PREPARATION BEFORE THE OPERATION: PRE-ASSESSMENT CLINIC CONTINUING EDUCATION COURSE FOR RURAL PERIOPERATIVE NURSES

CHRISTOPHER DORE
Bachelor of Nursing, University of Lethbridge, 2015

A project submitted
in partial fulfilment of the requirements for the degree of

MASTER OF NURSING

Faculty of Health Sciences
University of Lethbridge
LETHBRIDGE, ALBERTA, CANADA

PREPARATION BEFORE THE OPERATION: PRE-ASSESSMENT CLINIC CONTINUING EDUCATION COURSE FOR RURAL PERIOPERATIVE NURSES

CHRISTOPHER DORE

Date of Presentation: July 12, 2022

Silvia Koso	Instructor	MD, MPH

Project supervisor

DEDICATION

To my colleagues, family and friends who have been immensely supportive, both professionally and personally.

ABSTRACT

The project, Preparation Before the Operation, was designed to assess the feasibility of a rural tailored online continuing education course to address the gaps in perioperative education. The 4-week asynchronous course focused on supporting nursing education in rural preoperative settings across the south zone of Alberta. Knowles and Duchscher's theoretical frameworks guided course content on adult learning principles. The ADDIE model for online course design underpinned the delivery methodology and course strategies. The project outcome reinforced online continuing education as an effective strategy to enhance nursing knowledge and skills in remote practice settings. This project is relevant to nursing practice as it demonstrated that investing in continuing education can have a positive impact on surgical outcomes and rural surgical environments. Because perioperative nursing requires extensive knowledge and skill beyond maintaining sterility and monitoring the patient in the operating room, this unique rural-focused continuing education course supported rural nurses to engage and apply evidence-based knowledge to enhance preoperative care. The project was reinforced by primary healthcare initiatives, underpinned by social determinants of health. This project added to the growing body of nursing knowledge and evidence exploring the impact of social determinants of health on surgical outcomes. It also advanced preoperative nursing skills and knowledge, to reduce surgical inequities, that are critical to optimizing patients.

TABLE OF CONTENTS

LIST OF ABBREVIATIONS

AHS	Alberta Health Services
ADDIE	Analysis Design Develop Implement Evaluate
ARECCI	A Project Ethics Community Consensus Initiative
CASN	Canadian Association of Schools of Nursing
CE	Continuing Education
CINAHL	Cumulative Index of Nursing and Allied Health Literature
CAN	Canadian Nurses Association
FTE	Full Time Equivalency
MN	Master of Nursing
ORNAC	Operating Room Nurses Association of Canada
PAC	Pre Assessment Clinic
PICO	Population/Patient/Problem Intervention Comparison Outcome
SDoH	Social Determinants of Health

CHAPTER 1: PROJECT RATIONALE

This Master of Nursing final project aimed to prepare, implement and assess the feasibility of a continuing education (CE) course to support perioperative nurses in providing evidence-based preoperative surgical care in rural settings. Rural perioperative nurses face physical, human, and financial barriers to attending education courses off-site. Since rural practice settings are already resource-scarce, attaining replacement staff or funding to support a single nurse attending an off-site course is often out of reach from many surgical programs. Rural perioperative nurses also experience subtle stressors like inadequate support from clinical nurse educators and insufficient access to rural tailored courses. This project aimed to address inequities in access to advanced education and reduce rural nursing attrition by mitigating the stressors and barriers related to rural nursing practice.

This project also aimed to simultaneously improve rural population health outcomes by addressing the gap in primary healthcare knowledge in perioperative practice. Educated, prepared, and informed perioperative nurses correlate with improved surgical outcomes (ORNAC, 2021). The CE course was designed to enhance critical thinking and clinical reasoning in pre-assessment clinics (PAC) through an exclusive online modality. The project focused on developing preoperative nursing knowledge routed in evidence-based practices while expanding awareness and understanding of social determinants of health (SDoH). The course also highlighted the significance of primary healthcare initiatives and frameworks concerning the impact on rural surgical patients.

Nurses are the foundation of rural hospitals and are indispensable in protecting public healthcare services (Kulig et al., 2020). Healthcare is amid a national and global shortage of perioperative nurses (CIHI, 2019). The causes contributing to the deficit are vast and complex,

with scarce human resources at the core. Currently, the demand for perioperative nurses has surpassed the supply, and unfortunately, this trend is anticipated to continue (CIHI, 2019). In Canada, the number of nurses retiring exceeds nursing programs' seats. This is coupled with nurses leaving the profession altogether due to poor work culture (Both-Nwabuwe, 2018). Poor work conditions and the historical disadvantages rural nurses continue to experience in today's workplaces are demonstrated by geographical isolation, access to education, and limited human resources (Kallio et al., 2022; Kunaviktikul et al., 2015 & Kulig et al., 2015).

In Canada, we have cultivated the most educated generation of nurses today and capitalizing on this advantage supports resilient public healthcare systems (Villeneuve & Betker, 2020). Therefore, strategies to enhance rural perioperative development will improve multiple facets of healthcare, including improving nurses' work satisfaction (Smith et al., 2019). Sustained tolerance of limited professional development opportunities for rural nurses negatively impacts healthcare systems and patient outcomes (Whiteing et al., 2022).

The preoperative project was titled *Preparation Before the Operation*. The purpose was to increase nurses' surgical knowledge and enhance the level of care rural patients currently receive. The evidence does expose the sustained inequities in surgical care that rural populations experience (Garasia & Dobbs, 2019). Thus, the project was intended to improve nurses' knowledge of how SDoH influences surgical patients in rural settings and deliver mitigating strategies. All Canadians expect high-quality, safe surgical services regardless of where they live.

CHAPTER 2: LITERATURE REVIEW

2.1 LITERATURE REVIEW PROCESS

A literature review was completed to provide a basis of knowledge to identify areas of prior research and education programs for rural nurses. The purpose was to understand the barriers and successes rural perioperative nurses experience in accessing continuing education. Understanding what is on the forefront of evidence-based practice in perioperative nursing and how it influences surgical outcomes requires healthcare practitioners to identify the most relevant research available to inform clinical practice (Melnyk & Fineout-Overholt, 2011). This literature review informed the design and delivery of the PAC CE course for rural perioperative nurses. The literature review was completed to identify feasible evidence-based solutions to the nursing practice problem.

2.1.1 GUIDING QUESTIONS

The population, intervention, comparison, and outcome (PICO) tool was utilized to conduct an efficient search strategy (Heath-Evidence, 2009). PICO was used to inform the clinical question through component breakdown and analysis of the problem. The focused population was rural perioperative nurses. The intervention was a rural PAC CE course supported by evidence-based strategies, practice, and knowledge. The comparison factor was education derived from current experience-based learning, unit mentorship and formal perioperative education. The intended outcome was to increase understanding of best practices, improve patients' surgical outcomes, and increased workplace satisfaction for rural nurses.

The following focused clinical questions were derived. What barriers and successes do rural perioperative nurses experience in accessing continuing education compared to their urban colleagues? Do rural perioperative nurses who receive continuing education courses compared to

experience-based learning gain advanced knowledge to apply evidence-based nursing practices leading to improved surgical outcomes confidently? Does nursing education addressing the knowledge gap of SDoH in PAC, compared with current perioperative education content, improve patient experience and surgical outcomes? Conclusively, does access to a robust continuing education program for rural perioperative nurses reduce turnover and improve patient outcomes?

2.1.2 SEARCH STRATEGY

The databases searched included Cumulative Index of Nursing and Allied Health Literature (CINAHL), ProQuest Nursing and Allied Health Source, and Medline because they provided comprehensive access to healthcare-related journals. These databases provided access to full text and scholarly reviewed literature to inform my project. Google Scholar was also utilized to supplement search results inaccessible to academic databases. These included articles only available through the paid ORNAC membership portal.

The literature search was restricted to include articles from 2010 through 2022. This limitation was applied to capture the most current developments in healthcare and nursing. Limits were applied to ensure that only publications in English, full text, and scholarly peer-reviewed journals were selected. The themes I identified were continuing competency opportunities related to preoperative practice, perioperative education capacity in rural settings, and the impact of SDoH on patient outcomes.

Citation searching from articles and research studies focused on rural nursing and SDoH were retrieved and included. A significant portion of the literature focused on current strategies to expand comprehensive perioperative nursing care. This also informed further clinical questions regarding the integration of SDoH in preoperative education. Author searches of

articles focused on rural Canadian healthcare perspectives were included to identify key researchers working on this topic. This strategy enhanced understanding of existing issues and local perceptions. The literature review consistently indicated that the Canadian Association for Rural and Remote Nursing has completed extensive research and invested significant resources to develop literature with an exclusively Canadian rural healthcare perspective (CARRN, 2020). These articles were used extensively.

2.1.3 SEARCH TERMS

The keywords used were “nurses,” “pre-assessment clinic,” “preoperative,” “standardized training,” “online,” “continuing education,” “perioperative,” “rural,” “remote,” “surgery,” and “social determinants of health,” “surgical outcomes” and “safety.” Boolean commands, “AND” and “OR,” were applied to combine search terms to develop more precise results. This included “standardized training” or “education” and “perioperative”, “standardized training” and “pre-assessment clinic”, “continuing education” and “perioperative” and “rural” and “social determinants of health.” Synonyms were applied to search terms to ensure that nearly the same terms were not excluded, such as “surgery” to also include “surgical.” Synonyms for “continuing education” were extended to include “courses,” “learning” and “instruction.”

2.2 LITERATURE REVIEW RESULTS

2.2.1 BACKGROUND TO PERIOPERATIVE PRACTICE

The literature review findings confirmed perioperative nursing to be a nationally recognized practice specialty (CNA, 2022; ORNAC, 2021). The Canadian Nurses Association (CNA) identifies perioperative nurses as the fourth most prominent portion of specialty-trained registered nurses (CIHI, 2022; CNA, 2022). These specialty-trained nurses provide surgical care on a continuum, including preoperative, intraoperative, and postoperative phases.

PAC clinics are often surgical patients' first interaction with a perioperative nurse (Conney & Wan-Yim, 2016). Providing adequate preoperative care requires nurses to collaborate with surgeons, anesthesiologists, families, patients, pharmacists, and other healthcare professionals to optimize patients before surgery (Hines et al., 2013). PAC nurses are expected to be competent in clinical practice and have advanced knowledge to navigate patients throughout the surgical continuum. As such, perioperative nurses are recognized as fundamental partners within every surgical program.

Yet, nurses practicing in rural perioperative settings typically receive marginal training through unit mentorship or pared-down education (Tan et al., 2017). The responsibility and challenges of providing preoperative care in rural surgical settings force perioperative nurses to their limits as they contend to deliver optimal care, often with inadequate human and material resources. To achieve optimal surgical outcomes for patients, preoperative education supported by primary healthcare initiatives needs to be prioritized. However, in practice, there is a deficiency in education opportunities in rural healthcare settings (Kulig et al., 2015).

Lack of organizational prioritization of rural healthcare, remote isolation, and burnout have adversely affected the retention of rural and remote nurses (Stewart et al., 2020). As such, an absence of professional development opportunities has reduced work satisfaction leading to high turnover and attrition among rural nurses (Kulig et al., 2015). Consequently, the current and projected global shortage of perioperative nurses has transcended into a steady decline in Alberta (Ball et al., 2015; CIHI, 2020). For example, Alberta reported a continual decrease in practicing perioperative nurses since 2009. One thousand five hundred sixty active members were validated in 2009 compared to 1220 active members in 2019 (CIHI, 2020). The regional shortage of perioperative nurses results in an exponential impact on rural healthcare, as limited human

resources exist within the system (Ball et al., 2015). Sustaining the current workforce through professional development opportunities for rural perioperative nurses is required to achieve excellence in surgical care.

