



London Health Sciences Centre



Assessing Clinical Reasoning using Simulation

NLN Conference, March 2019
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Acknowledgement: CSTAR,
LHSC Human Resources, Prof Practice

Objectives

- **Background: Gaps in Healthcare**
- **LHSC's Response**
- **Data Findings**
- **Common Themes**
- **Challenges**
- **Supportive Strategies**



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BACKGROUND: GAPS IN HEALTHCARE

Is HealthCare Safe?

- **Medical error: “The failure to complete a planned action as intended or the use of a wrong plan to achieve an aim.”** (IOM, 1999)
- **Medical errors often do not result in adverse outcomes.**

Adverse Events

- **An injury caused by medical management rather than by the patient's underlying disease or condition.**
- **Third leading cause of death in the U.S - 210,000- 400,000 deaths annually**
(Makary & Daniel, 2016)
- **Not recorded as cause of death on certificates**
(Leonard, 2010)

Canada: Errors & Adverse Events

- Annual cost of adverse events in acute care is **\$396 million**
- **>30,000 deaths in 2014** (UHN, 2015)
- **“Significant harm” occurs in 1 in 18 patients**
(CIHI, 2016)

Failure to Rescue Occurrences

- **Inability to manage complications**
- **Complications \neq Mortality** (Ghaferi et al.,2009)
- **High mortality associated with lack of recognition and inability to manage complications** (Ghaferi et al.,)
- **Ranked second in Canadian healthcare claims** (HIROC, 2017).

Patient Deterioration

- **2016 study: primary contributor to unplanned ICU admissions due to lack of monitoring and/or surveillance** (Giulano, 2017)

- **Most in-hospital arrests are preceded by signs of deterioration for periods of 8-12 hours**
(Chua et al., 2013; Massey, Chaboyer & Anderson, 2017))

Themes Associated With Deteriorating Patients

- **Failure to assess and/or interpret deteriorating signs**
- **Failure to complete & document vital signs**
- **Failure to adjust monitoring frequency**
- **Failure to respond to patient/family concerns**
- **Failure to communicate promptly and/or document changes to physician**

(HIROC)

Clinical Reasoning & Adverse Events

“The top three reasons for adverse patient outcomes are failure to properly diagnose, failure to institute appropriate treatment, and inappropriate management of complications. Each of these is related to poor clinical reasoning skills” (Levett-Jones et al., 2010)

Clinical Reasoning Defined

“A complex cognitive process that uses formal and informal thinking strategies to gather and analyse patient information, evaluate the significance of this information and weigh alternative actions”

(Simmons, 2010, p. 1155).



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LHSC'S RESPONSE

LHSC

- **>1,100 beds**
- **3,744 unionized nurses**
- **Numerous learning affiliations**



Head-to-toe Assessments

Review of Critical events →

- Lack of recognition
- Lack of action
- Lack of communication



Evaluation of new hires



Evaluation of potential hires

All external nurse recruits must successfully complete a physical assessment in a simulated environment to be considered for hire.



Objective of Assessments

To hire nurses that demonstrate clinical reasoning deemed sufficient for safe practice.

Upon completion of an assessment, nurses:

- **Can recognize abnormal findings**
- **Report abnormal findings**
- **Understand and act on abnormal findings**

Interview Tool: Simulation

- **All external hires for clinical nursing care**
- **Basic scenarios, classic abnormal findings**
- **Scenarios reflected of common LHSC profiles**
- **Review materials provided**
- **Expectations communicated**

Marking Rubric: Mechanics

- **Nurse-patient interaction**
- **Infection Control**
- **Measured comprehensiveness**
- **Components of each system**

Marking Rubric: Clinical Reasoning

- **Systematic**
- **Report all abnormal findings**
- **Articulate some understanding of patient's condition**
- **Verbalize anticipated treatment**
- **Note nursing interventions**
- **Recognize priorities**

Evaluation Strategies

- **Limited evaluators**
- **Inter-rater reliability**
- **Marking aids**
- **Scoring evaluated amongst scenarios**



