**FY 2016 Office of Antimicrobial Products Research Contracts**

**Evaluation of the Measurement Properties of Patient-Reported Outcome (PRO) Instruments in Patients with Community-Acquired Bacterial Pneumonia (CABP) and Acute Bacterial Skin and Skin Structure Infections (ABSSSI)**

- Awarded to ICON Clinical Research LLC (HHSF223201610100C)
- The objectives of this contract are to carry out psychometric evaluations of new Patient Reported Outcome (PRO) instruments for Community-Acquired Bacterial Pneumonia (CABP), Hospital-Acquired Bacterial Pneumonia (HABP), and Acute Bacterial Skin and Skin Structure Infection (ABSSSI). These CABP-specific, HABP-specific, and ABSSSI-specific PRO instruments will be submitted for qualification in accordance with both the FDA PRO guidance and the FDA drug development tool (DDT) qualification draft guidance.
- These objectives address the improvement of clinical endpoints for antibacterial drug trials listed in the Broad Agency Announcement (FDABAA-17-00123; section 2.4). The overall goals of this project are to develop qualified instruments for each disease that can be used by drug developers for the qualified context of use in IND and NDA/BLA submissions.

**Development of an Automated and Sustainable Electronic Approach for Data Mining to Evaluate Clinical Outcomes of Patients with Bacterial Infections**

- Awarded to Johns Hopkins University School of Medicine (HHSF223201610070C)
- The objective of this project is to develop the coding needed for the electronic transfer of selected clinical data for patients with gram-negative bacteremia (bloodstream infection) in a commonly used electronic health records (EHR) system. The transferred data will populate a database for the evaluation of clinical outcomes considering patient characteristics and antibacterial drug breakpoints (the standards used by laboratories to report the susceptibility of bacteria isolated from a patient to different antibacterial drugs).
- This study addresses an important regulatory science priority. The paucity of clinical outcomes data results in increasing reliance upon pharmacokinetic modeling for breakpoint updating with a trend toward lowering breakpoints primarily based on this modeling. The lowering of breakpoints may have stewardship implications as the use of second and third line agents may increase. The availability of this clinical outcome information is expected to be useful in discussions concerning revising breakpoints.

**Bridging Novel Laboratory Animal and Hollow Fiber Infection Models to Evaluate Central Nervous System Penetration of Drugs in Infants**

- Awarded to Duke University (HHSF223201610082C)
- The overall goal of this project is to develop and evaluate a new paradigm for evaluating CNS penetration of antibacterial drugs in human neonates. The objectives of this project are: (1) develop and validate a rabbit model of CNS infection and define the pharmacodynamics of the antibacterial drugs meropenem and tobramycin for the treatment of meningitis, (2) develop and validate a hollow fiber infection model (HFIM) of neonatal meningitis to characterize the pharmacodynamics of meropenem and tobramycin by evaluating bacterial killing and emergence of antimicrobial resistance, (3) bridge the preclinical results to infants using population PK-PD modeling to guide dosing regimens of meropenem and tobramycin for treatment of meningitis in infants.
- The study may help identify new approaches to study antibacterial drugs in infants, with the goal of obtaining the information needed to label an antibacterial drug for pediatric use more efficiently.