2.2.2 INEQUITIES IN NURSING EDUCATION

Certified formal university or college perioperative certification is challenging to access from a rural perioperative perspective (Tan et al., 2017; Hong et al., 2020). Insufficient financial and human resources in rural settings compound the disparity in access to continuing education (Jackman et al., 2010). This negatively impacts perioperative nurses' acquisition and advancement of specialty skills and knowledge through continuing competence opportunities. Multiple factors, like insufficient perioperative educator availability or competency, time, facility space, and staff replacement, make implementing and sustaining continuing education courses challenging (Jackman et al., 2010; Kidd et al., 2015). Current perioperative certification programs have minimal to no exposure to expanded levels of PAC education (Spruce, 2019). Further compounding the disparity is limited to nil education on the SDoH in preoperative settings (Spruce, 2019).

2.2.3 INEQUITIES IN SURGICAL PATIENTS' CARE

Current evidence describes the factors that impact public healthcare. Evidence-based practice in presurgical care, underpinned by a primary healthcare framework, will be discussed. Currently, healthcare reform in Alberta is focused on four goals: improving patient and population outcomes, improving the experience of patients and families, improving the experience and safety of the workforce, and improving financial health and value (AHS, 2021).

There is a growing body of knowledge and evidence exploring the impact of SDoH on surgical outcomes. SDoH affects Canadians' health and well-being throughout the continuum of

life (Raphael et al., 2020). According to Raphael et al., they are a complex interaction of social, cultural, and environmental conditions individuals, families, and communities experience (2020). Preoperative awareness and knowledge on reducing inequities are critical to assessing and preparing patients for surgery. It is important to note that SDoH and unmitigated inequities will influence patients' quality of life well after the surgery is complete (Lubis et al., 2021; Spruce, 2019).

Food insecurity is a significant SDoH to consider when assessing surgical patients. PAC nurses have a primary role in optimizing nutritional status in the preoperative phase, and poor nutritional status is directly linked to inferior surgical outcomes (Bisch et al., 2019). Therefore, understanding and assessing the implication of the social environments surgical patients live in and will return to is imperative (Garasia & Dobbs, 2019). Simply directing a patient to follow the Canadian Food Guide is short-sighted when access to a healthy food choice may not be an option.

Income and income distribution have been deemed as one of the most impactful SDoH, which remains valid for surgical patients (Raphael et al., 2020). Income is the precursor for levelling the barriers to all other socioeconomic and environmental conditions (Raphael et al., 2020). It is evident that the degree to which a patient can pay for basic needs like housing and food influences all other health aspects. The ability of surgical patients to have the financial means to pay for prescriptions is another significant aspect to consider when caring for surgical patients. If patients cannot follow through on healthcare professional recommendations, such as purchasing antibiotics or renting crutches, their chance at a quality surgical outcome diminishes significantly.

Developing strategies to expand nursing knowledge on surgical care's environmental and social aspects support improving patient and population outcomes (Lubis et al., 2021). While primary care and public health modalities may appear to be a far stretch from the restricted atmosphere of the operating room, the environment in which patients come from and will recover needs to be considered when looking at long-term measures of successful surgical outcomes (AHS, 2015; Garasia & Dobbs, 2019). This becomes even more evident when considering the aspects of rurality, healthcare education and surgical outcomes.

Developing perioperative nursing knowledge in SDoH, how it influences health outcomes, and the inequity within rural populations is also a growing body of knowledge (Anderman & CLEAR Collaboration, 2016). Including SDoH in preoperative care strategies supports nursing practice in shifting historical perspectives from surgery as a single event, expanding nursing perceptions to reimagining surgery as a series on the continuum of care (Spruce, 2019).

2.2.4 IMPACT OF THE PROBLEM ON THE SURGICAL PATIENT

Surgery and surgical care are increasingly focused on the global and local sectors of public health and healthy public policy (WHO, 2015). Surgery can reduce the burden of death and disability; therefore, underpinning acute surgical care initiatives with public health frameworks is vital. Rural and remote communities' health status is shaped by geographical disparities such as access to quality health services and environmental and climate barriers (Raphael et al., 2020). Rural surgical patients are more likely to experience limited access to healthcare services, leading to higher mortality rates from preventable disease and disability compared to urban communities (Subedi et al., 2019). An increase in disease is linked to poor

surgical outcomes for rural patients who are already influenced by their socioeconomic, cultural, and environmental conditions (Qi et al., 2019; Spruce, 2019).

The surgical experience for rural patients is influenced by the degree of preparation of their surgical team (Farley, 2019). Rural patients do not receive comprehensive standardized preoperative care (Hong et al., 2020; Qi et al., 2019). The literature shows that patients who receive comprehensive preoperative care have decreased length of stay, reduced last-minute cancellation rates, and decreased infection (Conny & Wan-Yim, 2016). This positive measure of success is due to a healthcare shift aimed at enhancing preoperative care. The intention to optimize patients well before their actual surgical date shifts surgical care to an upstream approach rather than the traditional reactive approach surgery has taken.

2.2.5 IMPACT OF THE PROBLEM ON RURAL NURSES

Rural nurses practice with limited resources and varying support in and among the multidisciplinary team. Compared to urban hospitals, rural surgical programs receive a fraction of the resources to support continuing education (McCoy, 2009; Smith et al., 2019). Given the current limitations to rural nursing education, perioperative-specific education is even more restricted compared to urban centers (Anolak et al., 2018). The lack of continued education opportunities for perioperative nurses directly impedes preoperative knowledge transition rooted in evidence-based practice.

Rural nurses are experiencing barriers to accessing tailored education (Anolak et al., 2018). The lack of preoperative education opportunities creates stressors and further disparages recognition of the professional demands expected of rural perioperative nurses. Rural nurses are expected to be general specialists, and the current healthcare culture does not reflect supporting

this venture (Whiteing et al., 2022). Continued tolerance of inaccessibility to rural tailored education invalidates and discredits rural perioperative nursing as a unique specialty.

Training limitations further isolate nurses by restricting the opportunity to collaborate with other healthcare professionals and colleagues outside shifts. Rural nurses report feeling isolated in their professional practice, which is directly linked to their intention to leave the profession (MacLeod & Place, 2015; MacKinnon, 2011). Disempowering nurses through deprioritizing education leads to poor work environments and attrition of an already vulnerable workforce.

2.2.6 EXISTING PROGRAMS AND STRATEGIES

The literature review uncovered a limited number of certified rural nursing education programs and courses in educational institutions and practice settings. Intriguingly enough, a rural nursing certificate program does exist at the University of Northern British Columbia. This certification program aimed to support new graduates to enter rural practice competently and confidently. Future strategies support expanding rural-focused education to specialized areas, such as perioperative practice, which appear to be at the inception of educational institutions and government mandates in some provinces.

The strategy to cross-train perioperative nurses to deliver evidence-based care to patients preoperatively has also resulted in positive surgical outcomes (Paetel et al., 2021). Capitalizing on existing rural perioperative nurses to provide care throughout the continuum of surgery increases nurses' knowledge, creates a culture of adaptability and improves efficiencies (Ballou et al., 2015; Ball et al., 2015). Conny & Wan-Yim (2016) have highlighted nurse-led pre-operative clinics' effectiveness in optimizing patients before surgery. It was demonstrated that

patients had a decreased length of stay, reduced cancellation rates and improved patient satisfaction.

2.2.7 STANDARDS AND THEORIES INFORMING THE DEVELOPMENT OF THE PAC COURSE

2.2.7.1 ORNAC STANDARDS

Additionally, registered nurses adhere to Operating Room Nurses Association of Canada (ORNAC) guidelines, standards, and position statements. ORNAC is an internationally recognized organization that promotes the profession's advancement through theoretical knowledge generation, ethical principles, specialized clinical skills, and holistic practice (ORNAC, 2021). In addition, the association recognizes and supports perioperative education focused on enhancing the surgical environment, patient's social situation, and community status (ORNAC, 2021). Perioperative nurses must practice with a surgical consciousness that represents distinction in nursing care and promotes patients' and multidisciplinary teams' physical and psychological safety (ORNAC, 2021).

Knowing this, the challenge remains in meeting rural nurses in their workplaces. Hence, using online technologies and platforms to deliver education and prompt learning has shown positive results in continuing education (Crowley-Barnett et al., 2020). Online courses are a modality for organizations to reach rural and remote nurses needing continuing education (AHS, 2015; Farley, 2019). Developing interactive and engaging online courses required intentional design. Incorporating case studies is a successful strategy in developing online course content. This supports the learner to experience real-life scenarios and engage in active learning rather than passively absorbing material. Developing keen and comprehensive preoperative assessment

skills also promote the users' ability to identify safety priorities and mitigate potential risks (Jeppsen et al., 2017; Lavoie et al., 2018).

Purposeful and intentional training is required to shift PAC nursing care from a linear, static practice to a comprehensive approach. It is vital to ensure preoperative care considers the environment surgical patients come from and will return to. Due to their size and footprint, rural surgical programs are optimal environments to promote a model of online integrated PAC care for patients.

2.2.7.2 DUCHSCHER'S THEORETICAL FRAMEWORK

I utilized Duchscher's stages of transition theory and transition shock to inform the PAC CE course. This theory provided the framework to facilitate new learning for rural perioperative nurses. Although this theory is primarily utilized in undergraduate nursing education, the application to practicing nurses is just as relevant (Duchscher & Windey, 2018). The Stages of Transition Theory is a 3-step progression to practice through *doing, being and knowing*. These transition phases are also overarched by transition shock and crises (Duchscher, 2008). Transition shock encompasses physical, emotional, intellectual, and sociocultural changes in the learner during the learning phases. Transition theory states that achieving proficiency in an area is a nonlinear integration between education and practice (Duchscher, 2018).

Doing is demonstrated by learning and performing skills under the guise of the mentor or instructor (Duchscher, 2018; Murray et al., 2019). The learner manages their expectations, and confidence in learned skills is established. The second progression is *being*. The learner transitions to look beyond their knowledge and apply it to the patient, family, or community (Duchscher, 2018; Murray et al., 2019). Critical thinking and clinical reasoning are supported by the ability to apply practical meaning to theoretical knowledge. The final phase of *knowing* is

overarched by the transitional crisis (Duchscher, 2008). Developing awareness of competing priorities and oppositional focus in healthcare systems exist. The learner begins to apply theory and understand their role in the design of surgical care. Critiques of the healthcare system and how policy influences frontline care and delivery are the final phases of the learner.

With limited perioperative nurses entering and remaining in the profession, the theoretical framework underpinning Duchscher's Transition Theory highlights the necessity to foster and maintain competent nurses, especially in scarce resources like rural and remote communities. Understanding the stressors affecting learners and the evolution into advanced practice supports the creation of learning environments targeting the knowledge-practice gap, expands clinical reasoning and enhances critical thinking (Halpin et al., 2017).

Applying Duchscher's Transition and Shock theory was used to guide the PAC CE course. The framework supported current practitioners in rural perioperative nursing by focusing on transitioning through stages while creating a social constructivist learning environment (Murray et al., 2019). Social constructivism supports a stimulating learning environment where learners engage in collaborative practices to enhance problem-solving and critical thinking (Cheng & Chau, 2016). Integration among the learners via online dialogue creates a positive online culture and correlates with course satisfaction (Cheng & Chau, 2016). Duchscher's model provided a framework for the course facilitator to manage the learner's expectations (Murray et al., 2019). The foundation of this theory highlights supporting the learner to improve patient care through quality nursing education and continued practice.

2.2.7.3 KNOWLES THEORETICAL FRAMEWORK

To augment Duchscher's theoretical framework, Malcolm Knowles' Andragogy theory on learning principles emphasized the traits of adult learners. Characteristics of adult learners

include the need to know, rationale, self-concept, self-directed, autonomous, drawing on experience, personal resources, readiness, orientation, practical, results orientated, motivation, purposeful, meaningful, and practical (Knowles, 1984). Andragogy assumes that adult learners require content to be relevant and practical, learning to be self-directed and autonomous, the topic is of immediate value, and experience provides a basis for learning (Palis & Quiros, 2014).

