Dosing complexities unique to pediatrics put children at high risk for serious consequences related to medication errors. Pediatric medication doses are usually weight-based and based specifically upon the patient’s weight in **kilograms (kg)**. Weighing and documenting pediatric weights only in kilograms has been strongly recommended and supported in the literature as a strategy to decrease medication errors throughout the patient encounter. All ICPS Health-systems that treat pediatric patients have policies requiring weights in kg.

Despite these measures, there have been recent errors or near misses within ICPS Health-systems due to weights incorrectly obtained or documented. Examples include:

- Weight for drug dose calculation used from prior admission (1.5 kg difference)—med orders needed to be changed to reflect correct weight
- Documented weight was estimated - significantly less than actual weight
- Documented weight taken as pounds and recorded as kg—two fold weight error
- Estimated weight documented as 46.6kg (mom had stated patient weighs 46-48 pounds)
- Figures transposed (ex 2.53 documented as 5.23 kg)
- Decimal point error (weight off by factor of 10) (62 kg instead of 6.2 kg)

Errors in documented weight can lead to errors in: medication dosing, nutritional orders and supplementation, and assessment of overall clinical condition

Recommendations:

- Policies should define the way in which a patient’s weight is recorded, interpreted and utilized in all clinical systems.
- Weight must always be obtained, entered and displayed in clinical systems in metric units (KG or GM) only.
- Ensure scales measure in metric units and default to metric display only (KG or GM).
- Consider optimal conditions for weighing a patient:
  - same time of day
  - patients should be weighed minimally clothed
- Except in emergency situations, require that patient weight is documented before ordering or dispensing medications.
- Require pharmacists to independently double-check weight-based dosing calculations.
- Weight based doses should not exceed maximum dosing. Pharmacy to confirm.
- Educate staff about weight-based dosing errors and strategies to prevent them
Contributors:

David Zipes, MD FAAP, SFHM
Director, St. Vincent Pediatric Hospitalists
Peyton Manning Children’s Hospital at St. Vincent
dgzipes@stvincent.org

Michele Saysana, MD, FAAP
Medical Director, Riley Quality and Safety
Associate Professor of Clinical Pediatrics
Riley Hospital for Children at Indiana University Health
Department of Pediatrics; IU School of Medicine
msaysana@IUHealth.org

Gina Ellis, Pharm.D.
Neonatal and Pediatric Clinical Pharmacy Specialist
Franciscan St. Francis Hospital
Gina.Ellis@franciscanalliance.org

Dennis Gardner, Pharm.D.
Clinical Pharmacy Specialist
Pediatrics/Neonatal Intensive Care
Community Health Network
DGardner@ecommunity.com

Margie McCaskey, RN, DNP, CPHQ
Formerly Chief Quality Coordinator
Riley Hospital for Children at IU Health

Lorie J. Miller, CPHQ
Quality Management Consultant
Peyton Manning Children’s Hospital at St. Vincent
ljmiller@stvincent.org

Millicent Moye M.D.
Director, Adolescent Health
Marion County Public Health Department
Action Health Center
MMoye@MarionHealth.org

Colleen Scherer, PharmD, MPA, BCPS
Pediatric Clinical Pharmacist –
Peyton Manning Children’s Hospital at St. Vincent
cnschere@stvincent.org

Nino Voskuhl, PharmD
Pharmacy Operations Manager
Riley Hospital for Children at Indiana University Health
Elizabeth Weinstein, MD, FAAEM, FACEP, FAAP
Associate Professor of Clinical Pediatrics and Emergency Medicine
Indiana University School of Medicine
Riley Hospital for Children and Sidney & Lois Eskenazi Hospital
Director, Indiana Emergency Medical Services for Children Program
Deputy Medical Director, Pediatrics, Indianapolis EMS
elweinst@iupui.edu