## Brown Bag Lunch

Point-of-Care Contributions to Evidence-informed Practice Linda Axen Nursing Research Facilitator, NH Arlene Pudlas, RN Diabetes Centre UHNBC Louise LeFebvre, RD Diabetes Centre UHNBC



March 27, 2014







## Northern Health

Northern Health Chief Executive Officer

VP Planning Quality and Information Management

Regional Director Quality and Innovation

Quality Improvement Leads & Advisors

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Research & Evaluation



Nursing Research Facilitator **Decision Support Tools** 









## Northern Health

### **Nursing Research Facilitator Activities in Northern Health**

- Critical Appraisal Workshops
- Evidence Informed Workshops
- Research Review Committee support
- In the Know Café-virtual journal club
- Facilitation of web-delivered clinical research education sessions
- Individual support for abstract creation, poster development and oral presentations
- Planning committee activities for conferences such as Research Days
- Nurse-Led Literature Review Challenge
- Nurse-Led Poster Challenge













### **Evaluation of a Rapid Response Team at UHNBC**

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### Why Establish a Rapid Response Team?

- Rapid response systems have the potential to prevent adverse clinical outcomes, including cardiac arrest and death
- The Institute for Healthcare improvement made the implementation of rapid response systems a key part of the 100,000 Lives Campaign to improve the quality of care in hospitals and reduce mortality rates
- Safer HealthCore Now, a Canadian collaborative initiative for patient safety, identified rapid response teams as a way to prevent deaths in patients who are failing outside of the ICU
- Patient-centered care, enveloping Northern Health values of quality and collaboration, and improving patient outcomes were key factors in initiating UHINBC's rapid response team
- The development of a rapid response team at UHNBC encompasses the overarching approach for clinical programs in Northern Health, focusing on:
  - Improving health outcomes for the people we serve
  - Improving the experiences of the people we serve
  - Keeping the focus on quality
  - Bringing knowledge and best practices to health care providers

### What is a Rapid Response Team?

- A rapid response team is a team of health care providers that is are able to bring critical
  care to acutely deteriorating patients outside of the Intensive Care Unit.
- Our rapid response team is called the Critical Care Outreach Team (CCOT) and consists of a critical care nurse, a respiratory therapist, and an intensivist.
- When acutely deteriorating patients are identified by a ward nurse, the team is activated with a phone call to switchboard, and the critical care nurse and respiratory therapist are paged simultaneously to that area.
- · The goal is to attend within 15 minutes.
- The team assesses the patient and provides appropriate interventions with guidance from either the most responsible physician (MRP) or the intensivist, depending upon the urgency of the situation.
- . The team can help facilitate time to transfer to the ICU.
- The team completes follow-up visits to patients on wards who have been discharged from ICU and ward patients requiring CCOT support.
- The team also focuses on education and mentorship for non-critical care staff.

### How Did We Prepare?

- Collaborated with stakeholders (intensivists, respiratory therapists, physicians, nurses, clinical practice leaders, clinical nurse educators, managers)
- Evidence-guided practice: How is rapid response being done in this province? What
  education is required for critical care nurses and ward nurses?
- Engaged with rapid response team at Vancouver General Hospital
- Developed decision support tool development
- · Developed of guidelines for criteria for calling CCOT and interventions
- · Developed simulation lab training for team members
- Developed education for team members in effective communication
- Promoted CCOT to wards

### The First 12 Months - What Happened?

- CCOT taking calls as of June 2012
- 83 calls to the CCOT team in the first 12 months
- · 22 of the 83 calls (27%) resulted in the patient being admitted to ICU
- 18 patients who were followed by CCOT were readmitted to ICU
- Level of intervention was addressed by CCOT; changes to level of intervention in 9
  patients over 12 months

### How Did We Do?

Our aim is to identify and address gaps that become evident over time, providing an opportunity to improve quality of patient care.

