Prevention of Medication Errors in Pediatrics

Shelly Morvay, Pharm. D.
June 10, 2015

Shelly.Morvay@NationwideChildrens.org
Nationwide Children’s Hospital (NCH)

Columbus, Ohio
26,000 admissions per year
1 million outpatient visits/year
The Ohio State University
Department of Pediatrics
Average 182,000 medication
doses dispensed per month
185 adverse drug event (ADE)
reports each month
Prevention of Medication Errors in Pediatrics

- Accurate height and weight
- Reliable pediatric dosing reference
- Pediatric appropriate dosage forms
- Safe medication preparation processes
- Safe medication administration processes
- Educated caregivers
**Specific Aim**

Reduce ADE’s (4-9) to 12 per quarter by Dec 31, 2015 and 60 consecutive days with 0 ADEs (4-9) by Dec 31, 2015

**Sub Aim**

Reduce ADE’s 5-9 to 90 consecutive days with 0 ADE (5-9) by Dec 31, 2015

**Key Drivers**

- **Optimal Use of EMR**
  - Improve EPIC change request completion time
  - Create robust EMR education strategies
  - Develop proactive event prevention strategies

- **Accurate AVS**
  - Continue to expand RPh Interns in ED to assist with med rec
  - Expand Meds to Beds Program

- **Accurate Immunization**
  - Mitigate risk of immunizations moving to MAR
  - Standardize workflows
  - Enhance training for new staff
  - Implement digital quality boards
  - Implement barcode scanning

- **Optimal Management Of Insulin**
  - Optimize insulin ordering for patients not covered by pediatric resident services
  - Create insulin calculator competencies
  - Educate nursing staff in ED related to standard process for insulin administration
  - Update and review all insulin order sets

- **Effective Medication Alerts**
  - Review barcode medication administration scanning alert overrides
  - Review smart infusion pump alert overrides

**Legend**

- Intervention complete
- Intervention started
- Intervention planned

Revised April 2015
Current NCH ADE Bundle

• Accurate height and weight audits
• Central line heparin flush concentration and frequency
• Medication reconciliation at admission, transfer and discharge
• Barcode scanning compliance for patient identification and medication
Other NCH Focus Areas

• Accurate prescribing
  • Prescriber safety champion group
• Accurate dispensing
  • Pharmacy turnaround time
• Accurate administration
  • 5 Rights and Double Check audits
  • Smart infusion pump use audits
Medication Event Huddles

• Complete 15 to 20 huddles per month
• Effective tool to learn from ADE and prevent future events
• 2010 to present
• Over 1,000 huddles
• More than 3,000 interventions
  • approximately 90% completed
Medication Event Huddles

• When a significant ADE or near miss occurs
• Core huddle team, staff involved and unit leadership
  • Simulate event using the actual chart, infusion pumps, medication labels, etc.
  • Identify opportunities to improve our processes, equipment, environment, practice factors
• Helpful hints
  • Emphasize non-punitive nature of huddle
  • Start small, in the intensive care units, for example
  • Huddle for 30 minutes
  • Use systematic method to manage interventions such as a database
  • SHARE huddle findings and improvements with staff
Safety Strategies

Forcing functions and constraints

Automation and computerization

Standardization and protocols

Checklists, double checks

Rules and policies

Education

“Be more careful”
Selected references


Prevention of Medication Errors in Pediatrics

Shelly Morvay, Pharm. D.
June 10, 2015

Shelly.Morvay@NationwideChildrens.org