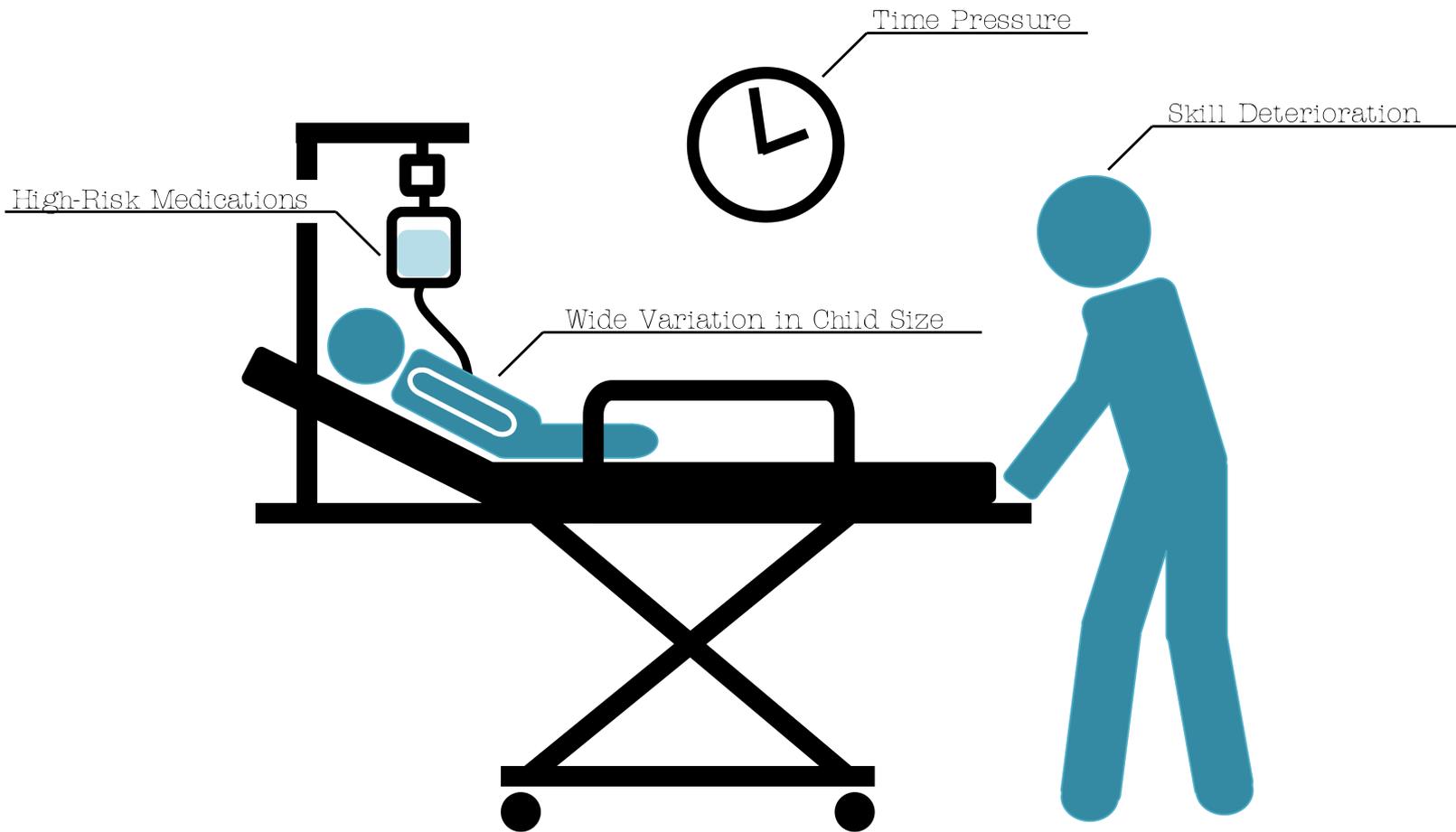


Pediatric Medication Dosing Errors In The Pre-Hospital Setting

Children are up to **three times** more likely to experience **adverse drug events** than adults.¹

Medication dosing errors occur in nearly **18%** of hospitalized children.²

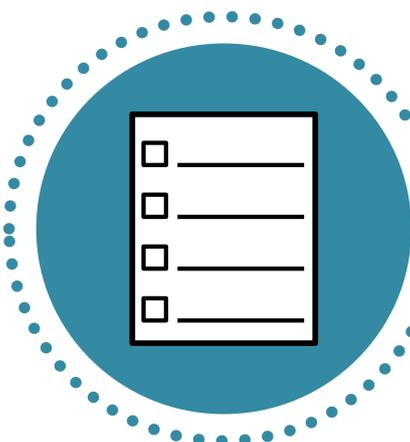
Why?



Pediatric patients are only seen in about **10%** of EMS calls. This can lead to skill deterioration and uncertainty about treatment. **Weight-based dosing calculations** and the use of **complicated math** on the spot can lead to an increase in errors in pediatric patients.¹

Additionally, studies and simulations have shown that often, weights are **incorrectly estimated**, weight-length based tapes (such as the Broselow tape) are **used incorrectly**, doses are **recalled incorrectly**, and doses are **not cross-checked** between providers.³

What can be done?



Being proactive and **planning** for pediatric scenarios can help prepare EMS personnel for the unexpected.



Continuing education will stave off skill deterioration and keep dosing practices sharp.



Engaging in **quality improvement** with EMS medical directors will ensure each run is a learning experience.

Keep your skills sharp and know your resources!

Simulation Training. Contact **Simulation in Motion – North Dakota**, or SIM-ND, to schedule simulation training in your area (www.med.und.edu/sim-nd/). You can also work with area hospitals and EMS services (ambulance, fire, police) to practice emergency scenarios and disaster drills.

Drug Dosing Guides and Systems. There are several drug dosing guides and systems on the market today. Companies like **RightDose** (www.rightdose.net) will work with your service to provide customized booklets and electronic applications. You can also purchase a system like Handtevy from **Pediatric Education Systems, Inc.** (www.handtevy.com), which addresses weight-length based measurements and includes personalized guidebooks and resources.

1. The Joint Commission, "Preventing pediatric medication errors," *Sentinel Event Alert* 39 (2008), www.jointcommission.org/assets/1/18/SEA_39.PDF.
2. Hoyle, Davis, Putman, Trytko and Fales, "Medication dosing errors in pediatric patients treated by emergency medical services," *Prehospital Emergency Care* 16 (2012): 59-66, doi: 10.3109/10903127.2011.614043.
3. Lammers, Byrwa and Fales, "Root causes of errors in a simulated prehospital pediatric emergency," *American Academy of Emergency Medicine* 19 (2012): 37-47, doi: 10.1111/j.1553-2712.2011.01252.x.

NORTH DAKOTA