In order to facilitate obtaining data that would help to identify these gaps, data collection included:

· reasons for calling

UHNBC health records department.

location of calls
 outcomes

Readmissions to ICU were also recorded. Data was collected through charting completed by the CCOT nurses from June 2012 to May 2013 and statistics provided by







### **Key Measurements**

Our key measurements for determining the effectiveness of the Critical Care Outreach Team were set out by Safe Healthcare Now. We expected to see a decrease in:

- Cardiopulmonary arrests per 1000 discharges
- · Percent of cardiopulmonary arrests outside of the ICU

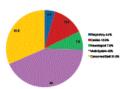
We also evaluated the number of follow-up calls and readmissions to the ICU, as well as the support given by critical care staff to the ward staff.





### Findings

Most common reason for calls multi-system criteria (43%) nursing concerns (31.5%) cardiac criteria (13.3%) respiratory criteria (7.8%) neurological criteria (4.4%)



- Cardiopulmonary arrests per 1000 discharges prior to implementation of CCOT (from June to May of each year)
- · 2011/12- 4.9
- · 2012/13- 4.6
- . Number of cardiopulmonary arrests outside of ICU (June to May of each year):
  - · 2017/12-53

Number of calls in the first year: 83 Follow-up visits: 440

Patients readmitted to ICU: 22 Location of the majority of calls: surgical wards



- Challenges identified:
  - shifts when ICU staff were attending to high acuity in ICU or when ICU was shortstaffed resulted in charge nurses unable to attend several calls within goal timeframe of 15 minutes or not at all (rare)
- Some calls were due to ward staff unable to contact MRP and patient acutely deteriorating
- Evaluation cards from ward staff indicate success in providing support and mentorship

### Significance of Findings

- Data analysis indicates a slight decrease in cardiac arrests after the first year of implementation of the rapid response team
- Numbers do not always reflect the value of such an initiative; providing critical assessment and interventions when it is needed most will improve patient outcomes
- How can we address the challenges we identified?
- Further and ongoing evaluation is needed

### **Key Successes Identified**

- CCOT is an effective support for patients at UHNBC
- Improved communication and support for ward staff has been achieved
- Skilled health care providers, including respiratory therapists, nurses, and intensivists are an essential and valued core of the team
- · Mentorship and education are valuable supports provided by CCOT
- Engaged ward staff help CCOT to provide the service to whom it is most needed





### Improving the Cardiac Patients' Experience in Northern BC: Quality Improvement meets Research...a match made in heaven

By: Kathy Innis, Sandra Harker, Jackie Reeds, Melanie Mogus & Reina Pharness

### Description of Problem

Patients at UHNBC requiring cardiac services such as angioplasty have to travel by air ambulance to Vancouver, Kelowna, or Victoria for this procedure. Patients were usually transferred from the Emergency Department to the Internal Medicine Unit (IMU) to await transfer to an external Catheterization Lab.

Staff in IMU had long recognized that there was a need to improve the experience for cardiac patients at UHHBC. Inconsistent materials and information was contributing to patient anxiety. Staff also believed that streamlining the transfer process would lead to a reduction in patient length-of-stay.

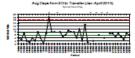
### Timeliness of transfer to a Cardiac Catheterization lab

At UHINC, between January 1, 2013 and March 15, 2013 33 patients were transferred to a receiving cardiac cath lab in the province. The median wait for transfer was 6 days with the range being 0 to 18. Bosk, Vinot, and Iwashyna (2011) summarize that "the difficulties of transfer do not seem to be driven by the medical complexities or wishes of patients, per se. Instead, the transaction costs appear to come from an incompletely developed system" (p.6.)

It is interesting to note in the literature that repatriation to the home hospital appears to be an ideal that is not routinely done between UHNBC and the cardiac cath labs within the province of BC. Patients are routinely discharged directly home from the cath lab with no repatriation to UHNBC planned. Rokos et al (2010) describe that "successful repatriation of each patient to STEMI referring facilities is dependent upon detailed two-way communication between the STEMI receiving center and the primary care team at the referring facility.

