# Pharmacy Technician- Acquired Medication Histories in the ED: A Path to Higher Quality of Care

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## Disclosure

- Author of this presentation have the following to disclose concerning possible financial or personal relationships with commercial entities that may have a direct or indirect interest in the subject matter of this presentation: ***None***

## SwedishAmerican Hospital – A Division of UW Health

- Located in Rockford, IL
- 333 bed community hospital
- Level II Trauma Center
- Emergency Department
  - ~70,000 visits annually
  - Clinical Pharmacist and Medication History Technician coverage 10 hours a day, 7 days per week
  - Added PGY2 Emergency Medicine Program June 2016


## Learning Objectives

- Identify opportunities for expanded pharmacy technician roles in obtaining accurate, timely medication histories in the emergency department (ED)
- Describe the components and value of a pharmacy technician driven medication history program

## Medication History

- What is a medication history (MH)?
- Is it performed the same everywhere?
- What are the sources of information?
- How long should it take to complete each MH per patient?
- Is the quality of MH the same across providers?
- Is this an important part of workflow during an admission?

## Medication History

- First use of term “Medication History” in 1972
- The process of collecting a patient’s allergies, medications, compliance, and most recent doses
- Medication information gathered:
  - Formulation
  - Dose
  - Route
  - Frequency
  - Indication

## Sources of Information

- Patient
- Medication Vials
- Medication Lists
- Family Member
- Care Giver
- Pharmacy
- Primary Care Office
- Discharge Instructions
- Assisted Living Facility
- Insurance Claim History
- Veterans Affairs

## Length of History

- Multiple studies have shown the average MH performed by a technician takes 30 minutes
- Depending on complexity, a range of 10 minutes to 3 hours has been documented
- Depends largely on baseline information and how many sources have to be explored

Cater SW et al. J Emerg Med. 2015;48:230-238.

## Joint Commission

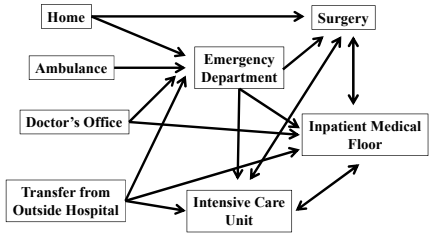
- 2005 National Patient Safety Goal #8
- Goal #8a and b: This requires hospitals to accurately and completely reconcile medications across the care continuum.
- #8a: The JCAHO will fully implement by January 2006 this requirement to develop a process for involving the patient upon admission in obtaining and documenting a complete list of his or her current medications. This process includes comparing the medications that the organization provides with those on the list.
- #8b: This requires organizations to communicate the patient's complete list of medications to the next provider of service whenever referring or transferring the patient to another setting, service, practitioner, or level within or outside the organization.

## Impact of Medication Histories

- When performed by a pharmacist, one of two variables shown to significantly reduce medical errors that affected patient outcomes
- Medication error rates between 45%-76%
  - Most errors occur during admission
- Average cost of preventable medication error $3,511
- Each error increased length of stay 3.37 days
- Pharmacist conducted results in a decrease of 128 deaths/year/hospital

Bond CA et al. Pharmacotherapy. 2002;22:134-147.
Sen S et al. Am J Health Syst Pharm. 2014;71:51-56.
Hug BL et al. Jt Comm J Qual Patient Saf. 2012;38:120-126.
Bond CA et al. Pharmacotherapy. 1999;19:556-564.

## Patient Flow into Hospital




## Impact of Medication Histories in the ED

- Factors affecting medication accuracy range from patient ability to communicate to time restraints
- ED patients were missing at least one medication on 56% of histories
- ED patients had at least one dosage error on 80% of histories

Caglar S et al. J Emerg Med. 2011;40:613-616.

## Pharmacist vs. Other Providers

- Physicians had a 21% rate of discrepancy vs. pharmacist conducted medication history
- Patients less often had allergy and medication details documented with physician history
- ED provider entered medications were incomplete 78% of the time and corrected by a pharmacist
- Pharmacists had the least amount of discrepancies of any provider in one study:

| | Pharmacist | Technician | RN |
|---|---|---|---|
| Discrepancies per Medication | 0.16 | 0.36 | 0.59 |

*All values statistically significant

Reeder TA et al. Am J Health Syst Pharm. 2008;65:857-860.
Carter MK et al. Am J Health Syst Pharm. 2006;63:2500-2503.
Kramer JS et al. Hosp Pharm. 2014;49:826-838.

## Medication History Technician (MHT) vs. Other Providers

- No significant difference between technician and pharmacist acquired medication histories in the ED
- In the ED, MHTs were accurate 88% of the time vs. RNs at 57%
- High risk medications and anticoagulant last administration times were more frequently documented for MHTs

Johnston R et al. Can J Hosp Pharm. 2010;63:359-365.
Hart C et al. P T. 2015;40:56-61.

## Medication History Technician vs. Other Providers

- Counterpoint – The Med "Wreck" Tech
  - One study found that MHT performed histories did not result in a significant reduction of unjustified medication errors
  - Academic medical center
  - No pharmacy trained investigator on study
  - Physicians could have not looked at MHT list
  - Only allowed 2 hours after medication collection for admit orders, any changes after not counted

Cater SW et al. J Emerg Med. 2015;48:230-238.

## Metrics

- It can be difficult with limited resources to evaluate the effectiveness of your program
- Multiple factors involved including the experience of technician, ability to re-interview the patient, and how history is documented
- Classifying the severity and cost of an intercepted error can be difficult

## Metrics - Personnel

- Technician verifies another technician
- Technician verifies RN/other staff
- Pharmacy student verifies technician
- PGY-1 Resident verifies technician
- Pharmacist verifies technician

## Metrics - Data

- Length of history
- Sources used
- Prescription vs. OTCs
- Class of medication
- Comparison of providers
- Time from admission to completion of medication history
- Immunizations
  - pneumonia and influenza
- Data Collection
  - Medication Omission
  - Medication Commission
  - Incorrect/Missing Frequency
  - Incorrect/Missing Dose
  - Incorrect/Missing Formulation
  - Incorrect Drug
  - Incorrect/Missing Allergies
  - Incorrect/Missing Route

## Establishing A Program

- Provider buy-in
- Supplies (computer, cell phone, contact cards, etc.)
- Create a template indicating required fields for what the technician is to collect every interview
- Consider sample patient cases or test for competency
- Hire technicians that already have experience and familiarity with medications, strengths, frequencies, and dosage forms
- Supplement with pharmacy students

## Technician Work Space in ED


## Establishing A Program

- How will list be entered into EMR
  - Include your IT department and Nursing
- Decision on whether or not a pharmacist must sign off on accuracy of history
- How to report/pass off complex scenarios and regimens to pharmacist team
- How to notify providers a history is complete
- Quality assurance program

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**If I have funding for only one Medication History Technician, one of the most beneficial areas for the technician to staff would be:**

A. Same Day Surgery
B. Intensive Care Unit
C. Emergency Department
D. Pharmacy

**Which of the following would not be collected during a medication history interview?**

A. Medication formulation
B. Allergies
C. Last taken dose
D. Surgical history
E. Frequency

**Which of the following is not a component of establishing a medication history technician program?**

A. Creating an interview template
B. Administer patient cases/tests for competency
C. Provider buy-in
D. Supplement with pharmacy students
E. Hire a new pharmacy technician graduate

## Questions?