



U.S. Pharmacopeia
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MedmarxSM 2001 Data Details: A Look at Emergency Department Errors

Snapshot

The emergency department (ED) has become an epicenter of activity in our nation's hospitals. The combination of interruptions, intense pressure, and a fast-paced environment can lead to medication errors. In 2001, hospitals reported more than 2,000 emergency department-related medication errors.

Report Findings

- Overall, omission of medication was the leading medication error in hospital systems; however, improper dosing/quantity was the leading medication error in the ED.
- Of the medication errors cited in the ED, 77 percent occurred during the prescribing and administering phases.
- Fewer errors are intercepted in the ED compared to other areas of the hospital. In the ED, nearly 23 percent of errors were intercepted before reaching the patient as opposed to nearly 39 percent intercepted in other areas of the hospital.
- Pediatric medication errors that involved improper dosing of the vaccine diphtheria tetanus toxoid were common in EDs.

Top Drug Errors in Emergency Departments

Type of Error	Product	Indication
Improper Dose	1. Heparin*	Anti-coagulant or blood thinner that treats or prevents the formation of blood clots
	2. Diphtheria/Tetanus Toxoids (For pediatric use)	Childhood vaccine that prevents diphtheria and tetanus
	3. Diltiazem	A calcium channel blocker that facilitates the pumping of the heart in patients with hypertension or angina; It also slows a rapid heartbeat.
	4. Morphine*	Narcotic used to treat moderate to severe pain
	5. Insulin*	Used to treat patients with Type 1 or Type 2 diabetes
Omission	1. Ceftriaxone	Antibiotic used to treat various bacterial infections
	2. Insulin*	Used to treat patients with Type 1 or Type 2 diabetes
	3. Heparin*	Anti-coagulant or blood thinner that treats or prevents the formation of blood clots
	4. Levofloxacin	Antibiotic used to treat various bacterial infections
	5. Potassium Chloride*	Used to prevent or treat potassium deficiency
Prescribing	1. Levofloxacin	Antibiotic used to treat various bacterial infections
	2. Ceftriaxone	Antibiotic used to treat various bacterial infections
	3. Acetaminophen	A pain reliever and fever reducer used to treat headaches, backaches, and viral symptoms
	4. Heparin*	Anti-coagulant or blood thinner that treats or prevents the formation of blood clots
	5. Insulin*	Used to treat patients with Type 1 or Type 2 diabetes
	6. Ketorolac	A nonsteroidal anti-inflammatory used to reduce pain and inflammation

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* Denotes high-alert medication

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Recommendations for Health Care Practitioners: Preventing ED Medication Errors

USP suggests the following recommendations to help prevent medication errors in hospital EDs:

1. Educate personnel in the use of high-alert medications and associated infusion devices.
2. Expand the use of decentralized pharmacists to cover the ED.
3. Minimize verbal orders for medications by requiring that most medication orders be written or entered electronically.
4. Design workflow within the ED in a manner that improves communication and minimizes interruptions and distractions.

For a copy of the Medmarx 2001 data report, send an e-mail to mediarelations@usp.org. For more information on Medmarx, visit www.medmarx.com.

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