Safe Medication Administration:
From Policy to Practice

charting the course
2011 QSEN National Forum

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Objectives

• Provide overview of error-prone conditions that result in medication errors by student nurses

• Describe:
  – Elements in medication administration policy that were redesigned to improve safety
  – Redesign of the error reporting process to support a learning and just culture

• Explain the structure and purpose of internal and external medication safety committees.
SAFETY COMPETENCY

• Minimizing risk of harm to patients from medications errors through:
  • improving individual performance
  • advocating for improvements in systems where our students practice to reduce the opportunities for errors.
University of Windsor
Windsor, Ontario
Faculty of Nursing
Background

Medication Administration is the **highest risk** activity done by our nursing students.
Background

The Great Unknown
• Were our students making any errors?

The Great Challenge
• What does our Medication policy say and what does it mean??
• Does our policy support safe practice?
• What are we teaching and is it based on the best evidence in safe medication practices?

Our Priority
• No patient injured
• No student/instructor medication errors
Student Nurse Medication Administration

What Could Possibly Go Wrong?
Student Nurse Medication Administration

Just about anything can go wrong…
Error-Prone Conditions Resulting in Medication Errors by Student Nurses

**Documentation Issues**

*Condition:* Students or staff nurses have not documented administration or reviewed the MAR prior to drug administration.

*Error:* Dose omissions or extra doses

*ISMP, 2008a*
Error-Prone Conditions Resulting in Medication Errors by Student Nurses

Nonstandard Times

**Condition:**
Medications scheduled for administration during nonstandard or less commonly used times

**Error:** Dose omissions

ISMP, 2008a
Held or Discontinued Medications

**Condition:** Lack of knowledge related to the organization’s process for holding or discontinuing medications

**Error:** Extra dose

ISMP, 2008a
Error-Prone Conditions Resulting in Medication Errors by Student Nurses

MARs Unavailable or not Referenced

**Condition:** Not using MAR for med preparation and/or patient identification

**Error:** wrong patient, wrong time, wrong dose...

ISMP, 2008a
Partial Drug Administration

**Condition:**
Students may not be administering all of the patient’s meds, particularly IV meds

**Error:** Dose omission
Error-Prone Conditions Resulting in Medication Errors by Student Nurses

Oral Liquids in Parenteral Syringes

**Condition:** Preparation of oral or enteral solutions in parenteral syringes

**Error:** Wrong route
Non-Specific Doses Dispensed

**Condition:** Lack of unit dose from pharmacy

**Error:** Wrong or excessive dose
Monitoring Issues

**Condition:** Lack of proper assessment (i.e. vital signs, lab values) before administering certain meds

**Error:** wrong med or dose

ISMP, 2008a
Error-Prone Conditions Resulting in Medication Errors by Student Nurses

Preparing Drugs for Multiple Patients

**Condition:** Preparing meds for more than one patient at a time and/or bringing meds for two or more patients into a room

**Error:** Wrong patient

ISMP, 2008a
Error-Prone Conditions Resulting in Medication Errors by Student Nurses

Confusing MARs

**Condition:** Confusion between ordered dose and available dose; confusing or absent documentation

**Error:** wrong drug, dose, time....

Cohen, 2007
Student Nurse Medication Administration: What Is A Nursing School to Do?
“To Do” List

1. New Patient Safety Committees
2. Policy Redesign
   • Philosophy
   • Clarified Expectations for Instructors and Students
   • High alert medications
   • Error response
   • Error reporting
3. MAR redesign
4. Safe practice education
Patient Safety Committees

Medication and Patient Safety Advisory Committee (MAPSAC)

Interdisciplinary Medication Safety Committee
Policy Redesign: Philosophy

Medication administration taught as a process— not a task
Policy Redesign: Clarified Expectations for Instructors

- Clinical instructors will determine the number of students who can safely administer medications...
- Students observed by clinical instructor during all phases of medication administration
Policy Redesign: Clarified Expectations for Students & Instructor

STANDARD OPERATING PROCEDURE
Instructor’s Observations of Medication Administration of 2nd & 3rd Yr

1. Instructor and student discuss medications to be given/seen given by students with staff nurse. Student and instructor review patient’s medication administration record (MAR).

2. Student and instructor verify medications with physician’s orders.

3. Student evaluates assessment information (oral, legible, and written form).

4. Student demonstrates knowledge of patient’s medications (purpose, side effects, monitoring, etc.) verbally and/ or in writing to instructor.

5. Instructor observes medication preparation.

6. Instructor observes student matching patient with MAR before administering medication using 2 identifiers (full name, birth date and/or medical record number).