A compilation of adult learning theories, such as Knowles and Duchscher's, supported myself as a facilitator and the learner as an active partner in the program. Adapting the learning environment to accommodate various levels of knowledge and experience in the workplace supports collaborative learning spaces (Danko, 2019). Developing an understanding of the underlying principles of PAC in surgical care and practicing the skills is best achieved through an active process (Duane & Satre, 2014). Developing skills, knowledge and understanding of the physical, social, and environmental factors influencing patients is achieved by building upon prior knowledge and experience.

These adult learning principles were applied to the theoretical framework and course objectives. Synthesizing information to create innovative change through continued education in healthcare can be achieved through processing, interpreting, and understanding the relationship between all the factors influencing rural preoperative nursing (Dumchin, 2010). Adult learning principals supported the course outline and each learning objective (Knowles 1975, 1984).

Precedence was given to creating an environment where active learning is a priority. This strategy accommodated a diverse range of adult learners. Since active learning requires the participants to be involved and engaged, this assists the facilitator in adjusting to the learner's needs. Developing higher-order thinking and analysis was driven by self-directed learners who could draw on their own experiences (Billings & Halstead, 2011).

Constructing this course for PAC CE, based on Duchscher's Stages of Transition Theory and Malcolm Knowles Adult Learning Principals, provided a template for healthcare administration, educators, and leaders to support the continued development and expansion of this course. The theoretical frameworks also supported rural perioperative nurses, both new and experienced, to gain advanced knowledge in quality PAC care with a uniquely rural perspective.

2.2.7.4 ADDIE MODEL

ADDIE (Analysis, Design Development Implementation and Evaluation) was utilized to structure the PAC course development. During the literature review, the ADDIE model emerged numerous times when researching projects aimed at online course development. The approach is used frequently in developing instructional and continuing education courses in healthcare settings (Markaki et al., 2020; Hus et al., 2014). The framework is based on rigorous research and application because this model is one of the most common in instructional design (Markaki et al., 2020; Hus et al., 2014). Developing the PAC course with the ADDIE model provided a practical framework to guide the course composition. This next section will give a detailed outline of the core components of the ADDIE model: analyzing objectives and needs, course design, developing clinical knowledge, implementation in clinical practice and evaluation of the program objectives.

2.2.7.4.1 ANALYSIS

An overview of the literature and research demonstrated a need for expanding specialized rural nursing education and certification (McLeod, 2015). The course content and learning objectives aligned with rural perioperative nurses' goals and priorities (MacLeod & Place, 2015). The rural PAC course focused on developing advanced knowledge of the role and responsibilities of the rural perioperative nurse in the PAC. Perioperative standards, ethics, legal,

multidisciplinary impacts, and regulatory environment issues were also analyzed. Emphasis was on planning, collaborating, and coordinating care for surgical patients across the continuum of surgery.

Learning objectives were focused on how nurses can identify risk factors associated with SDoH and then apply available resources and engage strategies to enhance equitability. The goal of the course was to increase nurses' understanding of the SDoH and how to provide holistic preoperative care that extends beyond the confines of the operating room. PAC nurses have a powerful teachable opportunity in the preoperative phase of surgical care, and capitalizing on this has been shown to have long-term positive outcomes. For example, preoperative smoking cessation programs demonstrated better long-term cessation rates than interventions at any other time (Lee et al., 2015). Enhancing nurses' knowledge and increasing their ability to influence the social inequities that harm or decrease outcomes for surgical patients is supported by ORNAC standards of practice and the CNA Code of Ethics (CNA, 2017; ORNAC, 2021)

2.2.7.4.2 DESIGN

The course content was delivered through online asynchronous interaction. The content was provided via an interactive online platform utilizing virtual training and e-learning (Jones et al., 2021). Online, web-based delivery promotes open access, as the requirement to be physically present in class is removed (Farley, 2019). This modality removed barriers that exist in rural and remote clinical settings. Online platforms also remove the restriction of scheduling barriers, allowing a flexible approach to access continuing education opportunities. A case-based scenario and final exam enhanced online course work to consolidate learning outcomes (Hsu et al., 2014). Theory, knowledge and skill gained were strengthened with practical experience in the final phase of the course (Markaki, 2020).

2.2.7.4.3 DEVELOPMENT

The application of theoretical knowledge is based on perioperative practice standards and the application of SDoH in surgical care (Raphael et al., 2020; ORNAC, 2021). Developing clinical guidelines advances the perioperative nurses' role and responsibilities (Committee on Health Care for Underserved Women, 2018). It is imperative that perioperative nurses are competent in assessing patient statuses and identifying the modifiable SDoH risk factors to provide resources or referrals that are appropriate to support the successful outcome of the surgical patients. For example, when implementing an appropriate intervention such as referral to a social worker to obtain secured housing for an at-risk patient. The learning objectives were to understand what SDoH are and strategies to mitigate risk.

Course content development is based on literature, research, and evidence-based practices. Learning and knowledge were shared among learners in an online format. A combination of videos, games, quizzes and case scenarios were incorporated in each session (Crowley-Barnette et al., 2020). Consolidation of knowledge was demonstrated through the final online module and exam.

2.2.7.4.4 IMPLEMENTATION

The PAC CE project required no financial sponsorship to support the online course development. Before initiating the PAC CE course, learners were supported to procure freely available equipment, healthcare databases, and free digital teaching and learning platforms. A simple web search revealed that the development of a 1-hour online course requires an average of 100-160 hours to produce and translates to a cost of approximately $22 000 (Cubja, 2020). Applying for funding through AHS professional development subsidies and Rural Health Professional Action Plan can be considered for future expansion.

2.2.7.4.5 EVALUATION

Evaluation is an integral part of continuing education program design. Incorporating feedback and assessment throughout the program allowed for a flexible achievement of short and long-term project goals (Kirkpatrick, 1996; Praslova, 2010). The PAC CE course utilized Kirkpatrick's four-level framework: reaction, learning, application, and impact.

The evaluation measured the program's essential learning outcomes (AHS, 2011; Praslova, 2010). Evaluation commenced at level I, measuring program stakeholders' satisfaction, specifically program participants. Level II measured the degree to which the nurses gained knowledge and understanding. This also included the nurse's anticipated application of SDoH and PAC knowledge to practice. Level III measured the degree of actual learning applied to the role. Level IV was not measured, as it evaluates the impact on the organization and long-term outcomes. This level IV evaluation can be considered for future program expansion.

This evaluation assessed the relationship between surgical outcomes and the PAC CE project through AHS employer feedback and learners final exam results. Learning was linked to program objectives through stakeholder satisfaction (Alsalamah & Callinan, 2021). All stakeholders involved in the course were encouraged to complete a survey to evaluate their experience and learning outcomes. Results from program evaluation supported a dynamic expansion and refinement of course content related to rural PAC education.

2.2.8 LITERATURE REVIEW SUMMARY

Operating rooms and the surgical journey are complex and require advanced nursing knowledge and skills (ORNAC, 2021). Furthermore, in Alberta, a baccalaureate degree is required to enter practice and a master's degree for all advanced practice roles (CRNA, 2019). Perioperative nurses are expected to perform in these roles and to utilize evidence-based practice

to provide care to surgical patients across the continuum, including preoperative care. Unfortunately, a significant portion of rural perioperative development is delivered through unstructured experiential learning from senior colleagues (Smith et al., 2015). This methodology is insufficient to care for complex, vulnerable patients who require nurses to think critically and apply best practice standards to the uniqueness of rural PAC settings (Smith et al., 2015).

Current healthcare initiatives aimed at developing and supporting continued quality rural surgical programs produce a synergistic effect on other primary healthcare services and vice versa (Iglesias et al., 2015). Rural and remote communities in Canada depend on robust surgical programs to cement maternity services and emergency care (AHS, 2015; Iglesias et al., 2015). Ensuring trained and competent perioperative nurses is integral to achieving quality surgical programs. Supporting the development of surgical services through perioperative nursing continuing education, like this project, produces opportunities for successful healthcare outcomes beyond the narrow lens of the operating room.

CHAPTER 3: PROJECT DESCRIPTION

3.1 LOGIC MODEL

A project Logic Model of *Preparation Before the Operation* was developed. (See Appendix A: Logic Model). This provided a visual representation of the proposed PAC CE course and a concise overview of the program goals. The logic model illustrated the links between course planning, implementation, management, and evaluation. The final evaluation results were intended to inform and support the future expansion of the rural perioperative course to a full curriculum. External factors I considered were the current political environment, priorities of organization and government, perceptions and preferences of nurses, and nursing burnout related to workload and pandemic. Assumptions included the perceived importance of

perioperative education opportunities from rural perioperative nurses, organizational support from critical stakeholders and identified clinical leadership in perioperative educator capacity (ORNAC, 2021; AHS, 2015).

3.2 ETHICAL CONSIDERATIONS

For this project, the Projects Ethics Community Consensus Initiative (ARECCI) Screening Tool was completed (Alberta Innovates, 2022). ARECCI Screening Tool results have three categories of risk: minimal, somewhat more than minimal, and greater than minimal. Scores below 8 indicated ARECCI guidelines and recommendations can be followed. A score between 8 and 46 recommended a second opinion review; however, the guidelines and recommendations should still be utilized.

The PAC perioperative project's final risk assessment score was 23. The score was assigned due to the risk of inexperienced leads and a power relationship between learner and instructor. Although this project did not require a formal research ethics board review, the risks identified by applying the ARECCI Screening Tool nevertheless needed to be addressed.

To mitigate the inexperienced lead risk, close and continued collaboration with the project advisor was conducted to ensure the project remained supervised. A robust mentorship culture was apparent between the University of Lethbridge instructor and myself as a student. This open and supportive culture in academia minimized the risk associated with my own developing knowledge in project management.

There was also a risk associated with power imbalance and recruiting a potential captive audience, as nurses are both participants and employees of the organization (Queens University, 2017). This had the potential to create an expectation of participation due to the AHS

authoritative relationship as these nurses are also employees. To mitigate this risk, transparent disclosure of voluntary participation, expectations and informed verbal consent was gained.

The risk associated with the power relationship between myself as the project lead and nurses as participants was mitigated by strategic consultation. Participants were active partners and had input throughout the course delivery. This helped to address the perceived project lead dominance over the goals. This strategy simultaneously supported rural perioperative nurse collaboration on course objectives and influenced the course delivery to support their practice goals.

Acknowledgement that registered nurses, particularly perioperative nurses, have an ethical responsibility to engage in strategies to improve surgical care and patient outcomes was also considered (CRNA, 2013, ORNAC, 2021). Conversely, not doing anything and continuing to accept the current deficient education prospects in rural healthcare settings can negatively impact surgical outcomes. As such, depriving rural surgical patients of educated and prepared perioperative nurses continued to put patients at risk.

3.3 STAKEHOLDER ENGAGEMENT STRATEGY

Stakeholder engagement was conducted simultaneously with the course development, implementation and evaluation. Engaging various stakeholders provided diversity and maximized the acceptance and adaptability of the rural PAC CE course within rural healthcare's unique and complex environment (Gillespie, 2014). This ensured sustainability for the PAC CE course throughout the four weeks. The following comprehensive stakeholder engagement strategy was a proactive approach to establishing a collaborative relationship between stakeholders and myself as the project lead.

The first strategic step was to create a comprehensive stakeholder list with an immediate and remote interest in the project. The list included individuals and groups within provincial and national organizations such as Alberta Health Services, Alberta Surgical Initiative and Operating Room Nurses Association of Canada. Local stakeholders within the South Zone of AHS included surgical practice leads, surgeons and anesthesiologists, patients and families, perioperative nurses, operating room technicians, healthcare administration, managers, and surgical educators. The list was narrowed to three core stakeholder groups: perioperative nurses, site managers, and educators.

