# Research and Knowledge Translation Newsletter

northern health
the northern way of caring

What happens when you have a topic that you are interested in and you want to learn more? Developing one or more research questions is a key initial step for any research project.

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"As a staff member, patient, or physician at Northern Health, you likely come across topics that you are curious about every day. You have insights into important questions that could lead to improvements in our health care system."

## HOW TO DEVELOP RESEARCH QUESTIONS

by Lisa Ronald and Kari Harder

What happens when you have a topic that you are interested in and you want to learn more? One of the ways that can help you to learn more about the topic is to conduct a research study – but first you will need to think of an answerable research question. How should you begin to think about what the research questions are?

Developing one or more research questions is a key initial step for any research project. A research question is a formulated inquiry that you aim to answer when you do your research study. A clear and answerable question provides focus for your research and helps you to target your study design to exactly what you need to do to answer the question. Once you have identified the question(s), you will then be able to identify the most appropriate research approach that you will use (such as quantitative, qualitative or mixed methods). You will decide what type of data you will need to collect, how you will analyse and interpret the results, and what you will do with your findings.

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Having a clearly defined and answerable question at the start of this process will save you significant time and resources. It is also good practice - having a research question identified before you start your analysis can reduce potential bias by providing a hypothesis that you set out to test at the beginning, rather than letting the data drive your hypotheses.

## HOW CAN YOU START WITH DEVELOPING YOUR RESEARCH QUESTION(S)?

A helpful strategy is to review the existing literature to see what has been done before on the topic that you are interested in. Someone may have already looked into or answered your question before. When reviewing the literature you want to look for the knowledge gaps – even if your question has already been answered by someone else, maybe they didn't look at the population or specific context your were interested in. Excellent sources for finding literature can include online sources like PubMed for medical literature ("PubMed," 2021), CINAHL for nursing and allied health professions literature ("CINAHL Database | EBSCO," 2021), or the Cochrane Library for systematic reviews of clinical trials and health interventions ("Cochrane Library," 2021). You can also consult with your health librarian for guidance on additional research resources by emailing library@northernhealth.ca.

PubMed is the search engine for the US National Library of Medicine and contains millions of references for biomedical literature, life sciences, and online books. It is free to use, and you can use it to search for abstracts and articles. Importantly too, many journal articles are now available as 'open access', meaning that anyone can read the full article (i.e., you don't need a subscription to the journal or a university account). Other tools like Google Scholar ("Google Scholar," n.d.) can be a helpful source for finding 'grey literature', which is literature that has not been formally peer-reviewed for a journal, such as published reports or websites. Look also for peer-reviewed scoping review or systematic review articles if they are available (Munn et al., 2018). Systematic reviews, for example, are articles that have already analyzed the literature on a given topic, using a focused research question themselves and strict protocols. Scoping reviews and systematic reviews often conclude by telling you what some of the knowledge gaps are and where more research needs to be done (Munn et al., 2018).

Another resource to help you identify your questions is experts in the field who may have a good understanding of where the knowledge gaps are. Consulting with people that the research will affect, such as clinicians working in the field, patient partners, community members, or policy-makers, can also provide you with helpful insights into what they think the knowledge gaps and most relevant questions are from their experience. You can even do a study aimed at identifying the knowledge gaps, using focus groups and/or interviews of stakeholders. Subsequently too, the people you consult with can act as a resource when you are developing your study protocol.→

## THE BIGGER PICTURE: ARE YOUR QUESTION(S) RELEVANT, FEASIBLE, AND ETHICAL?

An important lens to consider before moving forward with your research study is how relevant and feasible your study will be with the initial question(s) you've identified. Research studies can take a lot of time and resources so you want to design research projects that are thoughtfully designed and well-planned. This will provide the best chance of successfully answering your question(s).

A good research question should identify the population of interest, be interesting to the scientific community and the public, be relevant for clinical practice or policy, and should advance current knowledge in the field. In addition, the question should be feasible (not too broad in scope) so the study can be completed in the available timeline and budget. To be feasible, you will also need to think about developing a research team that includes members that have specific expertise in the field or methods you would like to use in your project.

