register at

https://www.zoomgov.com/webinar/register/WN_LFLkbcWuTdqGT0wxBZyuOQ

Public comment:

Written comments by attendees or other interested stakeholders will be welcomed for the public record before and up to 2 weeks following the virtual meeting or by close of business Tuesday, September 13, 2022. All written comments must be sent to usdaamrpublicmeeting@usda.gov. Please refer to Docket No. APHIS-2022-0027 when submitting your comments.

Included in this Participant Packet, you will find:

- Agenda
- Speaker Biosketches



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Agenda

Time (Eastern)	Activity	Presenters/Organization
9:45am	Zoom link opens for guests	
10:00am	Welcome	Event Facilitators
10:05am	Opening Remarks	Mae Wu USDA MRP Deputy Under Secretary
10:15am	Opening Keynote Address	Dr. Steve Kappes USDA ARS Associate Administrator
10:25am	Panel 1: APHIS Updates	Moderator: Dr. Chelsey Shivley NAHMS: Dr. Amy Delgado NAHLN: Dr. Beth Harris NWRC: Dr. Alan Franklin
11:25am	Panel 2: ARS Updates	Moderator: Dr. Betty McConn Dr. John Brooks Dr. Mike Clawson Dr. Virginia Stockwell Dr. Jo Ann Van Kessel
12:15pm	Lunch	
12:45pm	Panel 3: FSIS, NIFA, FAS Updates	Moderator: Dr. Uday Dessai FSIS: LCDR Gamola Fortenberry FSIS: CDR Catherine Rockwell FAS: Mr. Micah Rosenblum NIFA: Dr. Mark Carter
1:45pm	Updates from Federal Partners	CDC: Dr. Dawn Sievert FDA: Dr. Bill Flynn EPA: Dr. Jay Garland NIH: Dr. Dennis Dixon USAID: Dr. Jessica Petrillo DOD: CPT Hunter Jackson Smith
2:45pm	Public Comment (pre-registration required)	
3:45pm	Closing Remarks	USDA One Health Co-Chairs APHIS: Dr. Sarah Tomlinson ARS: Dr. Jeff Silverstein FSIS: Dr. Denise Eblen
4:30pm	Adjourn	



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Speaker Biosketches

OPENING REMARKS

Mae Wu, MPhil, JD

Mae Wu currently serves as the Deputy Under Secretary for Marketing and Regulatory Programs at the United States Department of Agriculture. Prior to joining USDA, Wu served as a Senior Director at the Natural Resources Defense Council, helping to lead the organization's health and food work. While there, she was working to design a holistic approach to NRDC's food-based advocacy to build towards making local and regional food systems healthier, more resilient, sustainable, and equitable. She has also worked with the federal government to revise the Total Coliform Rule, as well as served on the Environmental Protection Agency's Pesticide Program Dialogue Committee and its National Drinking Water Advisory Council. Wu holds a bachelor's degree in chemical engineering from Rice University, a master's degree in environmental policy from the University of Cambridge, and a Juris Doctor from Duke University.

KEYNOTE

Steven Kappes, PhD

Dr. Kappes is the USDA, Agricultural Research Service (ARS), Associate Administrator for the Office of National Programs. The Office of National Programs sets the research direction and develops budgets for the ARS research portfolio which includes plants, animals, natural resources, human nutrition, insects, and microbial pathogens. The Office of National Programs also includes the international research program. Currently, Dr. Kappes is leading the ARS Big Data Initiative and is the ARS lead on standing up the National Bio and Agro-defense Facility in Manhattan, Kansas. He has served as a senior advisor for Animal Protection and Production in the USDA, Office of the Chief Scientist. He has worked with USDA agencies on issues related to animal health and production, herbicide resistance, and biosafety and biocontainment in high and maximum biocontainment laboratories. He currently co-leads the National Science and Technology Council (NSTC) Subcommittee on Health Security Threats and previously co-chaired a U.S. Government Interagency Biosafety Taskforce, the NSTC Subcommittee on Foreign Animal Disease Threats and jointly initiated with Canada an international agriculture Biosafety Level 4 zoonotic disease network. Dr. Kappes received his B.S. and M.S. from South Dakota State University and his Ph.D. from the University of Missouri-Columbia.