In summary, the literature shows that patients requiring cardiac angiography, PCI or surgery who must be transferred from a non-cath lab equipped hospital to an appropriate receiving hospital wait longer for their assessments and procedures than a patient who is admitted directly to a full cardiac services capable facility. This inequity has been described by the Secretary of State for Health in the UK as a "postcode" lottery of care [that] is unacceptable and we are determined to end it" (Miller, Lipscomb, Cuzen, 2003, p. 93)

Current median wait times Jan 1 - April 13, 2013 = 6 days Goal = 2 days



### Patient Education

Informed consent is a basic patient right and backbone of providing ethical health care. Rankin and Stallings (1996) in reviewing patient education research found that patient education "positively related to knowledge accrual and a number of beneficial psychosocial and physical health outcomes" (p. 341). Corenes, Coyer, and Theobald (2009) in reviewing the literature note that "pre-procedural education benefits PCI patients as it reduces anxieties, fears, and resolves any misapprehension of PCI" (p. 127). "Patients who receive pre-admission teaching are likely to be less anxious, a factor linked to a smoother medical procedure". Corones, Coyer, and Theobald (2009) explored the information needs of patients who have undergone PCI and found that prior to the procedure patients were satisfied with verbal descriptions of the procedure but did not retain all information given. Most "would have preferred a written information source" (p. 125). They also learned that families often required/requested more procedural information than patients themselves did. Participants suggested that patients need to be aware that although PCI "may seem to be 'relatively simple', it is in fact a more complex process" (p. 127). Without this understanding, compliance with discharge instructions or cardiac rehabilitation may be negatively impacted. Participants in the research "suggested that written, visual, and verbal material be delivered continuously both pre-procedurally and post-procedurally."

### Solutions:

### Transfer Package





### New Transfer summary sheet



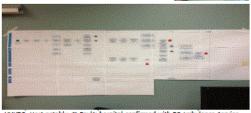
Development of Coronary Angio Transfer (CAT) package. The list of required documents was printed on the front of an envelope to facilitate the gathering of relevant patient information. Each package included a referral sheet for intermists, and a revised CAT summary sheet for nurses and triage coordinators. The transfer summary sheet was revamped to reflect the requirements by the cath lab. Streamlined documentation was a solution to minimize the coordination of patients between sites - which potentially exacerbated wait days.



Development of a patient information manual. Provide consistent, NH-centric information. Including logistical details for travel and return home following procedure. This will help reduce patient anxiety.

Making education 'relatively simple', dedicated PESTS; Patient Education Station tablets. Provision of visual material, in this case, Angioplasty video and Pre-PCI procedure.





UHNBC. Most notably, St-Paul's hospital confirmed with BC Ambulance Service that initiation of transfer did not have to be dependent on availability of a bed at SPH. Going forward, as long as a cardiologist at SPH accepted a referral from an intermist at UHNBC, BC Ambulance could pick up the patient at the next availability and transfer them to Vancouver.

### Discussion

The realities for cardiac patients at UHNBC had been that they routinely waited longer than suggested best practice guidelines for transfer for angiography and PCI at a receiving provincial catheterization lab and received education in an ad-hoc manner depending on which care provider was present on the floor at the time, which floor they were being transferred from and which resources that particular staff was sharing with patients. Before the initiative began, Northern Health patients were receiving materials from Alberta Health, St. Paul's Hospital and the Mayo clinic inconsistently. Some reviewed videographic information, some did not. Conversations with staff indicated that they left such practices was misrepresentative of their abilities as care providers for cardiac patients, and contributed to a lack of confidence on the part of the patient towards the staff. This contributed to increased anxiety experienced by waiting patients and their families. As a result of the LEAN initiative, a patient information package was created and inter-facility communication tools were created to provide consistency in patient education and a more seamless transfer. The importance of initiating patient/family education pre transfer is highlighted in the literature with repetition and post-treatment rehabilitation necessary as well for optimizing patient outcomes.

### Lessons Learned

The potential to apply these findings more broadly is evident. Staff had long recognized that there was a need to improve the experience for cardiac patients at UHNBC. Providing consistent, high-quality patient information on angiography and CPI was a high priority for care providers in this example of quality improvement and rural-urban interface. Initiatives to still further improve care and outcomes for northern/rural patients are still warranted.

### Sustaining the Gains

New packages, forms, and patient information materials are still being trialed through Plan-Do-Study-Act (PDSA) cycles.