If you need to apply for funding for your research study, you will also need to consider what research funds may be available to you. There are a number of research funders in Canada, for example the Canadian Institutes of Health Research (Government of Canada, 2003) and the Michael Smith Foundation for Health Research ("Michael Smith Foundation for Health Research (MSFHR)," n.d.), Research funders will generally give priority to proposals that may have innovative and significant impacts (Cummings, & Browner, 2013).

You also need to ensure that your research question(s) consider any potential ethical issues. The research question(s) and method(s) needs to be compliant with research ethics board standards: if the study poses unacceptable physical or emotional risks or potential privacy infringements, you must look for other ways to answer the question and/or re-adapt the questions or methods to ensure they are ethically validated (Cummings & Browner, 2013). Most ethical standards for research in Canada need to follow the Tri-Council Policy Statement (Government of Canada, 2019). A helpful online tutorial is available to educate researchers around conducting ethical research (Government of Canada, 2016).

Using a framework like FINER (Feasible, Interesting, Novel, Ethical, Relevant) can also help you to assess this as you develop your research questions:

| | | |
|---|---|---|
| F | **FEASIBLE** | Adequate number of participants?<br>Adequate technical expertise?<br>Affordable in time and money?<br>Manageable in scope? |
| I | **INTERESTING** | Getting the answer intrigues the investigator, colleagues, team members, or other members of the community? |
| N | **NOVEL** | Confirms, refutes, or extends previous findings?<br>Provides new findings? |
| E | **ETHICAL** | Amenable to a study that the Research Ethics Board will approve? |
| R | **RELEVANT** | To scientific knowledge?<br>To clinical and health policy?<br>To future research? |

Source: Cummings & Browner, 2013

## FOCUSSING IN: HOW DO YOU MAKE YOUR RESEARCH QUESTION(S) CLEAR AND ANSWERABLE?

Once you've narrowed down more closely what you want to research, you need to write one or more focussed questions that you can answer. There are many tools available to help you with writing your research question. The PICO (population, intervention, control, and outcomes) format is a widely used strategy for framing research questions in evidence-based medicine (Haynes, 2006). Sometimes timing is added as well, PICO(T), to further identify over what time period the study will take place (Haynes, 2006; Riva, Malik, Burnie, Endicott, & Busse, 2012). There are many adaptations of PICO depending on the field, type of study, etc, but the basic format is:

| | | |
|---|---|---|
| P | **PATIENT/ POPULATION** | What specific population are you interested in? |
| I | **INTERVENTION** | What is the main intervention or exposure you are considering? |
| C | **CONTROL/ COMPARISON** | What is the main alternative you are considering, if any? |
| O | **OUTCOME** | What are you trying to accomplish, measure, improve or affect? |

Source: Haynes, 2006


The PICO tool can be applied in a variety of settings, including clinical medicine, public health, and literature reviews (for e.g., "How to create PICO questions about diagnostic tests | BMJ Evidence-Based Medicine," n.d.; Schardt, Adams, Owens, Keitz, & Fontelo, 2007). A few worked examples of applying the tool are below:

### EXAMPLE 1

**Scenario:** You want to pilot a new Wii-Fit video-game-led exercise program to improve balance among seniors living in the community.

**P:** Seniors aged 75 years and older living in the community

**I:** 16-week Wii-Fit exercise program

**C:** Walking

**O:** Improved balance (assessed using the Berg Balance Scale)

**(T):** 16 weeks

**Final research question:** Does a 16-week Wii-Fit exercise program improve balance compared to walking among seniors aged 75 years and older living in the community?

### EXAMPLE 2

**Scenario:** You are developing a new overdose prevention strategy in your community and want to understand if safe supply reduces rates of overdose deaths. You decide to do a review of the literature to understand what others have found in similar jurisdictions to your own.

**P:** Populations who use substances

**I:** Safe supply

**C:** Non-safe supply

**O:** Rates of overdose deaths

**Final research question:** What is the impact of safe supply on rates of overdose deaths in populations who use substances?