SPEAKERS

John Brooks, PhD

Dr. Brooks is a research microbiologist focusing on environmental microbiology at the USDA-ARS Genetics and Sustainable Agriculture Unit located at Mississippi State University. He obtained his Ph.D. from the University of Arizona and has been focused on environmental microbiology for over 20 years. His research has focused on aerobiology, quantitative microbial risk assessment, pathogen fate and transport, AMR, and soil microbial ecology. He has served on US CODEX teams and advised World Health Organization (WHO) groups on the topic of AMR in the environment in recent years.

Mark Carter, PhD

Dr. J Mark Carter currently serves as National Program Leader for Food Safety in the USDA National Institute of Food and Agriculture (NIFA). He administers several NIFA programs in food safety, including the Agency's support for AMR. Mark has worked on food safety with USDA for 14 years. Before that he did drug discovery research in the private sector for 10 years, after beginning his career in vaccine development for the US Army. At the Food Safety and Inspection Service, Mark contributed to advancing to microbiological aspects of food safety. At NIFA Mark is leveraging cutting edge analytical chemistry and big data to bring the next focus to chronic toxins.

Mike L. Clawson, PhD

Dr. Clawson joined USDA-ARS, as a research molecular biologist in 2002. Over the last twenty years he has conducted genetic- and genomic-based research on animal health. Dr. Clawson has researched a wide spectrum of diseases caused by prions, viruses, or bacteria, primarily in cattle or sheep. He has served on multiple committees and panels for USDA-ARS, including as co-chair of a COVID-19 advisory board for the U.S. Meat Animal Research Center. His goal is to protect the health of US livestock through science and technology.

Amy Delgado, MS, DVM, PhD

Dr. Amy Delgado is a veterinary epidemiologist and Director of the Center for Epidemiology and Animal Health (CEAH). CEAH provides applied and innovative analyses to generate science-based solutions and information for decision making around complex national animal health issues. In her role, Dr. Delgado has worked to support the collection and availability of data related to animal health issues such as livestock diseases and AMR. She also serves as the director of the National Animal Health Monitoring System, the federal statistical unit which focuses on collection and publication of data related to livestock and poultry health management. Dr. Delgado received a Bachelor's and Master's degree in animal science prior to receiving her Doctorate in Veterinary Medicine from Texas A&M University in 2006. She received her PhD in epidemiology from Texas A&M University in 2011. Prior to joining USDA, Dr. Delgado worked as a hemispheric animal health specialist with the Inter-American Institute for Cooperation on Agriculture.

Dennis M. Dixon, PhD

Dr. Dixon is Chief of the Bacteriology and Mycology Branch, National Institute of Allergy and Infectious Diseases (NIAID). His scientific program responsibilities include the medically important fungi, the bacterial hospital pathogens, rickettsial and zoonotic pathogens, and Tier 1 bacterial Select Agents. He serves on numerous advisory panels related to biosafety, biosecurity, and dual use research, including the Intragovernmental Select Agents and Toxins Technical Advisory Committee (ISATTAC) and the National Science Advisory Board for Biosecurity (NSABB). He has similar responsibilities involving antibacterial resistance and serves on the Trans-Atlantic Task Force on Antimicrobial Resistance (TATFAR), the Combating Antibiotic Resistant Bacteria (CARB) Task Force and the Joint Oversight Committee for Combating Antibiotic Resistant Bacteria Biopharmaceutical Accelerator (CARB-X). He is also the NIH representative on two Federal advisory committees, the Presidential Advisory Council on Combating Antibiotic-Resistant Bacteria (PACCARB) and the Tick-Borne Diseases Working Group (TBD WG). He received his Doctor of Philosophy in microbiology from the Medical College of Virginia and has held academic positions at Loyola College in Baltimore, the University of Maryland Medical School and Albany Medical College. He was a Visiting Scientist at Hoffman LaRoche, Switzerland, and was Director for the Mycology Reference Laboratory, New York State Department of Health. He is a member of the American Society for Microbiology and the American Academy of Microbiology.

Denise Eblen, PhD

Dr. Eblen serves as the Assistant Administrator for the Office of Office of Public Health Science (OPHS) at the U.S. Department of Agriculture's Food Safety and Inspection Service (FSIS). In this role, Denise plays a key role in FSIS' efforts to protect public health by preventing foodborne illnesses with the application of sound science and modern approaches in FSIS' inspection and policy development processes. In her previous position at the National Institute of Food and Agriculture (NIFA), Denise provided executive leadership on the research, education and extension activities of the Institute of Food Safety and Nutrition with focus on food safety, food quality, nutrition, and obesity efforts.