I excluded the following from the core stakeholders: organizations, patients, families, surgeons, anesthesiologists, operating room technicians and administration. Patients and families receive nursing services enhanced by this program. Surgeons and anesthesiologists are vital multidisciplinary team members, although their priority is the immediate medical care of the surgical patient. Other regulated nurses, such as licensed practical nurses or operating room technicians, were excluded due to their limited role as frontline technicians in the operating room. These nurses currently only engage in intraoperative care of the surgical patient. I also excluded administration and organizations, as they would be considered a high-level overseer of the surgical initiatives. It is essential to recognize that the core stakeholder list had the potential to be amended if required due to changes or unanticipated barriers in the project timeline.

Stakeholder engagement occurred at the strategic stages of the PAC CE project. The preliminary meeting was attained through phone calls. This strategy supported open dialogue on the feasibility of course implementation over the next 30-45 days. Questions to gain initial feedback were completed through a digital feedback platform. (See Appendix B: Surveys). I engaged the educators and site managers prior to connecting with rural perioperative nurses. This

was to promote acceptance of the project within the recourse limited environment of rural healthcare. Leadership buy-in was essential to continue forth with the project delivery.

The secondary stakeholder engagement was targeted at perioperative nurses during the course implementation. Strategic engagement through informal participant feedback was embedded into course content via Poll Everywhere. This platform seamlessly engaged participants in real-time, allowing for takeaway action items and assessment of learning. Post-engagement occurred immediately after course completion via Poll Everywhere. This ensured participant feedback at the end of the course.

Email correspondence was the primary mode of communication for providing updates to core stakeholders. It was essential to continuously record, document, and share the project's progress, as this supports continued engagement and the management of stakeholder expectations. It was also necessary to recognize that there may be a potential disagreement or conflict between stakeholder groups. Early disclosure to core stakeholders included an awareness that all feedback and suggestions would be considered, but not all would be incorporated (Stobierski, 2020).

3.4 PAC COURSE OUTLINE

The course outline provided a guide for learners and a reference for all other stakeholders (University of Lethbridge, 2022). The course outline directed rural perioperative nurses regarding expectations, schedule and required course material (University of Lethbridge, 2022). The course outline also operated as a physical reference to key stakeholders. This ensured transparency in course outcomes and expectations. The course was delivered over four consecutive weeks to allow flexibility in time management for learners. Learners were asked to complete eight modules in total:

1. patient and family engagement
2. SDoH
3. assessment
4. diagnosis
5. planning
6. implementation
7. evaluation, and
8. application of theoretical knowledge and comprehensive professional practice.

Each module provided the foundation for the next learning objective, and the nursing process guided learning in an established and familiar approach. Each module was linked to the five key stages in the nursing process. This provided a framework to guide the systematic steps required to offer competent and comprehensive patient-centered surgical care. The course content enhanced the learner's awareness of ORNAC standards and guidelines in the PAC clinical setting. It also solidified the importance of promoting primary health education and patient optimization in the preoperative phase (ORNAC, 2021).

High-level learning objectives included demonstrating leadership in clinical decision-making in collaboration with the multidisciplinary team and utilizing evidence to support best practices throughout the pre-surgical phase. The objectives also supported learners in identifying risk and protective factors associated with preoperative optimization of surgical patients. Core learning objectives included applying enhanced knowledge and skills in the rural perioperative PAC role. Learning objectives required learners to describe the SDoH and the impact on surgical outcomes, administer the SDoH assessment tool, explain nursing diagnoses for adult and

pediatric patients, apply appropriate pre-operative interventions to improve surgical outcomes and describe methods for evaluating the effectiveness of the nursing intervention.

3.5 PAC COURSE CONTENT

The rural PAC CE course, *Preparation Before the Operation,* was developed exclusively as an online course comprised of synchronous and asynchronous modules. (See Appendix C: CE PAC course) The course design was modelled after a Pan American Health Organization and WHO for International Nursing Quality Improvement Project (Markaki et al., 2019). They continue to aim to build capacity for nursing education through online course development and administration. In addition, reputable international courses and curriculums implemented in urban and rural sites were used as a model to guide this project. To support a Canadian perspective, ORNAC perioperative standards and guidelines enhanced objectives, learning activities, and assessments (ORNAC, 2021). In addition, the project timeline supported a systematic path to achieve project completion. (See Appendix D: Timeline).

The course focused on developing nursing knowledge in promoting primary health education and optimization in the preoperative care phase. Knowledge acquisition on how SDoH impacts surgical patients and improving preoperative practice through evidence-based assessment strategies and interventions was incorporated throughout each module. A preoperative SDoH assessment tool specific to the rural surgical patient supported competency in professional nursing practice (ORNAC, 2021; Spruce, 2019). A holistic approach to patient care was incorporated to highlight the rural surgical patient's social, cultural, and environmental needs (ORNAC, 2021). Clinical knowledge gained in theoretical practice was applied through case-based study and examination. ORNACs position statement underpinned the course and supported perioperative registered nurses' expanding role in primary healthcare (ORNAC, 2021). The

Fundamental Principals and Position Statement on the Role of the Registered Nurse in Primary Healthcare heightened the learner's awareness of ORNAC standards in the preoperative clinical setting.

3.6 PAC COURSE IMPLEMENTATION

The PAC CE course, *Preparation Before the Operation*, was delivered to five rural sites in Alberta: Pincher Creek, Crowsnest Pass, Cardston, Taber and Brooks, as these sites had active rural surgical programs. In collaboration with zone leadership, each rural site administration provided the approval to conduct online implementation and determine the most appropriate perioperative units. Cooperation was necessary between the educator, project lead, and operating room manager to discuss the proposal and procedures required to complete the course. Perioperative nurses were recruited through a voluntary process. In addition, the singular perioperative and rural educators we invited as observers.

Eleven perioperative nurses self-identified and confirmed attendance through email correspondence. The cohort was informed of the expectation to complete the course work during regularly scheduled shifts. They learners engaged in a collaborative space to apply theoretical and practical knowledge in a scenario-based platform. Utilizing the previously defined ADDIE framework and PAC nursing processes was reinforced throughout each module. Purposeful integration of primary health initiatives was guided by ORNAC guidelines, standards, and position statements and continued to be at the forefront of course content and learning objectives. The procedure to screen rural surgical patients for SDoH was integrated into the PAC framework, as this aspect of preoperative nursing care is not standard practice.

3.7 PAC COURSE EVALUATION

Participant engagement strategy was achieved through two informal stakeholder feedback surveys. These surveys were titled (a) preCE manager, (b) preCE nurse, (c) preCE educator and (d) course evaluation. (See Appendix B: Surveys). Gathering data in the initial program implementation provided valuable data to guide future decisions and inform any needed adjustments. This was demonstrated through preliminary feedback from rural educators. Initial data revealed a deficiency in comprehensive perioperative knowledge with respect to both nurses and educators. In addition, educator resources to adequately support the PAC CE course were limited. This awareness provided an opportunity to consider adjusting the course's target population from rural perioperative nurses to educators. This trajectory change was briefly considered. However, redeveloping the course to teach educators appropriately and adequately was beyond the time allowance and scope of the project. In place of this, the educators were invited to attend the course as observers. This allowed the educators to participate as learners in the course through a supportive and inconspicuous role. Maintenance of their clinical position and reputation was essential to preserve.

Learner evaluation was gained throughout the course by intermittent quizzes, case scenarios and a final exam. This method was utilized to monitor and evaluate the quality of learning based on perioperative standards and evidence-based practices. The final exam results demonstrated learner achievement at the completion of the eight modules (Olsen et al., 2021). The final grade from the case scenario and exam was to appraise the learner's understanding, skills, and comprehension of preoperative care in the rural context. All learners were provided with the covert answer key. This method of self-evaluation supported learners in enhanced understanding of the nursing and primary health concepts covered (Olsen et al., 2021).

CHAPTER 4: FUTURE PERIOPERATIVE RURAL NURSING PRACTICE

4.1 PERSONAL REFLECTION: MAJOR LESSONS LEARNED

As the project lead, lessons learned were derived from continuous and intentional attention to all stakeholders' central and peripheral experiences. A handwritten spreadsheet was utilized to document experiences and observations from planning to implementation and the completion stage. It was equally important to note the failures and successes of the project.

An important lesson learned was the identification and management of scope creep throughout the PAC project. Scope creep is defined as stakeholders' inclination to change the project's outcomes or intentions (Guanci & Bjork, 2019). Primary stakeholders requested that course content be expanded beyond the preoperative phase. Their perspective and requests were explored through stakeholder feedback and engagement. It was discovered that the intention was to have access to a comprehensive rural-focused perioperative program, including endoscopy knowledge. I did discuss the inability to advance the PAC project's scope to include endoscopy, intraoperative and postoperative phases. The rationale behind denying the expansion of the course was directly related to the limited time frame and resources I had in this final MN semester. However, I did suggest their requests be brought forward through the organization's educational resources and planning committee. The intention was to challenge the expectation and substitute them with a feasible alternative. From experiencing this degree of scope creep, I learned how to identify it early in the project. The ability to contain project expansion, redirect resources and refocus on the identified goal will ensure that short, medium and long terms outcomes are achieved. Ensuring the project remained on task and achieved completion supported my continued development as a nursing project lead.

In the initial stages of the PAC CE project, all stakeholders disclosed an authentic deficit in the clinical educator's preoperative knowledge. The two educators also confirmed this gap. The most significant barriers reported were limited FTE (full-time equivalency) allocation. The urban perioperative educator reported that only 0.2 FTE of her FTE is allocated to the five rural sites. The rural educator said no FTE was issued to perioperative-specific education. To compound the challenges further, both educators reported no advanced knowledge or experience in preoperative nursing. As such, the clinical educator barriers for rural perioperative nurses are a factor to consider in exploring further development and implementation of comprehensive rural perioperative education. I learned from this to challenge my assumptions of the degree of knowledge clinical educators possess. I will also use this experience in the future to thoroughly challenge my subjective views on traditional roles and responsibilities in healthcare. I will take the additional time and resources to understand the barrier and successes of all the project participants.

Another lesson learned was the learners' declining motivation and accountability over the four weeks. Next time, it would also be valuable to assess the readiness of self-directed learning for perioperative nurses explicitly. Nurses who exhibit this skill are successful in on-online environments as they are intrinsically self-motivated and have a high degree of self-direction (Ballad et al., 2022). To support continued incentive, it would be valuable to institute a recognition or award for the completion of the course. There was no plan to award or provide credit at completion of the course as this CE course was part of my final MN semester and not part of the organizational education system yet. I have learned that increasing participant attendance in an online environment is supported by a motivational rather than a punitive approach (Joseph et al., 2021).

I did assess the learner's ability via a single closed-ended question in my initial evaluation process. The feedback I received did not have any nurses self-identify as requiring remedial assistance with online access or programs. However, five out of the eleven nurses were significantly challenged with online navigation and accessing common programs once the course was underway. Varying degrees of technical skills of the learners in online digital environments was another lesson learned. I underestimated the degree of digital literacy the nurses had. The online skills and knowledge required to interact with the online PAC course were too advanced for some learners. Initial mitigation of anticipated digital challenges and requirements were addressed in the course overview. However, the prerequisite to access standard digital programs, such as Adobe, Microsoft teams, and Poll Everywhere, was only listed. The reality demonstrated that learners required extensive support accessing the platforms. To mitigate this next time, I would do a brief digital literacy assessment and then provide targeted resources to support learners' understanding and confidence in accessing online platforms. My learning from this experience is to thoroughly understand the degree of knowledge and skills participants have in online environments and have supporting resources readily available.

Furthermore, the original PAC objectives included a synchronous one-hour online module. The 11 learners could not decide on a cohesive time and date, despite utilizing a self-directed online scheduling tool. The synchronous group online session was changed to an individual case study and exam. Overall, the PAC project was delayed one week as a result. This time was required to redevelop the lesson plan, modality, and assessment of learning. There is value in underscoring the requirement of attending a set date and time for the synchronous component from the initial registration process. However, the alternative case study and exam were appropriate to assess the degree of preoperative knowledge. The benefit was to the

individual learner, as this format allowed everyone to complete the course on their own time. In the future, I would still encourage a comprehensive synchronous session for the final evaluation of learning objectives. Synchronous sessions do create an environment of collaboration in real-time, an opportunity to seek clarity, sharing of experiences and the opportunity to establish relationships and connections. This culture is essential to continue to support in rural practice settings as nurses are at risk of experiencing professional isolation (Kulig et al., 2015).