## AFTER THE RESEARCH QUESTION: NEXT STEPS IN DEVELOPING YOUR RESEARCH PROPOSAL

Once you have identified your research question(s), you are now ready to begin developing your research proposal. Developing your research proposal further is beyond the scope of this article, but there are many great resources to help guide you in the next steps for developing your study protocols.

Remember that research is an iterative process. If you have more than one question (for example, you have multiple outcomes that you want to evaluate), it can be helpful to identify one primary question and additional secondary questions to better focus your study. Alternatively, you can plan your research in different phases such as a staggered research program. As you learn more about the literature and available data, or hear from reviews of your grant applications from funders' scientific committees, it might help you to refine your questions. In answering one question, you will inevitably develop several others that you are interested in exploring. You may also find that through the analysis of the data, new questions will be identified that can even be asked and answered with the same data. However, a new question and hypothesis should still be clearly identified before analysing the data again. Finally, your research questions and research protocols will continue to evolve as you build your research team and your knowledge grows. →

"If you have have a question that you think NH should research, please contact the Research Department at: research@northernhealth.ca. We want to hear your ideas!"

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# KNOWLEDGE EXCHANGE: A PERSON-CENTRIC AND TEAM APPROACH TO NURSING PRACTICE IN LONG TERM CARE (LTC) DURING PANDEMIC TIMES

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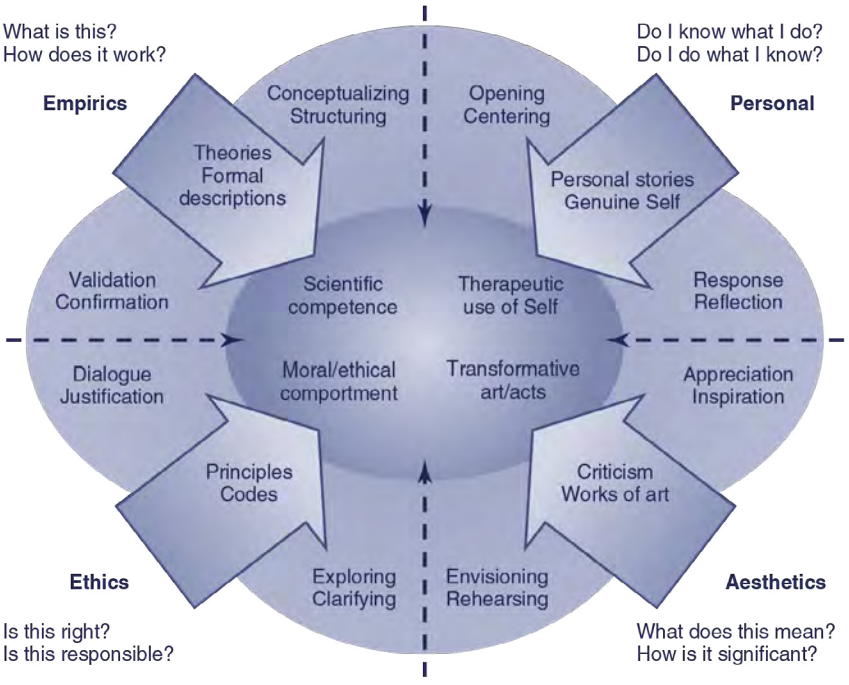
By Sandra Barnes

*This article highlights the conversation between Sandra Barnes*, NH Regional Practice Lead Research and Knowledge Translation in LTC, and Marcelo Bravo, NH Lead Patient Oriented Research and Knowledge Translation Capacity Development, on her nursing and knowledge translation experience during pandemic times. We will focus on exploring various nursing roles and how her relational and team-based approaches to work with available, contextualized evidence, and continuous learning from previous and current LTC experiences, led to meaningful lessons worth being shared and reflected upon.*

## HOW WOULD YOU DESCRIBE THE ESSENTIAL KNOWLEDGE AND TRAINING OF A NURSE?

The true art of nursing encompasses a mastery of competencies, continuous learning, expanded ways of knowing and the ability to see a person in care in a holistic way. People are not labels such as 'beds', 'hips', or disease conditions, they are people deserving of dignity and respect.