William T. Flynn, DVM, MS

Dr. Flynn serves as Deputy Director for Science Policy, U.S. Food and Drug Administration, Center for Veterinary Medicine. He received an MS in Veterinary Preventative Medicine in 1987 and a DVM in 1991 from the Ohio State University. Following several years of private veterinary practice, Dr. Flynn joined the Food and Drug Administration's Center for Veterinary Medicine (CVM) in 1993. He has served in various capacities in CVM including serving as Director of CVM's Policy and Regulations Staff from 2003 to 2005 and is currently CVM's Deputy Director for Science Policy.

Gamola Fortenberry, PhD, MPH, REHS/RS

Lieutenant Commander Gamola Fortenberry is an epidemiologist at the USDA-FSIS. She co-leads the National Antimicrobial Resistance Monitoring System (NARMS) at FSIS. Additionally, she serves as an environmental health officer in the United States Public Health Service Commissioned Corps. In the last 10 years, she has led many

projects related to a variety of environmental health issues including food safety complaint response, foodborne illness outbreak investigation, natural disasters, chemical exposure community needs assessments, prenatal chemical exposure, and child development outcomes. LCDR Fortenberry's career goal is to make a difference by protecting, promoting, and advancing the health and safety of our nation.

Alan Franklin, PhD

Dr. Alan Franklin is a Supervisory Research Biologist and Leader of the Wildlife Pathogens and Food Security & Safety Project at the USDA-APHIS-WS National Wildlife Research Center. He received his B.S. in wildlife science from Cornell University, his M.S in wildlife at Humboldt State university, and his Ph.D. in wildlife ecology from Colorado State University. Dr. Franklin's expertise is primarily on the ecology and dynamics of wildlife populations, particularly in integrating wildlife population ecology with wildlife disease ecology. He currently conducts research on the ecology of antimicrobial-resistant bacteria in wildlife populations at the agricultural-wildlife interface, as well as other pathogens in wildlife that affect agricultural and human health.

Jay Garland, PhD

Dr. Garland joined the Environmental Protection Agency (EPA)'s Office of Research and Development in 2011. Dr. Garland received a Ph.D. in Environment Science from the University of Virginia and spent over 20 years working on NASA's efforts to develop closed, bioregenerative life support systems for extended human spaceflight. His current efforts focus on advancing innovative approaches to water infrastructure, including decentralized water reuse, and mitigating risks associated with AMR in the water cycle.

Beth Harris, MS, PhD

Dr. Beth Harris is an Associate Coordinator with the USDA's National Health Laboratory Network, or NAHLN. Within the NAHLN, she leads the NAHLN Methods Technical Working group, oversees the NAHLN AMR pilot project, and helps coordinate electronic messaging for NAHLN laboratories. Additionally, she participates as a member of the NAHLN Coordinating Council and helps coordinate daily activities for supporting NAHLN functions. Prior to her joining the NAHLN, Beth served as NVSL's Chief of Staff, and Section Head for NVSL's Mycobacteria and Brucella Section. Dr. Harris received her PhD from the University of Nebraska, where she performed basic research on the antibiotic resistance mechanisms of *Mycobacterium tuberculosis*, as well as studying virulence determinants and the molecular epidemiology of *Mycobacterium paratuberculosis*. She completed her MS at the University of Maryland, College Park, Maryland, and her BS at the University of Nebraska, Lincoln, Nebraska.

Jessica Petrillo, PhD

Dr. Petrillo is an expert on global health security policy working with diverse domestic and international stakeholders and partners to devise and implement strategic and innovative approaches to enable immediate and lasting change globally. Jessica serves as Senior Advisor for AMR and the Global Health Security Agenda (GHSA) as a Sustaining Technical and Analytic Resources Fellow at USAID with responsibility for

strengthening the Agency's technical capacity in, and strategic approach to, advance priority health security objectives. These include addressing the emergence, spread, and impact of AMR and strengthening global capacity to prevent, prepare for, respond to and recover from infectious disease threats including through USAID's involvement in the National Biodefense Strategy (NBS) and GHSA. Previously, Jessica served as Senior Advisor for Health Security at the U.S. Department of State. She served as a lead negotiating and implementing the National Biodefense Strategy and GHSA and led the Department's foreign policy work on AMR which included efforts to enhance action by faith-inspired organizations and the arts communities, and improve the scientific and policy understanding of the environmental component of AMR. Jessica received her PhD in Virology from Harvard University and conducted her postdoctoral research at the Scripps Research Institute.