4.2 IMPLICATIONS FOR FUTURE NURSING PRACTICE

The intent of developing and administering this specific CE PAC course was to inform and support the future development of a comprehensive rural perioperative curriculum. The prospective curriculum should encompass all aspects of the surgical experience, as perioperative nurses are accountable for coordinating care throughout the preoperative, intraoperative, and postoperative phases (ORNAC, 2021). As such, the curriculum must adhere to the guidelines and practice standards by ORNAC and the position statement on perioperative education requirements (ORNAC, 2021). This future project will require substantial human and financial resources to support development via comprehensive multilevel course development.

Transformations in education are one of the most significant implications for nursing practice. Developments in interactive online curriculums for specialty areas are wide-reaching and an innovative alternative for nursing education. The virtual education trend is driven by nursing requests and the recent pandemic restrictions. Considering rural nurses' challenges in accessing and attending continuing education courses, the trend in virtual education will continue. Addressing the gap in accessibility and expanding the ability of rural nurses to participate in professional development opportunities is critical for future nursing practice.

Rural tailored education programs and curriculums are being developed or are currently in practice in Australia, British Columbia, and the United States. This flexibility from core nursing curriculum constraints to address the gap in the nursing workforce is innovative and contributes to the future progression of the nursing profession. Addressing the unique needs of rural surgical patients and nurses contributes to creating opportunities to meet the needs of the ever-evolving healthcare system.

Hospitals and universities are moving towards partnerships to recruit nurses in the perioperative field. This is not a new trend but a return to the previous model of perioperative nurse cultivation. The gap created in the 1980s from perioperative instruction being removed from the primary registered nurse curriculum was filled by hospital-based programs based on the preceptorship model of education (Niessen, 2020). Healthcare organizations are also developing residency programs to address the gap in perioperative nursing practice. Candidates are recruited and selected for their suitability for the surgical program. Creating opportunities for nurses to advance their knowledge and skills in specialty areas has addressed some barriers to recruitment and retention (Niessen, 2020). Cultivating perioperative nurses in national nursing shortages because of high turnover, attrition, and retirement is key to ensuring the population's health (Hewko et al., 2019). Improving the quality of life and reducing suffering related to surgical waits is vital. A population's health depends on the availability of skilled professionals to meet the demands of surgery (Sutherland et al., 2019 & Bryant, 2020).

The program goal was to develop a standardized PAC continuing education course to improve the quality and consistency of comprehensive perioperative training in Alberta's remote and rural healthcare settings. It was also aimed at supporting rural and remote healthcare systems

to identify strengths and build capacity to improve surgical outcomes and optimize resources in rural healthcare settings. These goals are aligned with the interest of rural perioperative nurses.

4.3 ADVANCES IN SCOPE OF PRACTICE

As the perioperative nurse's role expands beyond the traditional role in operating rooms, the education system needs to keep pace. The importance of contributing to and practicing evidence-based perioperative nursing results in improved patient outcomes and decreased demands on healthcare resources (Lehane et al., 2019). Current trends and issues impacting perioperative nursing scope include challenging the inequalities surgical patients may experience concerning the SDoH and rurality.

Perioperative nursing is moving towards a patient and family-focused care model. This is a departure from the traditional role and responsibilities of an operating room nurse who is primarily responsible for intraoperative nursing. Adopting the primary health model of care has transformed perioperative nursing into a comprehensive specialty. Perioperative leaders are shifting nursing care towards integrating evidence-based practices, observing patients and families as well units, and considering the environment patients come from and will return to.

4.4 CHANGES TO STANDARDS OF PRACTICE

The perioperative standards of practice and related competencies have expanded to include progress in ethics, advocacy, respectful and equitable practice, academic enquiry, environmental health, and resource utilization (ORNAC, 2021). Perioperative practice is outpacing most other practice specialties due to the advances in surgical technology, research, and development (ORNAC, 2021). In response to the trends in surgery, continuing education opportunities are required to match the demand for evidence-based practicing nurses. The challenges nurses face is managing the changes to ensure patients experience the best outcomes. Changing perioperative

nursing through innovation, knowledge generation and transfer is key to ensuring perioperative nursing remains a valid specialty practice with excellence in clinical leadership.

4.5 COMPETENCIES AND INSIGHTS

At this stage of my professional development as an capable Master of Nursing (MN) student, I have gained in-depth nursing knowledge as indicated by domains 1 through 6 of the Canadian Association of Schools of Nursing (CASN, 2015). These are (a) knowledge, (b) research, methodologies, critical inquiry, and evidence, (c) nursing practice, (d) communication and collaboration, (e) professionalism, and (f) leadership.

My knowledge was constructed from the foundation of my baccalaureate nursing degree. While my final project focused on perioperative nursing, the theoretical and conceptual knowledge I gained from the MN graduate program can be translated to future professional endeavours I am sure to encounter throughout my career.

The MN program has strengthened my capacity in synthesizing research, applying methodologies and frameworks, developing critical inquiry, and applying evidence in my practice. Completing the MN project has ensured that I can clearly demonstrate my understanding of current evidence and effectively apply it to a nursing practice problem.

I have obtained experience in research and scholarship. This has been invaluable to my practice, as I have not had the prospect to explore this role in nursing. The opportunity to participate in research has advanced the field of rural perioperative nursing. Ensuring evidence-based practice is brought to the forefront of patient care has ultimately supported improved outcomes for vulnerable populations.

I have acquired the ability to effectively communicate with confidence and assurance in the complex culture of healthcare. The ability to articulate a nursing problem and provide a

collaborative solution is one of my most valuable domains. Achieving a master' level of education is a feat in itself. However, translating this expertise into a clear and simplified message is vital. Understanding my audience and sphere of influence as healthcare professionals within acute care settings is equally essential.

I have advanced my professional status with the accomplishment of the MN program. I have a deeper understanding of ethics relating to scenarios beyond bedside patient care. Utilizing the ARECCI tool expanded my connection between perceived ethical dilemmas and actual risk. This domain has been solidified by completing the *Preparation Before the Operation* project while maintaining ethical standards. The self-awareness to extrapolate on the ethical scenarios I encountered will support my capability to address perceived and potential ethical scenarios in my current and future career.

My leadership capacity as a nurse had developed beyond my expectations. I started this program before the pandemic when healthcare was relatively routine and predictable. These last 2 ½ unsettled years have challenged and progressed my competency as a leader. My ability to advocate for improved patient outcomes through supporting nurses in practice is a result of this MN program. I can confidently say this MN program has reinforced my ability to positively influence healthcare's social and political culture during this pandemic.

CONCLUSION

Improving patient outcomes through CE programs for nurses to expand their practice capacity must be a priority for healthcare organizations today. Nursing education related to SDoH, underpinned by the physical, ethical, moral, and legal accountabilities of perioperative nurses, supports optimal outcomes for surgical patients. This project supported rural nurses' ability to understand their crucial role in surgical care and their influence on improving the

health and well-being of surgical patients. It also endorsed nurses' advanced knowledge in preoperative care.

The literature demonstrated that nurses who have access to continuing education opportunities report positive workplaces and are less likely to leave the facility (Ball et al., 2015; CARRN, 2020). Nurses will experience better job satisfaction, thereby reducing attrition, if they have the opportunity and capacity to access rural tailored education. Sustaining continuing education in rural practice will also satisfy AHS's 2020-2022 business plan to improve the experience of its people through the measurement of workforce engagement rates (AHS, 2021).

Patients will also benefit from rural nurses engaging in continuing education. Educational initiatives to support rural nurses' ability to understand the impact and influence of their position in surgical care and the effect on improving the health and well-being of surgical patients are necessary. Patients expect their surgical experience, including perioperative nursing care, to be delivered with quality and excellence regardless of the setting. Perioperative surgical nursing needs to adapt to meet the need of surgical patients through the continuum of their surgical journey, including evidence-based care routed in primary healthcare frameworks.

Current evidence supports the correlation between advanced continuing education for perioperative nurses and the positive influence on patient outcomes. Expanding the perioperative scope of practice should continue to extend beyond the confines of operating rooms. The ability to comprehensively assess, diagnose, plan, implement, and evaluate surgical patients in unique populations, such as rural and remote settings, contributes to optimal surgical outcomes. Education is essential to support rural nursing capacity in sustainable rural healthcare planning. Continuing education courses will support the alignment of healthcare needs with appropriate healthcare services.

REFERENCES

Alberta Health Services. (2021). AHS planning and performance: 2020-22 health plan and 2021-22 business plan. https://www.albertahealthservices.ca/assets/about/org/ahs-org-hpbp-2020-2022.pdf

Alberta Health Services. (2015). Rural facility clinical services capability framework manual. https://insite.albertahealthservices.ca/assets/pcc/tms-pcc-rfcscf-manual.pdf

Alberta Innovates. (2021). ARECCI ethics guideline tool. https://arecci.albertainnovates.ca/ethics-screening-tool/

Altmiller, G. (2020). Perioperative nursing unfolding case study: Bringing the operating room experience to the classroom. *Nurse Educator, 45*(5), 231-232. https://doi:10.1097/NNE.0000000000000844

Andermann, A., & CLEAR Collaboration. (2016). Taking action on the social determinants of health in clinical practice: A framework for health professionals. *Canadian Medical Association Journal, 188*(17-18). https://doi.org/10.1503/cmaj.160177

Andermann, A. (2018). Screening for social determinants of health in clinical care: moving from the margins to the mainstream. *Public Health Rev* 39, 19. https://doi.org/10.1186/s40985-018-0094-7

Anolak, H., Coleman, A., & Sugden, P. (2018). Is the "flipped" pedagogical model the answer to the challenges of rural nursing education?: A discussion paper. *Nurse Education Today, 66*, 15-18. https://doi.org/10.1016/j.nedt.2018.03.026

Ball, K., Doyle, D., & Oocumma, N. I. (2015). Nursing shortages in the OR: Solutions for new models of education. *AORN Journal, 101*(1), 115-136. https://doi:10.1016/j.aorn.2014.03.015

Ballad, C. A. C., Labrague, L. J., Arcalyd Rose, R. C., Turingan, O. M., & Siham Mahmoud, A. B. (2022). Self-directed learning readiness and learning styles among Omani nursing students: Implications for online learning during the COVID-19 pandemic. *Nursing Forum, 57*(1), 94-103. https://doi.org/10.1111/nuf.12664

Ballou, M., Sortman, S., Meddings, K., Locker, J., & Krieghauser, K. (2015). Double agents: cross training PACU nurses to inpatient operating room circulators. *Journal of PeriAnesthesia Nursing, 30*(4), e36-e36. https://doi:10.1016/j.jopan.2015.05.096

Bennett, L. L. (2017). The gap between nursing education and clinical skills. *ABNF Journal, 28*(4), 96-102.

Billings, D., & Halstead, J. A. (2011). Teaching in nursing: A guide for faculty (4th ed.). St. Louis: Saunders.

Bisch, S., Nelson, G., & Altman, A. (2019). Impact of nutrition on enhanced recovery after surgery (ERAS) in gynecologic & oncology. *Nutrients, 11*(5), 1088. https://doi.org/10.3390/nu11051088

Both-Nwabuwe, J., Dijkstra, M., Klink, A., & Beersma, B. (2018). Maldistribution or scarcity of nurses? The devil is in the detail. *Journal of Nursing Management, 26*(2), 86- 93.

Bryant, E. A. (2020). British Columbia's underutilization of registered nurse first assists: A barrier to achieving the quadruple aim. *ORNAC Journal, 38*(4), 15–30.

Canadian Association of Schools of Nursing. (2015). National Nursing Education Framework.

