**MPRINT: Innovative study design, analyses, and research dissemination to support safe medication use in lactation** Sara K. Quinney, Department of Obstetrics and Gynecology, Indiana University School of Medicine, Indianapolis, IN, USA

**Introduction**. Medication use during lactation is an understudied area, leading to significant uncertainty for healthcare providers and breastfeeding women. The Maternal and Pediatric Precision in Therapeutics (MPRINT) Hub was established by the U.S. National Institute of Child Health and Human Development (NICHD) to collate knowledge and provide resources and education to enhance maternal and pediatric therapeutics research, including lactation.

**Aims.** The MPRINT Hub aims to 1) promote novel study designs and methodologies for assessing medication transfer into human milk and infant exposure; 2) advance pharmacokinetic and pharmacodynamic modeling approaches in this unique population; and 3) establish methods to communicate evidence-based information to clinicians, researchers, and the public to support safe medication use in breastfeeding.

**Methods.** The MPRINT Hub collaborates with researchers and networks to provide resources for designing studies, sample collection and analysis, and using pharmacometric modeling to predict drug disposition in breastfeeding women and their infants. The MPRINT Knowledgebase leverages computational tools and data visualization platforms to integrate diverse datasets. Community engagement efforts provide pharmacologic and safety information on medication use in breastfeeding in formats that clinicians and patients can easily understand.

**Results.** The MPRINT Hub has established resources to support lactation studies of drugs, including the Mommy’s Milk Human Milk Research Biorepository; a Milk Analytics Core to assess human milk composition; metabolomic assays to evaluate drug exposure in breast milk and their effect on maternal and neonatal metabolome and microbiome; the MPRINT Knowledgebase, collating literature on clinical trials, pharmacokinetic, and pharmacoepidemiology studies relating to medications in lactation; and webinars, infographics, and information handouts to communicate knowledge on medication safety and dosing in breastfeeding to researchers, clinicians, and patients. Information is available through the MPRINT Hub website at mprint.org.

**Discussion.** By bridging critical knowledge gaps, the MPRINT Hub is contributing to safer medication use in lactation, ultimately improving health outcomes for breastfeeding women and their infants.