Catherine Rockwell, DVM

Commander Catherine Rockwell currently serves as a Senior Public Health Advisor at USDA-FSIS. Additionally, she serves as a veterinary medical officer in the United States Public Health Service Commissioned Corps. She has served in various food safety roles in FSIS over the past 17 years, including field operations, training, and policy and has worked on various agency initiatives, including NARMS, the U.S. National Residue Program, poultry slaughter modernization, and industry guidance development. CDR Rockwell seeks to continue to apply a One Health approach and utilize multi-disciplinary expertise and resources to promote and improve human, animal, and environmental health both domestically and globally.

Micah Rosenblum, MS

Mr. Rosenblum is a biology and natural resources specialist for the USDA Foreign Agricultural Service (FAS) Office of Global Programs where he supports strategic planning, monitoring and evaluation of FAS-administered programs, including some activities that address antimicrobial uses and resistance. Since 2006, Micah has coordinated USDA's technical cooperation with the Food and Agriculture Organization of the United Nations (FAO), with a special emphasis on "one health" initiatives like the FAO Emergency Management Center – Animal Health that build partners' capacities for health emergency preparedness, management, and resilience. Among his numerous career goals, Micah would like to increase and improve evidence of how USDA's investments in international technical cooperation and capacity building benefit Americans and contribute to global food security.

Dawn M. Sievert, PhD, MS

Dr. Sievert serves as the Senior Science Advisor – AMR Coordination and Strategy at the Centers for Disease Control and Prevention (CDC), National Center for Emerging and Zoonotic Infectious Diseases. Dr. Sievert leads strategic direction, coordination, and investments of CDC's cross-cutting scientific AMR activities. Her work supports national goals outlined in the U.S. National Action Plan for Combating Antibiotic Resistant Bacteria and ensures that AMR projects and collaborations across the agency are appropriate and consistent with CDC scientific vision and priorities. As part of this role, Dr. Sievert provides the scientific leadership for CDC's domestic Antibiotic Resistance Laboratory Network and CDC's Global Antibiotic Resistance Laboratory &

Response Network. She is also Lead of the CDC Collaborating Center within the WHO AMR Network and is a contributing member of the WHO Strategic and Technical Advisory Group for AMR.

Jeffrey Silverstein, PhD

Dr. Silverstein joined the USDA-ARS as an animal geneticist (Aquaculture) in 1997 and worked in Stoneville, MS and Leetown, WV prior to joining Office of National Programs. He is currently the Deputy Administrator for Animal Production and Protection with the Office of National Programs since October 2016. With a team of National Program Leaders, he directs the programs and priorities of the Animal Production; Animal Health; Veterinary, Medical and Urban Entomology; and Aquaculture research activities for Agricultural Research Service. These programs intersect broadly with One Health, AMR and alternatives to antibiotics issues. He is on the leadership team for Operations and Science Program Planning of the new National Bio and Agro Defense Facility (NBAF) in Manhattan, KS, USA. NBAF will be the first biosafety level 4 (BSL4) facility in the U.S. capable of handling large animals and house the Biologics Development Module, a facility designed to speed progress of veterinary countermeasure development from laboratory discovery to commercial production.

Hunter Jackson Smith, MD, MPH, MBE

CPT Smith is the Focus Area Lead for AMR, STI, and Enteric Infections at the Global Emerging Infections Surveillance Branch in Silver Spring, MD. He also serves as a subject matter expert for the Department of Defense Medical Ethics Center and an Assistant Professor for the Uniformed Services University in the Department of Preventive Medicine and Biostatistics. CPT Smith is board certified in General Preventive Medicine and Public Health. He completed residency at the Uniformed Services University, bioethics training at the Johns Hopkins Bloomberg School of Public Health, and medical school at Tulane University.

Virginia Stockwell, PhD

Dr. Stockwell is a Research Plant Pathologist with USDA-ARS, Horticultural Crops Research Unit in Corvallis, Oregon. Her expertise is in the microbial ecology of pear and apple flowers and management of the devastating bacterial disease, fire blight. The major use of antibiotics on plants is for control of fire blight. She established an antibiotic resistance-monitoring program for the fire blight pathogen in the Pacific Northwest that provided growers needed information about the rapid emergence of streptomycin resistance and encouraged antibiotic stewardship. Biological control agents were developed to provide alternatives to antibiotics for disease management. A grower-friendly deployment model for biological control agents based on flower development, weather conditions, and disease risk was developed to optimize use of this new technology. Since joining ARS, Dr. Stockwell conducts research on bacterial and fungal diseases of berry crops, which involves identification and monitoring of emerging pathogens, developing tools to manage diseases, monitoring fungicide resistance and methods to mitigate resistance of plant pathogens to agricultural pesticides.

