Interprofessional Collaboration: Nursing and Pharmacy Medication Safety Projects

Shelley Dorazio – Director of Pharmacy & Farzana Premji – Clinical Resource Leader for Medication Safety
Outline

• The Scarborough Hospital Background
• Program and Pharmacy Overview
• Clinical Resource Leader for Medication Safety
• Assessment of Current State and Identified Gaps
• Guiding Framework
• Projects
• Lessons Learned
• Challenges
• Successes
• Future
Mission
To provide an outstanding care experience that meets the unique needs of each and every patient.

Vision
To be recognized as Canada’s leader in providing the best healthcare for a global community.

Values
I CARE:
Integrity • Compassion • Accountability • Respect • Excellence

The Scarborough Hospital
The Scarborough Hospital

- Two general hospital campuses and six satellite sites
  - Joined forces in 1999
- 3,100 staff, more than 700 physicians and 700 volunteers
  - Nurses: 1200 RNs and RPNs (~40% of staff)
  - Pharmacists: 35.5 FTE
- A broad range of clinical programs and services:
  - Cardio-Respiratory and Critical Care
  - Medicine and Specialized Geriatrics
  - Emergency and Urgent Care
  - Family Medicine and Community Services
  - Maternal Newborn and Child Care
  - Mental Health
  - Nephrology and Dialysis
  - Surgery and Orthopaedics
## The Scarborough Hospital

### Some key figures (2014/2015 fiscal year)

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<th>Item</th>
<th>General</th>
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<td>Emergency Visits</td>
<td>68,190</td>
<td>49,095</td>
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<td>Births</td>
<td>2,743</td>
<td>1,715</td>
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<td>Admissions</td>
<td>17,532</td>
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<td>Operating Room</td>
<td>23,028</td>
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*Note: Inpatient and outpatient cases*
- Clinical Resource Leader (CRL)
  - 20% management and/or administrative responsibilities
  - 80% education and practice focused responsibilities
  - Unit/Department focused
- Professional Practice Leader (PPL)
  - Usually one per professional group
CRL for Medication Safety: Rationale

- Innovation funding
- 6 month secondment
  - Clinical Resource Leader for Medication Safety
- Rationale
  - OCP Accreditation 2015
  - Accreditation Canada 2016
  - Existing CRL focus is unit specific, identified a need for a corporate CRL lens
CRL for Medication Safety: Qualifications for Success

• Holds a Master’s degree, or degree in progress
• Familiarity with TSH
• Experience in multiple areas of nursing within TSH
• Strong Interpersonal skills
• Quick learner
• Flexible
CRL for Medication Safety: Roles and Responsibilities

- Act as a liaison between Pharmacy and Nursing
- Active member of the Pharmacy Team: *Presence*
- Work with Pharmacy and Nursing to meet Accreditation 2016 standards
- Member of Medication Related Committees
  - Safe Medication Practice Committee
  - Drugs and Therapeutics Committee
CRL for Medication Safety: Preparation for Role

- Learning Curve
- Nursing Resource Team (NRT) Experience
- Literature Review re: Medication Safety in Hospital Setting
- Reviewed Accreditation Canada and OCP standards
- Environmental scans with a Medication Safety Lens

Relationship building with team members was crucial!
Assessment of Current State

Unit/Department Level
- Frontline Staff
  - Posted Feedback Sheets
  - Personal Communication
  - Surveys
  - Huddles
- CRL & Leaders
  - Personal Communication
  - Huddles

Corporate Level
- Policy & Procedure Review
- Med. Management Self-Assessment Survey
- CNO & OCP Standards Review
- Cross-Campus Comparisons
- Incident Report Review
- Existing Learning Materials
- Site Visits

Assessed TSH’s...
- Medication management processes
- Nurse’s medication administration practices
- Identified safety gaps and educational needs
Identified Gaps

- Few initiatives for maintaining competency and meeting Medication Standards for nursing staff
- Unit practices not aligning with protocols/policies, inconsistencies leading to errors
  - Transcription practices
  - Medication preparation and administration
  - Independent double checks
- Limited availability of Nursing leaders to offer dedicated corporate support to medication safety
- Variations in the medication management systems across both sites
- Need for corporate lens on current and planning for future state of medication management system
  - Technologies (automatic dispensing units, bedside MAR verification systems, pumps, dedicated workspaces, medication carts, space)
Error prevention methods are most powerful at a systems level, rather than at the user level...