Canadian Institute for Health Information. (2019). Nursing in Canada: A lens on supply and workforce. Ottawa, ON.

Canadian Institute for Health Information. (2021). Nursing in Canada, 2020- data tables. http://nursing-in-Canada-2011-2020-data-tables-en.xlsx

Canadian Nurses Association. (2022). Certification nursing practice specialties. https://www.cna-aiic.ca/en/certification/initial-certification/certification-nursing-practice-specialties

CARRN. (2020). Rural and remote nursing practice in Canada: An updated discussion document. https://www.carrn.com/images/pdf/CARRN_RR_discussion_doc_final_LR-2.pdf

Cheng, G., & Chau, J. (2016). Exploring the relationships between learning styles, online participation, learning achievement and course satisfaction: An empirical study of a blended learning course. British Journal of Educational Technology, 47(2), 257-278. https://doi.org/10.1111/bjet.12243

College of Registered Nurses of Alberta. (2019). Entry level competencies for the practice of registered nurses. https://www.nurses.ab.ca/media/5ndpyfar/entry-level-competencies-for-the-practice-of-registered-nurses-mar-2019.pdf

College of Registered Nurses of Alberta. (2013). Practice standards for regulated members. https://www.nurses.ab.ca/media/ztap24ri/practice-standards-for-regulated-members-2013.pdf

Conny, C. S. M., & Wan-Yim, I. (2016). The effectiveness of nurse-led preoperative assessment clinics for patients receiving elective orthopaedic surgery: A systematic review. *Journal of PeriAnesthesia Nursing, 31(*6), 465-474.

Cinei, J. (2021). Promoting perioperative practice through an innovative undergraduate education program. *ORNAC Journal, 39*(3), 64-65.

Crowley-Barnett, J., Pagano, T., & Kent, M. (2020). Engaging perioperative learners using online game-based education. *AORN Journal, 112*(5), 447-456.

Danko, C. L. (2019). The effect of an undergraduate perioperative nursing course on safety knowledge. *AORN Journal, 109*(3), 346-354. https://doi:10.1002/aorn.12613

Duane, B. T., & Satre, M. E. (2014). Utilizing constructivism learning theory in collaborative testing as a creative strategy to promote essential nursing skills. *Nurse Education Today, 34*(1), 31–34. https://doi-org.ezproxy.uleth.ca/10.1016/j.nedt.2013.03.005

Duchscher, J. B., & Windey, M. (2018). Stages of transition and transition Shock. *Journal for Nurses in Professional Development, 34*(4), 228.

Dumchin, M. (2010). Redefining the future of perioperative nursing education: A conceptual framework. *AORN Journal, 92*(1), 87-100. https://doi:10.1016/j.aorn.2009.11.068

Farley, M. (2019). The power of perioperative online classrooms. *ORNAC Journal*, *37*(2), 13–31.

Fisher, M., & Wolf, D. (2021). Remote learning environments: Lessons learned from collaborative small group activities. *Journal of Nursing Education, 60*(2), 120. https://doi.org/10.3928/01484834-20210120-13

Garasia, S., & Dobbs, G. (2019). Socioeconomic determinants of health and access to health care in rural Canada. *University of Toronto Medical Journal, 96*(2), 44-46.

Gargano, T., & Throop, J. (2017). Logging on: Using online learning to support the academic nomad. *Journal of International Students, 7*(3), 918-924. https://doi.org/10.5281/zenodo.570041

Girard, N. (2017). Development of an educational game to set up surgical instruments on the mayo stand or back table: Applied research in production technology. *AORN Journal, 106*(2), 172-177. https://doi:10.1016/j.aorn.2017.06.010

Guanci, G. & Bjork, C. (2019). An introduction to project management. *Nursing Management, 50*(10), 20-26. https://doi:10.1097/01.NUMA.0000580584.07510.9b.

Halpin, Y., Terry, L. M., & Curzio, J. (2017). A longitudinal, mixed methods investigation of newly qualified nurses' workplace stressors and stress experiences during transition. *Journal of Advanced Nursing, 73*(11), 2577-2586. https://doi:10.1111/Jan.13344

Health-evidence.ca. (2009). Developing an efficient search strategy. http://www.healthevidence.org/documents/practicetools/HETools_DevelopingEfficientSearchStrategyUsingPICO_18.Mar. 2013.doc.

Hewko, S., Reay, T., Estabrooks, C., & Cummings, G. (2019). Retirement decision-making among registered nurses and allied health professionals: A descriptive analysis of Canadian longitudinal study on aging data. *Healthcare Policy, 15*(2), 20–27.

Hines, S., Munday, J., & Kynoch, K. (2013). Effectiveness of nurse-led preoperative assessment services for elective surgery: A systematic review update protocol. *JBI Database of Systematic Reviews & Implementation Reports, 11*(9), 73–83. https://doi-org.ezproxy.uleth.ca/10.11124/jbisrir-2013-541

Hong, H., Issenberg, S., & Roh, Y. (2020). Effects of standardized patient-based training on surgical nurses' competencies for managing hand injuries. *Journal of Continuing Education in Nursing, 51*(4), 189-196. https://doi:10.3928/00220124-20200317-09

Hsu, T., Lee-Hsieh, J., Turton, M., & Cheng, S. (2014). Using the ADDIE model to develop online continuing education courses on caring for nurses in Taiwan. *Journal of*

Continuing Education in Nursing, 45(3), 124-131. https://doi:10.3928/00220124-20140219-04

Iglesias, S., Kornelsen, J., Woollard, R., Caron, N., Warnock, G., Friesen, R., & de Klerk, B. (2015). Joint position paper on rural surgery and operative delivery. *Canadian Journal of Rural Medicine, 20*(4), 129-138.

Jackman, D., Myrick, F., & Yonge, O. (2010). Rural Nursing in Canada: A Voice Unheard. *Online Journal of Rural Nursing and Health Care, 10*(1), 60-69. https://doi:10.14574/ojrnhc.v10i1.74

Jeppesen, K., Christiansen, S., & Frederiksen, K. (2017). Education of student nurses – A systematic literature review. *Nurse Education Today, 55*, 112-121. https://doi:10.1016/j.nedt.2017.05.005

Jones, M., Main, M., Garrett-Wright, D., Malin, C., & Pennington, A. (2021). Mental health issues among farmers: An online continuing education program for nurses. *Journal of Continuing Education in Nursing, 52*(10), 482-488. https://doi:10.3928/00220124-20210913-08

Joseph, M., Bukinham, J., & Noumani, M. (2021). Using digital badges to enhance nursing students' attendance and motivation. *Nurse Education in Practice,* 52 https://doi.org/10.1016/j.nepr.2021.103033

Kallio, H., Kangasniemi, M., & Hult, M. (2022). Registered nurses' perceptions of having a calling to nursing: A mixed-method study. *Journal of Advanced Nursing, 78(*5), 1473–1482. https://doi-org.ezproxy.uleth.ca/10.1111/jan.15157

Kidd, T., Kenny, A., & Meehan-Andrews, T. (2012). The experience of general nurses in rural Australian emergency departments. *Nurse Education in Practice, 12*(1), 11-15.

Kulig, J., Kilpatrick, K., Moffitt, P., & Zimmer, L. (2015). Recruitment and retention in rural nursing: It's still an issue! *Nursing Leadership, 28*(2), 40-50.

Kunaviktikul, W., Wichaikhum, O., Nantsupawat, A., Nantsupawat, R., Chontawan, R., Klunklin, A., Roongruangsri, S., Nantachaipan, P., Supamanee, T., Chitpakdee, B., Akkadechanunt, T., & Sirakamon, S. (2015). Nurses' extended work hours: Patient, nurse and organizational outcomes. *International Nursing Review, 62*(3), 386–393. https://doi-org.ezproxy.uleth.ca/10.1111/inr.12195

Kuthan, C., Jackem, D., & Williams, A. (2016). Perioperative Cross-Training: Improving Patient Care Flow and Satisfaction. *Journal of PeriAnesthesia Nursing, 31*(4), e7-e7. https://doi:10.1016/j.jopan.2016.04.019

Knowles, M. (1975). Self-Directed Learning. Chicago: Follet.

Knowles, M. (1984). The Adult Learner: A Neglected Species (3rd Ed.). Houston: Gulf Publishing.

Knowles, M. (1984). Andragogy in Action. San Francisco: Jossey-Bass.

Leads. (2018). The health leads screening toolkit. https://healthleadsusa.org/resources/the-health-leads-screening-toolkit/

Lehane, E., Leahy-Warren, P., O'Riordan, C., Savage, E., Drennan, J., O'Tuathaigh, C., O'Connor, M., Corrigan, M., Burke, F., Hayes, M., Lynch, H., Sahm, L., Heffernan, E., O'Keeffe, E., Blake, C., Horgan, F. & Hegarty, J. (2019). Evidence-based practice education for healthcare professions: An expert view. *BMJ Evidence-Based Medicine 24*:103-108.

Lee, S. M., Landry, J., Jones, P. M., Buhrmann, O., & Morley-Forster, P. (2015). Long-term quit rates after a perioperative smoking cessation randomized controlled trial. *Anesthesia & Analgesia, 120*(3), 582-587.

Lavoie, P., Michaud, C., Bélisle, M., Boyer, L., Gosselin, É., Grondin, M., Pepin, J. (2018). Learning theories and tools for the assessment of core nursing competencies in simulation: A theoretical review. *Journal of Advanced Nursing, 2*(1): 239–250. https://doi-org.ezproxy.uleth.ca/10.1111/jan.13416

Lubis, N., Cherian, M., Venkatraman, C., & Nwariaku, F. (2021). Global community perception of 'surgical care' as a public health issue: A cross-sectional survey. *BMC Public Health, 21*(1), 958. https://doi:10.1186/s12889-021-10936-0

McCoy, C. (2009). Professional development in rural nursing: Challenges and opportunities. *The Journal of Continuing Education in Nursing, 40*(3), 128-31.

MacKinnon, K. (2011). Rural nurses' safeguarding work: Reembodying patient safety. *Advances in Nursing Science, 34*(2), 119-129. https://doi:10.1097/ANS.0b013e3182186b86

MacLeod, M., & Place, J. (2015) Rural-Focused Nursing Education: A Summative evaluation of RNs' experiences of the rural nursing certificate program. *Quality Advancement in Nursing Education, 1*(2). https://doi.org/10.17483/2368-6669.1029

MacLeod, M. L. P., Stewart, N. J., Kulig, J. C., Anguish, P., Andrews, M. E., Banner, D., Wilson, E. (2017). Nurses who work in rural and remote communities in Canada: A national survey. *Human Resources for Health, 15*, 1-11. https://doi:10.1186/s12960-017-0209-0

Martin, D., Miller, A. P., Quesnel-Vallée, A., Caron, N. R., Bilkis, V., & Marchildon, G. P. (2018). Canada's universal health-care system: achieving its potential. *The Lancet, 391*(10131), 1718-1735. http://dx.doi.org/10.1016/S0140-6736(18)30181-8

Medves, J., Edge, D., Bisonette, L., & Stansfield, K. (2015). Supporting rural nurses skills and knowledge to practice in Ontario, Canada. *Online Journal of Rural Nursing & Health Care, 15*(1), 7-41. https://doi:10.14574/ojrnhc.v15i1.337

Melnyk, B. M., & Fineout-Overholt, E. (2011). Evidence-based practice in nursing & healthcare: A guide to best practice. Philadelphia: Wolters Kluwer/Lippincott Williams & Wilkins.