Current participation in monthly conference calls with colleagues in Vancouver to address any challenges that arise with the new process.

Facilitators will continue to gather data on a monthly basis and share the outcomes with staff

The new forms and patient materials would benefit from regionalization. Discussion with regional Decision Support Tool office will facilitate this circulation

The LEAN team has expanded the quality improvement initiative by participating in the Michael Smith Foundation for Health Research (MSFHR) Nursing Research Challenge. They have completed a literature review and are writing a research paper on their experience in an effort to contribute to the knowledge base surrounding equitable access to care for rural patients.

### References:

Bosk, Vinot, and Iwashyna (2011) Rokos et al (2010) (Miller, Lipscomb, Cuzen, 2003, p. 93) p. 127). p. 341). Corenes, Coyer, and Theobald (2009)



## National Surgical Quality Improvement Program (NSQIP) Led Practice Change: Improving Patient Outcomes by Decreasing CAUTI

Juanita Parsonage, RN; Chelsea McCormack, LPN, Kikuko Reiffarth, RN, and Josh Staub, LPN
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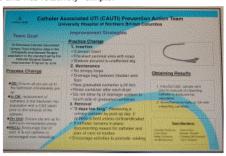
### Background

The American College of Surgeons National Surgical Quality Improvement Program (ACS NSQIP) Best Practices Guidelines were designed to serve as complete yet concise resources for health care providers and quality improvement professionals. They create a framework that can be used to prioritize and direct efforts to address postsurgical complications. <sup>1</sup>

Catheter Associated Urinary Tract Infections (CAUTI), defined by the Center for Disease Control (CDC) as "clinical symptoms and laboratory evidence of urinary tract infection in a patient who has had a urethral catheter in place for more than two days".<sup>2</sup>

The team at University Hospital of Northern British Columbia used the NSQIP recommendations and evidenced-based research to guide practice change and decrease the CAUTI rate.

CAUTI was picked as a starting point as there is lots of evidence to utilize and was relatively "simple."



### Kev Points1,2,3,4

- · Hand hygiene
- Early removal of catheter (less than 48 hours)
- Standard precautions (gloves and gowns)
- · Aseptic technique on insertion and maintenance
- Maintain a closed drainage system
- Unobstructed flow at all times
- Keep the bag below the bladder
- · Avoid catheter use if possible
- · Nurses to be competent in catheter care/management

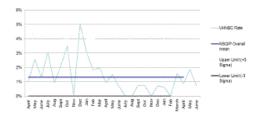
### The Results

The project work started in October 2011 with on-site data collection. Practice changes were brought forward to the staff in January of 2012.

When the staff was given ongoing education and reminders about the new protocol on a daily basis, the rate declined substantially. The goal was met to bring UHNBC rates less than the NSQIP average by June of that year.

The increase in CAUTI rate after February 2013 is likely related to staffing changes that did not get the education and less emphasis on the changes that were implemented.

### Postoperative UTI with Control Limits Trend over Time



As per the data collection, on the Surgical Floor at UHNBC we were able reduce the CAUTI to less than 2% from the baseline.



### **Implications**

Simple interventions can make a big impact to patient outcomes. Constant surveillance of each person with a catheter is everyone's responsibility, and there should be documented justification of keeping a catheter in.

Staff motivation to implement the new policies can be the most difficult part of any change. Additional education and communication about infection rate changes can help to give staff ownership of the outcomes and implement a practice change.

### **Next Steps**

A celebration with the Surgical Staff for their amazing accomplishment in reducing CAUTI. Reviewing with staff members what was done, how it was done, the challenges seen by some of the team members involved. Discussion at these events will assist with continuation of the project and renewed enthusiasm. It is an excellent opportunity for ongoing education that is supported and implemented by peers.

The success of this project has laid the groundwork for continuing projects with NSQIP and the surgical floor to improve patient outcomes.

Further knowledge translation activities include bringing this poster forward to a different facility within Northern Health. All team members will travel to this facility and discuss with their staff members the NSQIP-led project. We will provide lunch and beverages to the busy staff to share their time with us. Discussion points will be based on the initial project and implementation, with mention of the overwhelming amount of consistent supporting evidence.

