Standardizing Drug Libraries

- Standardized IV medication use
- Smart libraries
- Smart technology

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Objectives for today

**Session: Standardizing Drug Libraries**

- Share and identify lessons learned from standardizing drug libraries — "what worked, and what didn’t."
- Identify problems to standardizing drug libraries on a large or national scale.

**Presentations**

- Describe the status of efforts to standardize infusion concentrations
- List considerations for developing “smart” drug libraries
- Differentiate between library functionality and pump functionality
American Society of Health-System Pharmacists
Advocacy for IV Safety

ASHP Policy Positions, 1982-2010
Policy 0807

STANDARDIZATION OF INTRAVENOUS DRUG CONCENTRATIONS
To develop nationally standardized drug concentrations and dosing units for commonly used high-risk drugs that are given as continuous infusions; further,

To encourage all hospitals and health systems to use infusion devices that interface with their information systems and include standardized drug libraries with dosing limits, clinical advisories, and other patient-safety-enhancing capabilities.
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ASHP IV Safety Summit Recommendation

• Standardize infusion concentrations

• Standardize
  • Vocabulary for dose and rate
  • Policies for upper, lower dosing/rate limits
  • Procedures for ordering, preparing, administering

• Consensus-developed, evidence-based open source reference
Why standardize?

Pros

• Reduces errors
• Facilitates technology support
• Increases efficiency

If we can achieve consensus

Other good things may happen

• Universal template for drug libraries
• Shorter approval process for new concentrations
• Increase number of products in ready-to-administer form
The “Cons”

**Barriers**

- Patients not “standardized” – how to limit concentrations without compromising care
- Changes established prescribing practices
- Regulatory limitations – not included in labeling
- What concentrations are the “best practice?”
Current status

- Many different infusion concentrations for some drugs
- Essentially unlimited variety allowed in organizations (5-45 depending on drug)

- Drugs with highest # of unique concentrations:
  - Phenylephrine (adults, pediatric)
  - Epinephrine (adults, pediatric, neonates)
  - Norepinephrine (adults, pediatric)
  - Dopamine (pediatrics, neonates)
  - Dobutamine (pediatrics, neonates)
Has anyone made it work?

- **San Diego County Patient Safety Consortium** – County wide standardization among 14 hospitals
  

- **Indiana Coalition for Patient Safety**
  13 Indianapolis hospitals in 7 health-systems standardized names, concentrations, and dosage units for high risk IV medications.
  
  [www.indypatientsafety.org/](http://www.indypatientsafety.org/)

**Other**

- Many system- or hospital-wide examples
Checklist for standardizing and limiting infusion concentrations

BROADLY APPLICABLE
- Meets needs of 80-90% patients
- Frequently used in current practice
- Appropriate for adults and pediatric patients over ___Kg (to be determined).
- Appropriate for peripheral and central lines (unless only used centrally)

ENHANCES SAFETY
- Maximum of two concentrations
- Simplifies calculations, e.g. 1 unit/ml or 100 mg/ml
- No significant effect on volume/electrolyte status when infused in usual dose ranges
IV Safety Summit Action Agenda

Comprehensive IV reference

- Standardized and limited concentrations
- Comprehensive drug information
- Appendices for specialty settings and populations
- Index of commercially available ready to administer
- Validated by expert review and stakeholder consensus
- Subject to periodic revision and update
In conclusion……..

- Number and type of infusion concentrations varies widely
- Concentrations can be standardized
- ASHP has planned standardization project with multidisciplinary stakeholders

BUT

- Standardized concentrations ≠ a “smart” library