Murray, M., Sundin, D., & Cope, V. (2019). Benner's model and Duchscher's theory: Providing the framework for understanding new graduate nurses' transition to practice. *Nurse Education in Practice, 34*, 199-203. https://doi:10.1016/j.nepr.2018.12.003

Nissen, N. A. (2020). Developing a perioperative nurse residency program to address planned nurse retirements. *AORN Journal, 112*(2), 122–131. https://doi-org.ezproxy.uleth.ca/10.1002/aorn.13102

Noonan, P. (2011). Using concept maps in perioperative education. *AORN Journal, 94*(5), 469-478. https://doi:10.1016/j.aorn.2011.02.013

Olsen, J. M., Lagunas, M. C. W., Wildenberg, C., Sohn, K. M., Hanson-Brenner, G., Jadack, R. A., & Pehler, S., R. (2021). Using standardized exams for formative program evaluation. *Teaching & Learning in Nursing, 16*(4), 371–374. https://doi:org.ezproxy.uleth.ca/10.1016/j.teln.2021.06.006

Operating Room Nurses of Canada. (2021). ORNAC standards, guidelines, and position statements for perioperative registered nurses. https://www.ornac.ca/en/standards

Patel, S., Hartung, B., Nagra, R., Davignon, A., Dayal, T., & Nelson, M. (2021). Expedited cross-training: An approach to help mitigate nurse staffing shortages. *Journal for Nurses in Professional Development, 37*(6), 20-26. https://doi:10.1097/NND.0000000000000738

Palis, A. G., & Quiros, P. A. (2014). Adult learning principles and presentation earls. *Middle East African Journal of Ophthalmology, 21*(2), 114-122. https://doi:10.4103/0974-9233.129748

Platt, M. S., Coventry, T., & Monterosso, L. (2019). Perioperative nurses' perceptions of cross-training: A qualitative descriptive study. *Journal of Perioperative Nursing, 32*(1), 19-25. https://doi:10.26550/2209-1092.1042

Qi, A. C., Peacock, K., Luke, A. A., Barker, A., Olsen, M. A., & Joynt Maddox, K. E. (2019). Associations between social risk factors and surgical site infections after colectomy and abdominal hysterectomy. *JAMA Network Open, 2*(10), 191-339. https://doi:10.1001/jamanetworkopen.2019.12339

Queens University. (2017). Ethical considerations for instructors conducting research on their students. https://www.queensu.ca/vpr/sites/vprwww/files/uploaded_files/Ethics/GREB-guidelines/EthicalConsiderationsforInstructorsConductingResearchontheirStudentsv_2017DEC13.pdf

Raphael, D., Bryant, T., Mikkonen, J., & Alexander, R. (2020). Social determinants of health: The Canadian facts. Ontario Tech University Faculty of Health Sciences.

Richardson-Tench, M., & Martens, E. (2005). From systems to tissues: A revolution in learning in perioperative education. *Education for Health: Change in Learning & Practice, 18*(1), 22-31. https://doi:10.1080/13576280500042572

Schneider, M. B. D. C. A., Hoffman, S. J., Mann, E., & Miko, S. D. P.-B. C. C.-K. (2022). Examining web-based learning to enhance nurse training and the standardization of

clinical practice within complex global nursing systems: A quality improvement case study. *Journal for Nurses in Professional Development, 38*(2), 66–70. https://doi-org.ezproxy.uleth.ca/10.1097/NND.0000000000000846

Smith, S., Sim, J., & Halcomb, E. (2019). Nurses' experiences of working in rural hospitals: An integrative review. *Journal of Nursing Management, 27*(3), 482-490. http://dx.doi.org/10.1111/jonm.12716

Smith, Z., Leslie, G., & Wynaden, D. (2015). Experiential learning not enough for organ procurement surgery: Implications for perioperative nursing education. *Progress in transplantation, 25*(4), 339-350. https://doi:10.7182/pit2015689

Spruce, L. (2019). Back to basics: Social determinants of health. *AORN Journal, 110*(1), 60-69.

Stewart, N. J., MacLeod, M. L. P., Kosteniuk, J. G., Olynick, J., Penz, K. L., Karunanayake, C. P., Kulig, J. C., Labrecque, M. E., & Morgan, D. G. (2020). The importance of organisational commitment in rural nurses' intent to leave. *Journal of Advanced Nursing, 76*(12), 3398– 3417.

Subedi, R., Greenberg, T. L., & Roshanafshar, S. (2019). Does geography matter in mortality? An analysis of potentially avoidable mortality by remoteness index in Canada. *Health Reports, 30*(5), 3-15.

Sutherland, J., Kurzawa, Z., Karimuddin, A., Duncan, K., Liu, G., & Crump, T. (2019). Waitlists and adult general surgery: Is there a socioeconomic dimension in Canada? *BMC Health Services Research, 19*(1):161-7.

Tan, C., Yue, W.-G., & Fu, Y. (2017). Effectiveness of flipped classrooms in nursing education: A systematic review and meta-analysis. *Chinese Nursing Research, 4*(4), 192-200. https://doi.org/10.1016/j.cnre.2017.10.006

University of Lethbridge. (2022). Teaching essentials: Constructing a course outline or syllabus. https://www.ulethbridge.ca/teachingcentre/constructing-course-outline-or-syllabus

Urruchi, E., Calise, A., Purcell, A., Newton, J., Ebenezer, S., & Chamberlain Geary, A. (2020). Ophthalmic nurse competency assessment rubric (ONCAR): Development of an ophthalmic nurse assessment tool for scrub nurses/technicians. *The Journal of the American Society of Ophthalmic Registered Nurses, 45*(4), 46-51.

Villeneuve, M., & Betker, C. (2020). Nurses, nursing associations, and health systems evolution in Canada. *Online Journal of Issues in Nursing, 25(*1) https://doi.org/10.3912/OJIN.Vol25No01Man06

Wade, P. (2012). Historical trends influencing the future of perioperative nursing. *ORNAC Journal, 30*(2), 22-5, 32, 34-5

Wilson, M., & Johnson, M. (2015). The impact of the postgraduate certificate in perioperative specialty nursing on individual participants, units or service, and organizations. *The Journal of Perioperative Nursing. Australia, 28*(3):22-7.

Whiteing, N., Barr, J., & Rossi, D. M. (2022). The practice of rural and remote nurses in Australia: A case study. *Journal of Clinical Nursing,* 31, 502– 1518. https://doi-org.ezproxy.uleth.ca/10.1111/jocn.16002

World Health Organization, Canadian Public Health Association, & Canada Health and Welfare Canada. (1986). Ottawa charter for health promotion: Charte d'Ottawa pour la promotion de la santé. Ottawa: Health and Welfare Canada.

APPENDIX A: LOGIC MODEL

<table>
<tr><th colspan="4">LOGIC MODEL: Pre-Assessment Clinic Continuing Education for Rural Perioperative Nurses</th></tr>
<tr><td rowspan="2">Program Goal

Develop a standardized PAC continuing education course to improve the quality and consistency of comprehensive perioperative training in remote and rural healthcare settings in Alberta.
AND
Support rural and remote healthcare systems to identify strengths and build capacity to improve surgical outcomes and optimize resources in rural healthcare settings.</td><td colspan="2">Action: Reorientate Health Services</td><td rowspan="2">Outcomes</td></tr>
<tr><td>Activity & Strategy</td><td>Outputs</td></tr>
<tr><td rowspan="2">Inputs

Participants Perioperative nurses, educators, patients, families, practice leads, clinicians, leadership, manager, physicians, anesthesiologists, site leaders,
Organization: Alberta Health Services, Alberta Surgical Initiative, Operating Room Nurses Association of Canada,
Resources: training/education room, online (zoom/teams), surgical environment.</td><td>Develop preoperative PAC continuing education course & SDOH assessment tool

Identify eligible rural nursing cohort

Complete online continuing education class and in person workshop

Increase capacity of perioperative education and rural surgical programs</td><td>3 Continuing education webinars developed
Feedback questionnaire obtained from stakeholders

Enroll 4 voluntary rural perioperative nurses in PAC curriculum.

One in person workshop for nurses support the application of theoretical knowledge and critical thinking to practical skill

Rural perioperative nurse utilized and adapted resources to plan preoperative care of surgical patients.

Provide a potential framework for AHS organization to expand continuing education opportunity for rural perioperative nurses.</td><td>Short Term
▪ Prior to initiating continuing education program, PAC course outline & SDOH assessment tool will be presented to stakeholders for feedback.
▪ After completing PAC continuing education, 100% of nurses will increase their understanding of evidence-based practices and be able to identify and discuss the SDoH.
▪ After attending PAC continuing education, 100% of nurses will engage in discussions focused on PAC practices.
Medium Term
▪ After attending online and in person class 100% of nurses will be able to confidently demonstrate assessment and critical thinking skills when applying nursing care to the perioperative patient.
▪ After completing PAC continuing education, 90% of rural perioperative nurses will report consistent use of SDoH assessment tool in clinics.
Long Term
▪ 1-year after initial PAC continuing education program nurses will consistently receive and engage in standardized instruction related to perioperative nursing.
▪ 1-year after the initial PAC continuing education program, AHS increases organizational capacity prioritize rural perioperative education to improve patient outcomes.
▪ 2-years after PAC program, rural surgical programs will decrease number of surgical postponements or cancellations.</td></tr>
<tr><td colspan="4">Assumptions Ongoing successful recruitment of participants, organizations support for continuing education curriculum, continued engagement from rural perioperative nurses, there are established collaborative surgical programs in the community.</td></tr>
<tr><td colspan="4">Definitions Nurses: rural perioperative specialty trained. PAC: preoperative assessment clinic. ASI: Alberta Surgical Initiative. ORNAC: Operating Room Nurses Association of Canada. SDOH: Social Determinates of Health.</td></tr>
</table>

APPENDIX B: SURVEYS

PreCE Manager

1. I have access to adequate educational resources for my team.

- Always
- Usually
- Sometimes
- Rarely
- Never

2. What is the most significant challenge in maintaining or gaining advanced competencies in your perioperative team?

- Educator training (limited expertise in rural perioperative settings)
- Nurse training (little opportunity to access perioperative education)
- Human Resources (no replacement staff to support off-site education)
- Location (Perioperative education opportunities in urban centers)
- Funding (cost of non-mandatory training opportunities exceeds budget)
- Turnover (inadequate retention of trained nurses)
- Other (please specify)

3. How much on-shift time is available for perioperative nurses to allocate to education and training in ONE month?

- Every day
- A few times a week
- About once a week
- A few times a month
- Once a month
- Less than once a month

4. What is your degree of expectation for staff nurses to attend perioperative education?

- The most important priority
- A top priority, but not the most important
- Not very important
- Not important at all

5. What is your degree of expectation for educators to provide perioperative education?

- Extremely important
- Very important
- Somewhat important
- Not so important
- Not at all important

PreCE Educator

1. What percentage of your work is allocated to perioperative education?

- >10%
- 10%-25%
- 25%-50%
- >50%

2. I have adequate access to RURAL perioperative education material, literature and resources.
- yes
- no

3. To what degree do you value increasing confidence in rural Perioperative education strategies and resources

- Very likely
- Likely
- Neither likely nor unlikely
- Unlikely
- Very unlikely

4. What are your biggest challenges in providing education to rural perioperative nurses?

- time
- training resources
- location/travel
- engagement staff
- engagement managers
- space
- other (please specify)

PreCE Nurses

1. What platform do you prefer when engaging in learning?

- Online interactive (zoom, e-learning)
- Online passive (self-study, individual study)
- Classroom (instructor lead, in-person student)
- Other (please specify)

2. How much time do you allocate in 6 months to non-mandatory learning or professional development?

- 1-2 hours
- 2-5 hours
- more than 5 hours

3. When do you prefer to take non-mandatory or continuing education courses?

- During scheduled workday/shift
- Same day scheduled work (before or after the shift)
- Time off work (on days off)
- Other (please specify)

4. Do you have adequate opportunities to access rural perioperative learning opportunities?

- yes - always
- sometimes - somewhat
- limited - restricted
- no - never

5. How comfortable are you navigating and interacting with online or e-learning?

- Not comfortable. I will need help.
- Somewhat computable. I'll reach out if I need
- Comfortable. I am good to go.