### References

<sup>1</sup>ACS NSQIP. (2009). Best Practice Guidelines: Prevention of Cather-Associated Urinary Tract Infections. Chicago, IL:Author.

<sup>2</sup>Gould, C.V., Umscheid, C.A., Agarwal, R.K., Kuntz, G., & Pegues, D.A. (2010). Guideline for Prevention of Catheter-Associated Urinary Tract Infections. Infection Control and Hospital Epidemiology, 31(4), 319-326.

<sup>3</sup>Magers, T.L. (2013). Using Evidence-Based Practice to Reduce Catheter-Associated Urinary Tract Infections. American Journal of Nursing. 113(6), 34-42.

<sup>4</sup>Mayar, A., and Darouiche, R. (2013). Prevention and Treatment of Urinary Catheter-Associated Infections. Current Infectious Disease Reports. 15(2), 116-123.





### Breastfeeding in a Virtual World

Valerie Sokolowski MN, RN(C), Sarah Brown BScN, RN(C), Laura Ewart BScN, RN, Karen Warner BScN, RN(C), IBCLC Northern Health, Public Health, Prince George, B.C.



### Problem:

Even with the protective benefits of breastfeeding being well known to families, duration rates for breastfeeding continue to remain low



### Purpose:

To explore whether access to online breastfeeding information and virtual support will have an increase on duration rates for breastfeeding



To understand how social media plays a role in breastfeeding support



### Definitions:

Social Media is considered a form of communication that is within the technological world; examples of social media include blogs, Facebook, Twitter, Instagram, Wikipedia, MySpace and YouTube 1, 2, 3



Exclusive breastfeeding means no other liquid or solid other than breast milk from any other source enters the infant's mouth until six months of age when complementary foods are added; this excludes medications 4,5, 6,

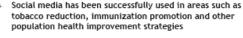


Social support is defined as any perceived or experienced support that encompasses information 7



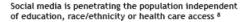
### Social Media:

Social media has become a focal point within the health care industry when engaging with the public





The majority of people are connected to social media







One article was found that identified social media as a tool for breastfeeding support

### Breastfeeding:

Mothers benefit from information and support when choosing to breastfeed their babies

Support increases duration rates and can come in many forms

Some health benefits for infants are:

- increased intelligence
- decreased illness

Some health benefits for mothers are:

protection against breast and ovarian cancer<sup>9</sup>

Northern Health has created position papers to address modifiable risk factors and breastfeeding has been identified as one of the ways to reduce these risk factors in three of its papers 11, 12, 13

Mothers who breastfeed are turning to the internet prior to accessing a health care provider

Social support has been identified as a way to improve duration rates for breastfeeding



### Discussion:

The use of social media is one way to integrate service and allow accessibility to breastfeeding support across the north

Professionally monitored sites allows for accurate information

Presently there are many YouTube videos and Facebook pages that offer support to women; consideration needs to be made on what type of support women are being offered or need to be offered to increase duration rates

### Future Consideration:

Social media is being used to provide support and information within the public health realm and is not a passing fad

Combining social media and health promotion will allow more access to all individuals in Northern Health

Further studies on social media as a support tool for breastfeeding needs to be explored for indications of increased duration rates

### Conclusion:

Social media has been proven to change social behaviours in other health related areas

Use of social media as a breastfeeding support tool is expected to extend breastfeeding duration

### Further information:

Please request a complete copy of "Breastfeeding in Virtual World" from the authors



Literature Cited:

1. Tirriem; F. (2012). Medicine, mortality and health care social media. BMC Med. 10(83). doi: 10.1189/1741-7015-10-83

2. Vyss. A., Landry, M., Schmider, M., Rojas, A., & Whod. S. (2012). Public health interventions: reaching Latino adolescents via short message service and social media. Accument Of Medical Intervent Research; 14(4), e80. doi:10.1195/mir.2178

3. Thuddeny, R., Reiger, B., Smith, A., & Visn Wagenen, S. (2012). Adoption and use of social media among public health departments BMC Public Needle, 12:2402 doi:10.1196/1747-2468-12.0196.