My favourite class during BScN at CNC/UNBC was the "Art of Nursing". The diagram to the right has stuck with me throughout my career as it clearly encompasses expanded ways of knowing. In practice, it can be easy to become task focused; this diagram published in Chinn, P. L., & Kramer, M. (2014) reminds us there is so much more.




Nursing's Fundamental Patterns of Knowing
*Permission to use the image in progress (Sept. 2021)*

## LOOKING INTO THE PAST, WHAT WERE YOUR FIRST IMPRESSIONS WORKING IN LONG-TERM CARE (LTC)?

My career in LTC has been as a care aide, nursing, leadership roles and currently in research and knowledge translation.

Work in LTC is one of the most rewarding health care careers. Some say it is a place to go if you want a slower pace, I disagree. You need all the skills and abilities to work with persons living with acute and/or chronic health conditions, then on top of that a depth of knowledge of working with those living with dementia who also may be living with acute or chronic health conditions. It is a specialized body of knowledge and skill set to work in all disciplines in LTC.

## WHAT TYPE OF PREVIOUS EXPERIENCES HELPED YOU TO BE EQUIPPED AND SERVE IN TWO MAJOR NH'S COVID-19 OUTBREAKS?

I believe collectively all life experiences help to develop skills and abilities to navigate situations. My various roles within healthcare over the years have given me diverse experiences to draw from.

During the outbreaks, I continually reached back to the experience, preparation, and planning of the wildfires in 2017. Gateway became a temporary home to 99 evacuated residents despite already being at full capacity. We essentially opened an entirely new LTC home safely, in three days. This is unheard of in regular circumstances outside of a crisis. The teams went above and beyond to work together and gave so much extra effort to ensure people felt safe, truly cared for, and welcomed. This taught me that despite any crisis, person centered care is always achievable!

The Emergency Operations Center (EOC) during the wildfires was a valuable resource made up of experts from the health authority departments. Although I did not sit in on the calls at that time, I was on the front lines with my colleagues collecting the information needed. This experience led me to knowing how to support teams to gather and synthesize information relevant to data reporting and knowledge translation in emergency situations. →

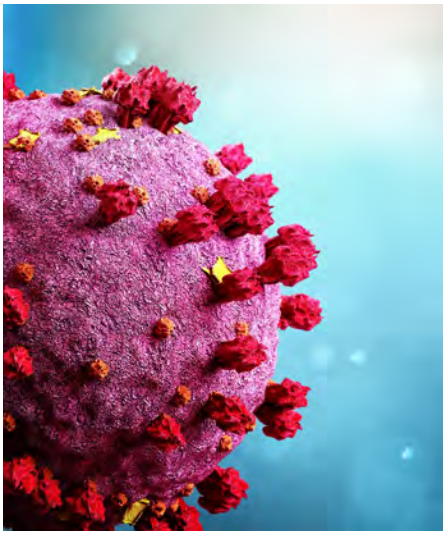
> "Teamwork is essential in achieving excellent standards of care in LTC. It is critical to work within your scope of practice, but that should not create hierarchy. We are all valuable members of the team, regardless of title. The work could never ever be achieved by just one discipline."

## TELL US ABOUT THE PAST COVID-19 OUTBREAKS, THE PROCESS OF YOUR RELOCATION AND THE CHALLENGES YOU EXPERIENCED.

I volunteered to help lead and support two LTC COVID-19 outbreaks. I was at one from December 18th, 2020 to January 22nd 2021 then loaded up the car with medical equipment and headed to the second from January 23rd to March 4th 2021.

We essentially changed from a long term care model to an acute care model overnight. Our physician group led with expert clinical guidance to provide the best care and leadership possible. This translated to resources used in the second outbreak.

Building entire new processes and implementing brand new cohort units and staff in a matter of hours or mere days, especially in a crisis, is like the saying 'building a plane while you are flying in the air'. At both homes we focused, we listened, we built together with our teams, and we communicated often. We utilized urgent and time sensitive Plan Do Study Act (PDSA) cycles to support the work.