**Guiding Framework: ISMP Medication Error Prevention Toolbox**

- **Most Powerful**
  - Fix the system
  - Cascade down the reverse-pyramid

- **Automation and Computerization**
  - Renders errors virtually impossible due to system design
    - i.e. Removing harmful medications from wardstock

- **Drug Protocols and Standard Order Sets**
  - Limits reliance on memory, lessens human fallibility
    - Computerized physician order entry, infusion pump limits

- **Independent Double Checks and Other Redundancies**
  - Reduces illegible handwriting, safer communications
    - *still relies on human vigilance for implementation*

- **Rules and Policies**
  - This is an additional mechanism to detect errors
    - Risk for error is decreased, but not eliminated

- **Education and Information**
  - Establishes documents, however it intends to control people
    - Should be used to support higher system-level initiatives

(Adapted from ISMP Medication Error Prevention Toolbox)
Action Plan

- **Higher levels**
  - Require more resources
  - Propose a vision for future state

- **Lower levels**
  - Focus is here due to available resources and time constraints
Action Plan: Rules and Policies

- Forcing Functions and Constraints
- Automation and Computerization
- Drug Protocols and Standard Order Sets
- Independent Double Checks and Other Redundancies

Rules and Policies

- Policies and Procedures
- Cross-Site Standardization
Action Plan: Education and Information

- Frontline
  - Nursing Orientation
  - Continuing Competency
  - LMS module
- Leadership
  - Medication Safety Week
  - Resources for Educational Initiatives
  - Resources for Learning Plans

Forcing Functions and Constraints
- Automation and Computerization
- Drug Protocols and Standard Order Sets
- Independent Double Checks and Other Redundancies
- Rules and Policies
Action Plan: Forcing Functions and Constraints

- Forcing Functions and Constraints
  - Automation and Computerization
  - Drug Protocols and Standard Order Sets
  - Independent Double Checks and Other Redundancies
  - Rules and Policies

- Planning for Future State
  - Site Visits
  - Medication Equipment Inventory
Projects
Dispensing Medications by Nurses

- In 2014 College of Nurses of Ontario (CNO)...
  - Nurses can dispense! Delegation is no longer required!

New Dispensing Authority for RPNs and RNs

Date: Jan 7th, 2014

In April 2013, Ontario Premier Kathleen Wynne announced that the provincial government would work with the College of Nurses of Ontario to expand the nursing scope of practice to allow nurses to dispense drugs in specific circumstances for the purpose of improving access to care for people across the province.

On January 1, 2014, Ontario’s RPNs and RNs were granted the authority to perform the controlled act of dispensing drugs. Nurses can now receive an order from an authorized provider to dispense a drug and will no longer need delegation. Please visit the website of the College of Nurses of Ontario to view the revised Medication practice standard for Ontario’s nurses, which provides information about nurses’ accountabilities and expectations for safe medication practice.

RPNANO congratulates the Ontario government, the College of Nurses of Ontario, and the other nursing stakeholders for their collaborative work on this issue. The authority to dispense drugs will help ensure that nurses are able to use all their knowledge about medication in their professional practice. We look forward to continue working with the Ontario government and our nursing colleagues across the province to optimize the role of Ontario’s Registered Practical Nurses for the benefit of our patients, residents, and clients.

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Dispensing Medications by Nurses

• In 2016, TSH policies still did not reflect this change
  – Had an existing medical directive to delegate the controlled act
  – Needed a practice protocol to support nursing practice

• What we did…
  – Environmental scan of current practices in areas where nurses dispense
  – Consulted CNO practice standards, created a draft Practice Protocol
  – Reviewed by Pharmacy and relevant practice areas
  – Approval by Chief Nursing Executive; Nursing Practice, Safe Medication Practice, Drugs and Therapeutics, and Medical Advisory Committees.
  – Education and supplies packages for each unit
Standard Medication Times Policy

• Practice concerns:
  – Some incidents surrounding unnecessary delays in medication administration (i.e. antibiotics)
  – Existing policy: confusing, lots of exceptions, no guidance for staggering administration times

• ASP pharmacist and CRL Medication Safety
  – Consulted Lakeridge Health and adapted the staggered medication times chart for antibiotics
  – Clarified policy contents, made it more nursing friendly

... Next Steps: Nursing Education!
## Staggered Medication Times for Antibiotics Table

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Automatic Substitutions Policy

- Automatic substitutions for medications not on formulary
- Used by Pharmacy during business hours, and by nursing after hours
- Existing policy pharmacy oriented: example, including information regarding creatinine clearance

<table>
<thead>
<tr>
<th>Imipenem (non-meningitis dose)</th>
<th>Meropenem</th>
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<tr>
<td></td>
<td>CrCl greater than 30 mL/min: 500 mg IV q6h</td>
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<td>CrCl 10-30 mL/min: 500 mg IV Q8h</td>
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<td>CrCl less than 10 mL/min: 500 mg IV Q12H</td>
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<td></td>
<td>IHD: 500 mg IV q24h (on HD days, give dose after HD)</td>
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<td>CVVHD: 500 mg IV q8h</td>
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<td>CAPD: 500 mg IV q12h</td>
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- This proved to be difficult to interpret by nursing staff, increases chances of errors
Automatic Substitutions Policy

- Nursing perspective used to tighten up the policy
- Considered the policy and how it would operationalize