Labbok, M. (2000). What is the Definition of Breastfeeding? Breastfeeding Abstracts, 19(3), 19-21. Retrieved from

Tender, J. A. F., Janakisam, J., Arce, E., Mason, R., Jordan, T., Marsh, J., Kin, S., He, J., & Moon, R. Y. (2009). Reasons for in-hospital formula supplementation of breasted infants from low-income families. Journal of Figure Lacitation, 25(1), 11-17. doi:

10.1177/069033408325621
6. The Breastfeeding Committee for Canada. (2004). Breastfeeding Definitions and Data Collection Periods. Retrieved from

http://www.bchsbythiendiv.os/BCCSmastfeedingDef\_uneQ4.cdf
7. Hutchison, C. (1999). Social support, Factors to consider when designing studies that measure social support. Journal of Advances Nursing, 29(8), 1520-1528. Retrieved from <a href="http://ici.cip.org/10.1045/i.1385-3848.1999.01041.x">http://ici.cip.org/10.1045/i.1385-3848.1999.01041.x</a> 8. Chou, W., Hunt, Y., Beckjord, E., Moser, R., & Hesse, B. (2009). Social media use in the United States: implications for health

communication, Journal of Medical Internet Research, 11(4), e48. doi:10.2198(mir.1249 World Health Organization. (2012). 10 Facts on Breadfeeding. Retrieved from <a href="http://www.who.in/features/factfliest-treasfeeding.">http://www.who.in/features/factfliest-treasfeeding.</a>
10. Nasibit S., Campbell K., Jack, S. Robinson, H., Piehl, K., & Bogdan, J. (2012). Canadian adolescent mothers; perception of

influences on bresaffeeding decisions: A qualitative descriptive study. BMC Pregnancy and Chitibith, 12(149). doi: 10.1198/1471-2909-12-149

Northern Health. (2012). Guiding Document on Early Childhood Development: An Integrated Population Health Approach. Retrieved from <a href="https://documents.org/linear-page-12-22">https://documents.org/linear-page-12-22</a> Or 27: V1 WEB. od.

tion into momentument care removables. The property of the

Northern Health. (2012). Position on Health, Weight and Obsetty: An Integrated Population Approach. Retrieve www.northernhealth.ca/Portals/0/About/Position/Papers/documents/Health/ACbesty/Position. 20120730. WEB.pdf



## Learnings from Capacity Building Activities

- Managers can support Evidence-informed capacity building activities by recognizing the value this work adds to patient outcomes
- Dedicated time needed for teams to work on such activities (even one hour per week)
- Skill building (academic writing, searching for the evidence, abstract submission) is a needed foundation for capacity building



## Nurse-led Literature Review Challenge Winners



## Diabetes Centre Research Team





# Exploring the Impact of In-Patient Diabetes Educators on Diabetic Health Outcomes



### Goals

- To improve the continuity of diabetes care and increase patient satisfaction at UHNBC
- To discover whether patients with diabetes have improved outcomes when seen during their hospital stay by a diabetes educator team



## Background

- Exploring best evidence on the impact of a diabetes team with in-patient diabetes outcomes on:
  - ➤ Shortened hospital stay
  - Improved glycemic control
  - > Fewer readmissions
  - > Reduced long term complications
  - >Improved self management skills
  - ▶ Patient satisfaction



## Methodology

- Peer-reviewed journals (10-15 years)
- This included articles from Canada, the UK, Wales, and the USA



## **Findings**

- All studies in the review demonstrated that education by an individual or team had the potential to:
  - ➤ Decrease average length of stay
  - ➤ Improve patient satisfaction
  - Lower readmission rates
  - ➤ Improve self management
  - Provide cost savings to the institution
  - ➤ Impact staff education



## **Next Steps**

- Provide evidence supporting the cost savings of an in-patient diabetes educator at UHNBC through:
  - Shortened hospital stay
  - Improved glycemic control
  - > Fewer readmissions
  - Reduced long term complications
  - >Improved self management skills
  - ➤ Patient satisfaction



## **Moving Forward**

- Develop an in-patient referral form to improve communication between wards and diabetes educators
- Review and communicate the type of patient that would benefit from a diabetes educator consult