## WHAT WERE THE MAJOR CHALLENGES AND HOW DID YOU AND THE TEAMS WORK TO OVERCOME THEM?

COVID-19 was so complex and ever-changing. We had provincial guidelines and new evidence evolving daily, and therefore our direction was always changing. I think everyone just came from a place of mutual understanding that this was new for us all and that we were all giving our 100 percent effort.

Quality of life for residents was challenging but despite the crisis, the staff made pop-up beauty salons, outdoor pet window visits, celebrations, and hallway bingo! We celebrated Christmas with music and gifts and New Years cheer with the residents. Staff worked tirelessly to ensure as many video and window visits as possible occurred to keep residents connected to their loved ones. All disciplines were extraordinary in how they worked together to make everything the absolute best they possibly could for residents, families, and one another.

## OUT OF THE DECISIONS BEING IMPLEMENTED, WHAT ARE YOU MOST PROUD OF?

We are proud of the way we supported teams, and each other. We knew we would never have any one thing 100% right, or 100% wrong, we simply did the very best we could with the current evidence and information we had at the time. We worked as part of the front-line team when and where needed, and we led with integrity, kindness, and compassion. We were often scared and at times completely overwhelmed with the impact and devastation of COVID-19.

I am proud of the toolkit we developed during the outbreak. We developed process maps, clinical tools, communication tools and guidance documents for LTC homes experiencing outbreaks.

## CAN YOU COMMENT ON THE VALUE OF HAVING CLINICAL KNOWLEDGE AS WELL AS HAVING A TOOLKIT AND A PROCESS?

Sharing process, experience and clinical tools prevented homes from having to 're-create the wheel' or start from scratch. The toolkit created during the first outbreak was adapted to fit a rural outbreak and served to provide guidance, physician & nursing communication, family communication, and tools to triage care. This helped staff focus on continuing to provide →

the best possible care for their residents and families.

Sharing experiences and potential trajectory of the outbreak was helpful for leadership and front-line teams. It brought comfort of knowing that they were not alone in their experience and that they were doing really great work in the care they were providing. Being able to create connections across facilities for resources and bringing learnings forward to navigate challenges was valuable.

### IN WHAT WAYS HAS YOUR PRACTICE OF LEADERSHIP AND EXPERTISE IN KNOWLEDGE TRANSLATION HELPED YOU TO OPERATE IN THIS COMPLEX ENVIRONMENT?

Leadership in crisis requires an ability to work in the abstract-grey and unknown areas. It is imperative to quickly synthesis information, plan, strategize, assess risk, develop process, and lead and support teams through the most difficult times.

I do not see myself as an 'expert' or having 'expertise'. It is not so much that teams need someone to have all the answers or get it right every step of the way. They need to know leadership is truly there by their side- really understanding the crisis they are working in. Listening, genuinely caring, advocating for what is important to them, trying to do your level best to protect them and get the resources they need to take care of themselves and continue to take care of the people they show up for every single day.

Having a background in front line work is firmly grounded in my leadership. I do not hesitate to go back to my roots and grab a broom, mop, gloves, or stethoscope when needed. I deeply value contributions of teams, all working together to achieve the best possible outcomes.

We took time to celebrate positive outcomes, mourn loss together, pick each other up when times were tough and most importantly, truly value one another. We gave each other grace when we didn't get something quite right and cheered when we did!

### REGARDING THE KNOWLEDGE TRANSLATION PIECE, WHAT WERE SOME OF THE LESSONS LEARNED?

At both sites we had many of the same leading experts within our organization offering external support from the EOC. This was instrumental in sharing their previous experience, knowledge translation and expertise with day-to-day operational decision making and clinical support.

Across LTC outbreaks in BC, it was quickly realized that establishing and triaging a crisis response team to provide at the elbow support for homes experiencing outbreak from COVID-19 was integral in reducing negative impact and outcomes. Viva Swanson, (Advisor, Leadership Development NE, Community Services Management) and I formed a part of this response team along with nurses, care aides and a mental health clinician from other NH sites and Health Authorities. We worked together to share our experience and processes created gained from previous outbreaks. Front line leaders and staff expressed feeling less alone, less afraid, and more confident in their own ability to manage, lead and respond to the crisis with the additional support.