<table>
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<tr>
<th>DRUG ORDERED</th>
<th>DRUG SUPPLIED</th>
<th>Must Consult Pharmacy</th>
</tr>
</thead>
</table>
| Imipenem (non-meningitis dose) | Meropenem. CrCl greater than 30 mL/min: 500 mg IV q6h  
CrCl 10-30 mL/min : 500 mg IV Q8H  
CrCl less than10 mL/min: 500 mg IV Q12H  
IHD: 500 mg IV q24h (on HD days, give dose after HD)  
CVVHD: 500 mg IV q8h  
CAPD: 500 mg IV q12h | yes |

- Clarified the expectations with relation to writing orders and documenting the autosubstitution
- Ensured pharmacy and nursing regulatory body standards were met
Independent Double Check

• Policy for review prior to Accreditation 2016
• CRL team and Nursing Practice Committee identified large gaps in practice
• Reached out to the Professional Practice Network of Ontario

... Still a work in progress, but strides are being made!

• Plans for education and roll-out with High Alert Medications Policy
Educational Initiatives for Nursing

- Created new materials based on gaps in orientation and continuing competency
  - Learning Institute Online Module
  - General Nursing Orientation
  - MAR Overview and Transcription Practices for the Interprofessional Team
  - Nursing and Clerical Staff
    - Lexicomp Online cheat sheets
      - Drug information, IV compatibilities, Patient Education Materials
- Future plans:
  - Incorporate patient educational materials during stay
TSH’s Medication Safety Days

• Joint Pharmacy and Nursing initiative
  – Pharmacy Awareness Month/ Nursing Week
  – Medication Safety Awareness
  – Accreditation Required Organizational Practices (ROP) review

• Presentation boards
  – “Two Times Every Time” Campaign
  – Independent Double Checks
  – Safe Transcription Practices
  – “Do Not Use” Abbreviations
  – Infusion Pump Safety

• Quiz, refreshments, prizes!
Medication Cart Inventory

• Goal: **Assess current state and make recommendations for future state planning**

• Why start with carts?
  – Various medication cart styles at TSH, varying unit processes
  – Ages range from greater than 25 years old to new carts
  – Lionville carts, Medication COWs, limited ADUs

• Vision: **Support eMAR/BMV**

• Concurrently during CRL contract: **Corporate Clinical Capital Equipment Needs Initiative Across TSH**

• Inventoried and labeled all carts

• Created a case for what we **have**, what we **need**, and the **cost**
Incident Report Review and Action

- Reviewed descriptions of each medication related incident over the last 12 months
Transcription Errors

• Transcription errors and MAR inaccuracies were a common cause of incidents

• Accreditation Canada – Medication Standard 25.2

“The interdisciplinary committee reviews medication errors and near misses to identify and address areas for improvement.”

• Collaborated with the Innovation and Performance Improvement (I&PI) Office to determine a way to improve our practice
Current MAR Process

• Handwritten physician orders
• Pharmacists enter medication orders into Meditech 5.66
• 24 hour cMAR is printed on inpatient units in the evening and is verified by nursing staff
  – Exception: ICU and ED use handwritten 7 day MARs
• Processes and practices vary on units, often not aligning with current policy
• Any orders that have NOT been entered by pharmacy are handwritten onto the MAR by the unit clerk or a nurse. Includes changes to current orders.

This is often where the errors are occurring!
LEAN Methodology

• TSH has been using LEAN methodology for quality improvement initiatives for 5 years

• Principles of LEAN
  – Use a team of frontline individuals, those closest to the problem, to develop a solution to the problem
  – Focus on reducing waste, improving efficiency

• “Rapid Improvement Event” (RIE)
  – Method to make changes to processes within a short time frame
  – Usually 2-4 days
Transcription Rapid Improvement Event (RIE)

- Upcoming RIE with units from medicine and surgery PSGs
- Plans to include an interprofessional team:
  - Unit clerks, nurses, pharmacists, nursing leaders
- Determine standard work for how to process orders and ensure accurate transcriptions
- Units involved in the RIE will be pilots for the new process, will later roll out to all of TSH
Lessons Learned

• Stay focused and be realistic about what is achievable
  – Consider the time frame!
• Take into consideration the complexities of nursing, pharmacy, and overall organizational practices
• Communication and collaboration within the leadership team and with the front line staff is key
Challenges

• Timeline
  – Need time for orientation to the department and the new position

• Interdependencies of the two groups and their practice

• Culture of the professions

• Variations in two sites
  – Structural and procedural variations
Successes

- Presented successes to Chief Nursing Executive (CNE)
- Recognized the importance of nursing support for medication safety at TSH
- CNE offered to continue to support medication safety corporately, in a modified capacity
Successes

• Presence at both TSH sites
• Engagement of pharmacy staff with nursing team member
• Updated and addressed policies and procedures with active nursing engagement
• Raised the profile of Medication Safety with CRLs
Future

• We are continuing to move forward with current projects
• Support for preparation for Accreditation 2016
• Planning for Capital Replacement
  – Business case for eMAR/BMV
  – Centralized vs. Decentralized
• IV Pump roll-out incorporating overfill volumes
Questions?

Thank you!