Sarah Tomlinson, DVM

Dr. Tomlinson is a Senior Leader for Science and Information Technology for Veterinary Services (VS) within the Animal and Plant Health Inspection Services (APHIS) of the USDA, where she serves in multiple cross-agency coordination leadership roles including supporting VS' activities related to One Health, AMR, SARS COV 2, and emerging diseases. Previously Dr. Tomlinson served as the Associate Deputy Administrator in VS' Strategy and Policy unit and was responsible for leading the development, evaluation and implementation of strategies and policies for safeguarding animal health with a wide range of programs including office of interagency coordination, national animal health programs, animal disease traceability, import and export policies, negotiations and agreements for live animals and animal products, national emergency preparedness and incident coordination; national veterinary accreditation, and the Center for Epidemiology and Animal Health. Since joining the USDA, she has worked in a variety of other programs across VS to include coordination of the National Animal Health Laboratory Network, Assistant Director of the National Surveillance Unit, and an epidemiology veterinary medical officer. Dr. Tomlinson received her Doctorate of Veterinary Medicine from Colorado State University, and practiced large animal medicine prior to joining the USDA.

Jo Ann Van Kessel, PhD

Dr. Van Kessel is a Research Animal Scientist with the Environmental and Microbial Food Safety Laboratory at the Beltsville Agricultural Research Center located in Beltsville, Maryland. She earned her B.Sc. (Agr.) from the Nova Scotia Agricultural College and her M.S. and Ph.D. in Animal Science from Cornell University. She began her career with the USDA-ARS in 1996 as a postdoctoral researcher. Her research interests have included the study of foodborne pathogens such as *Salmonella* and *Listeria monocytogenes* in dairy animals and their environment. Dr. Van Kessel is currently the Lead Scientist for the USDA-ARS project, 'Evaluation of Genetic and Management Factors to Reduce Foodborne Pathogens and Antimicrobial Resistance in Dairy Cattle'. Her most recent research focus has been on investigating AMR bacteria in young dairy calves.

MODERATORS

Uday Dessai, MS, PhD, MPH

Dr. Dessai serves as the Senior Public Health Advisor at USDA-FSIS. In this role he provides strategic leadership to major interagency AMR programs including the NARMS. During his career at FSIS, Dr. Dessai served in many leadership positions and led multidisciplinary teams to address significant scientific issues. These include whole genome sequencing (WGS), microbiological baselines, risk assessments, international equivalence, scientific innovations, science-policy interactions, strategic planning, and leading the National Advisory Committee on Microbiological Criteria for Foods (NACMCF). Dr. Dessai's career goal is to continue to make a 'real' difference in the quality of human life - locally and globally, by using cutting-edge science but with focus on ethics and sustainability.

Betty McConn, PhD

Dr. McConn is an Oak Ridge Institute for Science and Education (ORISE) Fellow working on AMR-related activities in the Office of National Programs for USDA-ARS. Dr. McConn helps promote the resilience of agriculture to AMR for the health and safety of animals, plants, environment, and the public through outreach. Prior to this, Dr. McConn was a postdoctoral researcher with the Livestock Behavior Research Unit at USDA-ARS located in West Lafayette, Indiana. Her research focused on environmental and production stress on livestock. Dr. McConn earned her B.S. and Ph.D. in Animal and Poultry Sciences from Virginia Tech.

Chelsey Shivley, DVM, PhD, DACAW

Dr. Shivley is currently the AMR Coordinator in the Office of Interagency Coordination for USDA APHIS Veterinary Services. Prior to this, Dr. Shivley spent 3 years working on the National Animal Health Monitoring System team, focused on collecting data on antimicrobial use and resistance in animal agriculture. Dr. Shivley served as an AVMA/AAAS Congressional Science Fellow in 2016-2017, working on the U.S. Senate Committee on Agriculture, Nutrition, and Forestry. Originally from Michigan, Dr. Shivley completed her undergraduate and veterinary degrees at Michigan State University. She then completed her PhD in Animal Behavior and Welfare at Colorado State University with Dr. Temple Grandin. Dr. Shivley is also board certified in the American College of Animal Welfare.