7. Instructor observes student opening medication at bedside and informing and educating patient.

8. Instructor observes student documenting and education instructor co-signs.

9. Student documents medications and education.

10. Student assesses patient’s response to medications (i.e., reports/ documents any abnormal observations).

11. Instructor guided observes student’s hand-off communication of medications given/not given to staff nurse.
Policy Redesign: Clarified Expectations for Students & Instructor

**Standard Operating Procedure**

*Medication Competencies for 2nd & 3rd Yr Students NOT Administering Medications*

1. Student reviews patient’s medication administration record (MAR).

2. Student verifies medications with physician orders.

3. Student evaluates assessment information (vital signs; lab results; tests).

4. Student demonstrates knowledge of patient’s medications (purpose, side effects, lab monitoring, etc.) verbally and/or in writing to instructor.

5. Student educates patient on medications (assesses knowledge; provides education; uses techniques such as “teach back” to evaluate learning).

6. Student assesses the patient’s response to medications. (Reports any abnormal observations)

7. Student documents patient education.
Policy Redesign: Management of High Alert Medications

- Defined high alert medications
- Instituted independent double checks

ISMP, 2008b
Errors influenced by:
• Systems
• Behavioral choices
To create safer systems:
  – Learning culture
  – Design systems to reduce errors
  – Focus on human behaviours
    • Create a just culture
Policy Redesign: Error Reporting Form

University of Windsor Student Nurse Medication Error Report and Follow-up

This form is to be completed by the clinical instructor and nursing student for all medication errors. The original completed form is to be submitted to the Associate Dean. Please note: all errors must also be reported via the hospital or agency reporting mechanism (i.e. Risk Pro Monitor).

Date of Incident: ____________________________  Time of incident: ____________________________

Agency and unit (if applicable): ____________________________  Student name and level: ____________________________

Clinical Instructor name: ____________________________  Was agency error report submitted (i.e. electronic or agency form)? Yes No

If ‘No’, please explain: ____________________________

Name of Medication involved in error: ____________________________

Type of Incident:

☐ Extra dose/duplication  ☐ Wrong administration technique
☐ Missed dose  ☐ Drug prepared incorrectly
☐ Incorrect dose/quantity  ☐ Metabolism
☐ Wrong patient  ☐ Detected expired product
☐ Wrong time  ☐ Wrong dosage form
☐ Wrong route  ☐ Other (please specify)
☐ Wrong medication  ☐ Other (please specify)

Contributing Factors (check all that apply):

☐ Abbreviation issue  ☐ Administration error
☐ Communication failure (i.e. physician to nurse or nurse to student)  ☐ Confusion with physician order
☐ Confusion with MAR (i.e. illegible or incomplete)  ☐ Documentation error (i.e. dose not documented)
☐ Drug delivery device problem (free flow, pump issue)  ☐ Drug labelling issue (i.e. look-alike drugs, look-alike packaging)
☐ Drug storage or delivery issue (i.e. missing dose, problem with delivery)  ☐ Environmental problem (i.e. interruptions, noise)
☐ Lack of independent double check  ☐ Lack of knowledge related to the drug
☐ Missing patient information (circle all that apply): lab values, vital signs, allergies, age, weight, diagnosis, renal impairment, pregnancy
☐ Transcription error
☐ Other (please specify)

Brief factual description of incident:

________________________________________________________________________________________________________

Immediate Actions Taken Post Incident:

________________________________________________________________________________________________________

Patient Condition Post Incident:

________________________________________________________________________________________________________

Recommendations (check all that apply):

☐ Improved communication with unit staff  ☐ Improved communication with physician or pharmacy
☐ Use of 2 patient identifiers  ☐ BRING MAR to bedside
☐ Administer medication to one patient at a time  ☐ Check physicians orders
☐ Complete 3 checks of medication labels  ☐ Increase knowledge of medication
☐ Improve preparation for clinical and medication administration  ☐ Complete an IDC with all high risk medications according to agency policy
☐ Clarify unclear handwriting, orders or abbreviations  ☐ Ensure documentation is completed after med is given
☐ Follow up on any medications that are on hold (i.e. post procedure)  ☐ Label IV medications correctly
☐ Other (please specify):

Institution Recommendations and Follow-up

Type of Medication Error:

☐ Human Error (product of our current system design)  ☐ At-Risk Behaviour (a choice: risk believed insignificant or justified)
☐ Reckless Behaviour (intentional or deliberate risk-taking)

Follow-up Recommendations:

________________________________________________________________________________________________________

Signature: ____________________________  Date: ____________________________
Policy Redesign: Error Reporting Process

Medication Error Reporting Process

1. **Error Occurs**
   - Student makes a medication error

2. **Agency Documentation**
   - Student and Clinical Instructor (or Preceptor/Clinical Advisor for 4th year students) complete the agency required report (i.e., PharmMonitor Pro)

3. **Faculty of Nursing Documentation**
   - Student and Clinical Instructor (or Preceptor/Clinical Advisor for 4th year students) complete the Faculty of Nursing’s Medication Error and Follow Up Form
   - The original form is sent to the Associate Dean of Nursing (the form should not be duplicated)

4. **Communication**
   - The Clinical Instructor notifies the Level Coordinator or designee (i.e., Clinical Facilitator)
   - The Associate Dean sends one copy of the form (no student name on form) to the chairperson of the Medication and Patient Safety Advisory Committee

5. **Follow Up**
   - The Associate Dean reviews the form, completes the portion entitled “Institution Follow Up”, and decides if further action is required with the student and/or instructor
   - The original form is filed in the student’s file
Advocated for Redesign of MARs in Hospitals

Error-Prone MAR for Nurses

DAPSONE 25 MG TAB
12.5 MG (0.5 TAB)
PO DAILY

DIGOXIN ELIXIR 0.05 MG/ML 60 ML
0.125 MG (0.25 mL)
PO DAILY
Advocated for Redesign of MARs in Hospitals (Cohen, 2007)

Ideal MAR for Nurses

Generic Drug Name (brand name)

Pt. specific dose, route & frequency (and indication if applicable) BOLD

Product strength/special instructions/warnings
Advocated for Redesign of CMARs in Hospitals: Examples

Modify the typical MED CMAR entry to look as follows:
LITHIUM CARBONATE CAP (CARBOLITH)
ORDERED DOSAGE: 1,500 MG
ROUTE: ORAL
FREQ: AT BEDTIME.
\(1,500 \text{ MG} = 5 \times 300 \text{ MG CAPS}\)
any instructions here

<table>
<thead>
<tr>
<th>Start</th>
<th>Stop</th>
<th>Antidiabetic Med:</th>
<th>SCHED</th>
</tr>
</thead>
<tbody>
<tr>
<td>03/31</td>
<td>07:30</td>
<td>MetFORMIN TABLET 500 MG</td>
<td>07:30</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dose: 1,000 MG [GLUCOPHAGE]</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>ORAL TWICE A DAY BEFORE MEALS</td>
<td>16:30</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DOCUMENT ON DIABETIC FLOW RECORD</td>
<td></td>
</tr>
</tbody>
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Committee Members as Guest Lecturers

Medication Administration
Policy and Safe Practices

Michelle Freeman RN, BA, BScN, MScN
Chairperson, Medication Administration Education Redesign Committee
Faculty of Nursing
University of Windsor

University of Windsor
Outcomes

- Policy reflects best practices
- Instructors have a voice in improving practices
  - Revisions to MAR
- Improved communication and sharing of information
- Improved error reporting
- Education redesign based on errors
- Increased awareness of medication safety with faculty/instructors
- Transition to a just culture
- Committee members as guest speakers on med safety
# Summary

## Medication Administration: Policy to Practice

<table>
<thead>
<tr>
<th>Old</th>
<th>New</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complex policy</td>
<td>Job aids to improve compliance (standard operating procedures)</td>
</tr>
<tr>
<td>Med administration as a task</td>
<td>Med administration as a process</td>
</tr>
<tr>
<td>No guidelines for number of students giving meds</td>
<td>Safe number giving meds to reinforce safe practices  Responsibility of students not administering meds defined</td>
</tr>
<tr>
<td>Students observed during some steps of med admin process</td>
<td>Students observed during all steps of med admin process</td>
</tr>
</tbody>
</table>
# Summary
## Medication Administration: Policy to Practice

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<th>New</th>
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<tbody>
<tr>
<td>Punitive approach to med errors</td>
<td>Learning culture (just culture)</td>
</tr>
<tr>
<td>Lack of tracking/trending of error reports</td>
<td>Clear med error reporting mechanism and tracking/trending of errors</td>
</tr>
<tr>
<td>No educational response to med errors</td>
<td>Education redesign (instructors/students) based on errors</td>
</tr>
<tr>
<td>No internal patient safety committee</td>
<td>Advisory committee for faculty</td>
</tr>
<tr>
<td>Informal linkages with hospital partners</td>
<td>Formal committees to improve communication and team work</td>
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References


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Questions?