What works in an urban area, may not work in rural areas and vice versa. We have an opportunity within our own health authority to share the complexities and brainstorm together to problem solve as an organization. Reflection of what went well and where we can improve is an important part of knowledge translation in sharing lessons learned not only locally, but in LTC worldwide. →

### WHAT IS NEXT REGARDING KNOWLEDGE TRANSLATION PLANS? HOW DO YOU SEE THIS MOVING FORWARD TO SUPPORT FUTURE STAFF TRAINING AND PREPARATION?

We have many opportunities to take our learnings forward from all departments and disciplines. I am working with local and provincial teams of experts both in adapting this knowledge to inform and create best practices, guidelines and a manual that will help guide caring in crisis in Long Term Care.

Because COVID-19 spread so quickly, we had little research and evidence to support clinical practice and outcomes in LTC. We relied on best practice we had at the time and look forward to the growing number of research projects and learnings surrounding COVID-19 that will inevitably inform and change our current understanding and impact future practice.

### WHAT ARE SOME FURTHER REFLECTIONS AT THIS POINT?

It will take time to heal and recover from this pandemic, and we all fear it is far from over. All we can do is continue to prepare and do our very best.

It is important to bring the teams' voices forward, so they are not forgotten. Their contributions, sacrifices, knowledge, experience and hard work, recognized. We had devastating losses, and it is a tragedy I hope none of us ever face again. My deepest and sincerest condolences to all who lost loved ones to COVID-19.

** Sandra Barnes was nominated for the Northern Health Charles Jago Award for Collaboration and Empathy.*

### REFERENCE:

Chinn, P.L. & Kramer, M. (2014). Knowledge Development in Nursing: Theory and Process. Elsevier, ProQuest Ebook Central.

> "I feel honoured and humbled to be a part of and witness to exemplary care during crisis. I have been blessed to see the most extraordinary examples of absolute excellence, compassion, integrity, team work, and dedication to continue to provide person-centric care amidst the most difficult and heartbreaking situations!"

# UPCOMING EVENTS

## AN INTRODUCTION TO LEARNING HEALTH SYSTEMS – BY NEWFOUNDLAND AND LABRADOR SPOR SUPPORT UNIT

Learning Health Systems (LHS) are systems in which "science, informatics, incentives, and culture are aligned for continuous improvement and innovation, with best practices seamlessly embedded in the delivery process and new knowledge captured as an integral by-product of the delivery experience" (Institute of Medicine, 2015). They merge healthcare delivery with research, data science and quality improvement processes, continuously informed by practice and seeking to influence practice in turn. Join Dr. Brendan Barrett as he describes the work NL SUPPORT will undertake to promote LHS for Newfoundland and Labrador. In this session, Dr. Barrett will describe the concept of LHS and outline ongoing LHS initiatives in the province, including Health Accord NL and the development and evaluation of a virtual care service for diabetes.

**Date:** September 15, 2021
**Time:** 7:30-8:30 AM PDT

Learn more and register for free here

## REGISTER FOR THE 2021 SPOR NORTHWEST VIRTUAL INSTITUTE EVENT - JOIN EVERY FRIDAY IN OCTOBER

Every Friday in October Friday in October Alberta SPOR SUPPORT Unit will host talks, workshops, abstract presentations, and networking events focused on patient-oriented research.

The Alberta SPOR Support Unit and our SPOR-funded partners across western and Northern Canada, will host top experts in patient-oriented research for the 2021 SPOR Northwest Virtual Institute.

The theme for this year, *evolution and adaptation in patient-oriented research: Infectious ideas for a changing world*, will shed light on the important role patient-oriented research plays in a post-pandemic world.

The opening plenary panel and the workshop sessions will be held on Fridays between 10:00am-12:00pm MT.

There will be networking activities and poster presentations sessions each Friday between 12:00 – 1:00pm MT, with the exception of Oct 29th when the closing plenary will be held from 12:00 – 1:00pm MT.

Register for free by September 28, 2021.