

## #1 Panel Discussion Special Considerations and Utility of Modeling and Simulation for Pediatric MCMs

- **Moderators: Dr. Dionna Green**
- **Introduction – Dr. Dionna Green (15 minutes)**
- **Case Presentation – Dr. Jiang Liu (10 minutes)**
- **Panel Discussion (35 minutes): Panelists:**
- Suzie McCune, M.D., Deputy Director, OTS
- Ping Zhao, Ph.D., Senior Pharmacologist, Division of Pharmacometrics
- Jiang Liu, Ph.D., Senior Pharmacologist, Division of Pharmacometrics
- Kim Bergman, Pharm.D., Supervisory Pharmacologist, DAVP
- Karen Davis-Bruno, Ph.D., Supervisory Pharmacologist, DMEP
- Jeffrey Fisher, Ph.D., Research Toxicologist, NCTR
- Jorg Lippert, Ph.D., Global Head, Clinical Pharmacometrics, Bayer

# Panel Discussion Question #1

- When considering the situations in which pediatric dosing for medical countermeasure (MCM) products is to be estimated and given the limited possibility of obtaining confirmatory studies pre-event, what is the add-in value of PBPK versus other modeling and simulation methods? What additional research should be conducted that might clarify the value of a particular M&S method for use in this context?

# Panel Discussion Question #2

- When considering the reliance on animal data for certain aspects of MCM product development and approval, are you satisfied with our present understanding of species extrapolation (i.e., animal → human adult, then human adult → all pediatric age groups; juvenile animal → all pediatric age groups)? What are the data gaps? What studies should be conducted to improve our understanding?

# Panel Discussion Question #3

- For scenarios for which conducting clinical trials in children are not feasible or ethical, as is often the case in MCM product development, does PBPK-PD or other M&S methods reduce the residual uncertainty for the use of MCMs in all pediatric age groups? What studies would increase the value of these methods in reducing uncertainty and improving risk-benefit assessments in the pediatric population?

# Panel Discussion Question #4

- How does the context of use (i.e., counterterrorism scenario with low probability, but high consequence) factor into the level of uncertainty that is tolerated in model-based predictions?