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DATA FINDINGS

Data: April, 2017–March, 2018

- **>1,100 evaluations completed**
- **RNs, RPNs, graduate nurses, IP students**
- **Experienced and inexperienced**
- **Two attempts**

Overall Scores: All Nurses

# Completing 1st assessment	862
# Successful in 1st attempt	450
# Completing 2nd assessment	269
# Successful 2nd attempt	184
% Successful in 1st attempt	52%
% Successful in 2nd attempt	68%

Scores: RNs

	% Successful 1st attempt	% Successful 2nd attempt
All RNs	58% (296/512)	73% (103/141)
Inexperienced RNs	64% (188/295)	74% (57/77)
Experienced RNs	50% (108/217)	72% (46/64)

Scores: RPNs

	% Successful 1st attempt	% Successful 2nd attempt
Total RPNs	34% (66/192)	54% (50/92)
Inexperienced RPNs	31% (21/68)	59% (20/34)
Experienced RPNs	36% (45/124)	52% (30/58)

Students in IP Placement

	# of 1st attempts	% Pass 1st attempt	# 2nd attempts	% Pass 2nd attempt
BScN program	138	58% (80/138)	32	84%
PN program	20	40% (8/20)	4	100%

Results

- **Experienced nurses actually scored lower.**
- **Those demonstrating gap in clinical reasoning, were usually consistent in 2nd attempt.**

Literature Findings

- **2005 study found 35% new grads had sufficient clinical judgment considered for safe practice**
(Del Bueno, 2005)
- **2017 report claiming 23% new nurses ‘safe’ for independent practice** (Kavanaugh & Szweda, 2017)
- **Experienced nurses are expected to have more developed clinical reasoning skills.**

Nursing Data

	% Assessments Completed	% completed All 5 vital signs
April, 2017	50	60%
March, 2018	163	90%

Nursing KPI

	Pain Score (max score = 4)	Wound ID +/- Assessment
April, 2017	Average = 2.4	78%
March, 2018	Average = 2.6	77%



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COMMON THEMES

Themes

- **Lack of appreciation for the respiration rate**
- **Abnormal vital signs frequently not reported**
- **Experienced specialty areas struggled equally**
- **Limited assessment of skin**

Themes

- **Limited exploration of pain**
- **Limited understanding of sepsis & its priorities.**
- **If students struggled, it was in clinical reasoning**



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CHALLENGES

Challenges

- **Resources**
- **Cohesive understanding**
- **Performance anxiety**
- **Student development on busy units**

Student Challenges

- **Multiple competing demands on nurse mentors**
- **Mentors may also be less skilled**
- **Clinical instructors may not be current or experienced**

Are you ready to start your career?

Nursing Student Info Sessions (RN's & RPN's)

LONDON ONTARIO

Session 1
 Date: February 7, 2019
 Time: 5:30pm to 7:30pm
 Location: University Hospital
 Room: Auditorium A- B3-248

Session 2
 Date: February 20, 2018
 Time: 5:30pm to 7:30pm
 Location: Victoria Hospital
 Room: Summer Auditorium -B2-119

Agenda
 5:30pm - 6:30pm
 Presentation by Recruitment and Professional Practice on:

- How to apply
- What to expect in our Hiring Process including Simulations
- Working at LHSC

6:30 to 7:30pm
 Networking and Questions & Answers

Don't make it! Download with a partner and apply online today!
<http://bit.ly/2m5UzGm>

TOP 5 REASONS TO WORK AT LHSC

1. You will experience a rewarding career
2. Career Advancement & Training
3. Competitive Compensation
4. Work in a supportive environment
5. Working & Learning Opportunities

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SUPPORTIVE STRATEGIES

Supportive Strategies

- **Collaboration with academic leaders**
- **Discussions with clinical leaders**
- **Enhancement of preceptor workshops**
- **Updated video & nursing website**
- **Student sessions**
- **Ongoing data collection**

Next Steps

.....coming soon?

Questions?

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