Course Evaluation Survey

1. Overall, how would you rate the course?
   - Excellent
   - Very good
   - Good
   - Fair
   - Poor

2. How convenient was the time that the course was held?
   - Extremely convenient
   - Very convenient
   - Somewhat convenient
   - Not so convenient
   - Not at all convenient

3. How useful was the course material?
   - Extremely useful
   - Very useful
   - Somewhat useful
   - Not so useful
   - Not at all useful

4. How clearly was the course material explained?
   - Extremely clearly
   - Very clearly
   - Somewhat clearly
   - Not so clearly
   - Not at all clearly

5. Was the speed of presenting the course material too fast, too slow, or about right?
   - Much too fast
   - Too fast
   - The right amount
   - Too slow
   - Much too slow

6. How well did the lead instructor answer your questions?
   - Extremely well
   - Very well
   - Somewhat well
   - Not so well
   - Not at all well

7. How comfortable did you feel voicing your opinions?
   - Extremely comfortable
   - Very comfortable
   - Somewhat comfortable
   - Not so comfortable
   - Not at all comfortable

8. How helpful were the journal articles/literature to your understanding of the material?
   - Extremely helpful
   - Very helpful
   - Somewhat helpful
   - Not so helpful
   - Not at all helpful

APPENDIX C: PAC CE COURSE

Preoperative Assessment Clinic

Faculty of Health Sciences
University of Lethbridge
LETHBRIDGE, ALBERTA, CANADA
© Christopher Dore

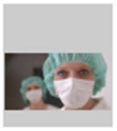


Table of Contents

Syllabus

Course outline and expectations for rural perioperative continuing education focused on PREOPERATIVE care of the rural surgical patient.

A. COURSE DESCRIPTION:

This course is intended for practicing rural perioperative nurses whose role includes providing nursing services in preassessment clinics. This course enhances the theoretical knowledge of the rural perioperative nurse related to Operating Room Nurses Association of Canada (ORNAC) perioperative standards. Ethics, legalities, multidisciplinary impacts, and regulatory environment issues will be analyzed. Nurses will participate in planning, collaborating, and coordinating care for surgical patients across the care continuum. This course will be delivered through asynchronous self-study and a single collaborative online session.

B. COURSE PREREQUISITES:

Knowledge and experience in perioperative nursing.

C. COURSE OVERVIEW:

This course provides rural perioperative nurses with the opportunity to gain foundational knowledge in perioperative practice related to presurgical care. This course supports the ORNAC position statement on the broadening scope of practice perioperative nurses provide in primary healthcare settings. "Perioperative nurses support health education to patients, families and students and the public through preassessment clinics and/or admission into the operating room" (ORNAC, 2021, p.26).

This course will be attended through asynchronous and synchronous sessions. The first seven modules will be completed via self-directed study. The synchronous session will be attended in collaboration with perioperative colleagues across the south zone rural programs.

Learner (student) centred pedagogy will be used in these online modules and sessions. Minimal educator/instructor intervention is required. Learning will occur through individual activities and small group interactions led by the facilitator.

The nursing process will guide learning in an established and familiar approach. Each module will be linked to the five key stages in the nursing process: assessment, diagnosis, planning, implementation, and evaluation. This provides a framework to guide the systematic steps required to offer patient-centred surgical care competently and comprehensively.

Story-based learning (SBL) will guide nurses through common PAC case scenarios. Understanding is gained through clinical narrative. Imagination and holistic perspectives guide the decision-making process to achieve outcomes. Knowledge is gained through problem-solving, information seeking and critical appraisal.

D. LEARNING OBJECTIVES:

The nurse will be able to:

1. Demonstrate leadership in clinical decision-making processes in collaboration with the multidisciplinary team.
2. Utilize evidence supporting best practices throughout the pre-surgical phase.
3. Identify risk and protective factors associated with preoperative optimization of surgical patients.
4. Apply enhanced knowledge and skills in the rural perioperative PAC role.
5. Describe the SDoH and its impact on surgical outcomes.
6. Apply the SDoH assessment tool to surgical patients.
7. Describe nursing diagnosis for adult and pediatric patients.
8. Apply appropriate pre-operative interventions to improve surgical outcomes
9. Describe methods for evaluating the effectiveness of the nursing intervention.

E. COURSE CONTENT

Manual asynchronous learning

Module 1- Patient & Family Engagement

Module 2 – Social Determinates of Health (SDoH)

Module 3 - Assessment

Module 4 - Diagnosis

Module 5 - Planning

Module 6 - Implementation

Module 7 - Evaluation

Online synchronous group online or in-person simulation training

Module 8 - Application of Theoretical Knowledge and Comprehensive Professional Practice

E. OUTLINE OF MAJOR CONTENT AREAS: PRACTICE STANDARDS – PERIOPERATIVE REGISTERED NURSE (ORNAC, 2021).

Standard 1: Knowledge from nursing, the sciences, and the humanities.

Standard 2: Effective use of the nursing process for clinical decision-making.

Standard 3: Professional responsibility and accountability.

Standard 4: Provision of safe patient care through collaboration with multidisciplinary team members.

Standard 5: Facilitation of, participation in, and support perioperative research.

F. EVALUATION OF LEARNING:

Learner self-assessment

Case study & practice observation

Peer-led debriefing

Instructions for Manual

1. ***Login to AHS Knowledge Resource Service***
2. ***Navigate ORNAC Standards, Guidelines, and Position Statements for Perioperative Registered Nurses***
3. ***Describe the Nursing Process***
4. ***Navigate virtual online platforms***

Perioperative nurses are accountable for coordinating care throughout the preoperative, intraoperative, and postoperative phases (ORNAC, 2021).

This course requires the learners to be familiar with critical documents related to perioperative practice.

- Access to ORNAC Standards, Guidelines, and Position Statements for Perioperative Registered Nurses is essential. Link to the free copy of the 10th edition: https://www.yumpu.com/en/document/read/4392506/standards-guidelines-and-position-statements-for-ornbhk
- Access to Knowledge Resource Service through AHS insite. Link to the portal: https://krshguides.com/home
- Access to any Nursing Diagnosis Handbook, manual or E-book. Search "nursing diagnosis" in AHS KRS https://ahsidm.ocle.org/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=cmedm&jid=MG4X&site=ehost-live

This course requires the learner to access the internet and online platforms.

- Access to quizizz.com. Link to free account https://quizizz.com/join
- Access to Poll Everywhere. Link to a free account https://www.polleverywhere.com
- Access to Video conferencing platform: Microsoft Teams or Zoom. Requires headset and camera.

- Access to the PDF viewer.
- Access to Doodle. Collaborative scheduling for online synchronous component

"ORNAC believes RNs have an important role in making primary health care a reality in Canada. While perioperative RNs have traditionally not been involved in providing initial health care services, a clinical aspect of perioperative nursing practice is broadening scope within preoperative, intraoperative, and immediate postoperative patient care." (ORNAC, 2021, p. xxxi)

"This provides the opportunity for more patient and family contact. Within this scope, perioperative RNs can perform direct patient care and teach and educate patients, families, health care personnel, and the community. Perioperative RNs support and/or conduct research and supervise/manage perioperative health care services. Examples of the perioperative RN as a primary health care provider are evident in the promotion of:

• healthy lifestyle choices that may prevent possible surgical intervention.

• participation in health- and wellness-related organizations so that activities can be proactive instead of reactive.

• surveillance of disease conditions, recurrent operative procedures, and patients requiring infection-control follow-up.

• health education to patients, students, and the public, including perioperative assessment clinics and/or admission to the OR.

• nurse educators and staff to teach students and other health care team members, and promotion of events such as Perioperative Nurses Week.

• collaboration with other primary health care personnel in providing patient care.

• quality-improvement programs, with particular emphasis on the effect of such services on primary health care."

(ORNAC, 2021, p. xxxi)

Patient & Family Engagement

***Objectives:* On completion of this module, the learner will be able to:**

1. ***Describe elements of preoperative patient and family engagement in the adult population***

2. ***Describe aspects of preoperative patient and family engagement in the pediatric population***

Current healthcare reform in Alberta is focused on four goals: improving patient and population outcomes, improving the experience of patients and families, improving the experience and safety of the workforce, and improving financial health and value (AHS, 2021).

Patients and families are supported to have more vital voices and are fully informed and involved in decisions about their healthcare.

We are partnering with patients, families and communities when developing, delivering, and improving healthcare services.

We are enabling our people, whatever their titles, roles, or locations, to act on what matters to patients and families.

(AHS, 2021)

Activity

Review p. 16-18 & 29. **Engaging Patients in Patient Safety: A Canadian Guide.**

Link:https://www.patientsafetyinstitute.ca/en/toolsResources/Patient-Engagement-in-Patient-Safety-Guide/Documents/EngagingPatientsInPatientSafety_EN_2020.pdf

Read the article, **Addressing Health Literacy in the Perioperative Setting**.

Link: Addressing_health_literacy.pdf

Read the article; Fostering **Patient Engagement Can Aid in Infection Prevention Efforts**.

Link: Fostering_patient_engagement.pdf

Pediatric perioperative nursing in the surgical continuum is one of the unique roles rural nurses will encounter. In contrast to urban perioperative clinics, rural nurses must care for patients across the entire age spectrum.

Activity:

Read ORNAC Article, **Reducing Pediatric Anxiety**.

Link: https://view.flipdocs.com/?ID=10020446_290259

Collaborative surgical care requires comprehensive perioperative nursing knowledge. While primary care and public health modalities may appear to be a far stretch from the restricted atmosphere of the operating room, the environment patients come from and will recover in needs to be considered when looking at long-term measures of successful surgical outcomes (AHS, 2015; Garasia & Dobbs, 2019). This becomes even more evident when considering the aspects of rurality, healthcare education and surgical outcomes.

Activity

Review, **position statement CNA**.

Link:https://hlprodca-cocdnendpoint.azureedge.net/-/media/cna/files/position-statements/interprofessional_collaboration_position_statement.pdf

Social Determinants of Health

***Objectives:* On completion of this module, the learner will be able to:**

1. ***Describe SDoH and the impact on surgical patients and family***

2. ***Link interprofessional collaborative care to social justice, equity and Social Determinants of Health (SDoH)***

SDoH impacts Canadians' health and well-being throughout the continuum of life (Raphael et al., 2020). According to Raphael et al., they are a complex interaction of social, cultural, and environmental conditions individuals, families, and community experience (2020).

Perioperative nursing knowledge regarding the SDoH and their impact on health outcomes, with a particular focus on the inequities within rural populations, is a growing body of knowledge (Anderman & CLEAR Collaboration, 2016). Including the SDoH in preoperative care strategies promotes a shift in nursing perspective away from viewing surgery as a single event and towards understanding the surgical experience as an episode in a continuum of effective surgical care (Spruce, 2019). Every surgical patient and family's condition is unique. Assessing the protective or risk factors each SDoH holds and how they influence the surgical outcome is essential for perioperative nurses to determine.

There is a growing body of knowledge and evidence exploring the impact of the SDoH on surgical outcomes. Preoperative awareness of inequities and understanding how they influence inequities is critical to assessing and preparing patients for surgery. It is important to note that the SDoH and unmitigated inequities will affect patients' quality of life well after surgery is complete (Lubis et al., 2021; Spruce, 2019).

Activity

Review pages 17, 34 & 48. **Social Determinants of Health: The Canadian Facts**

Link: The_Canadian_Facts-2nd_ed.pdf

Review article, **Back to Basics: Perioperative Nurse Role in Preoperative Care**.

Link: Back_to_Basics_Social_Determi.pdf

Review **The Health Leads Screening Toolkit**.

Link: https://healthleadsusa.org/resources/the-health-leads-screening-toolkit/

Review the **adapted rural SDoH screening tool**.

Link: SDoH Screening Tool.pdf

Read the article, **Socioeconomic Determinants of Health and Access to Healthcare in Rural Canada**. Page 44.

Link: Rural SDoH pg 44.pdf

Complete Quiz.

Link:
https://quizizz.com/join/quiz/4feef5ed0c66c7d9749339723725cfba489606c6622fa9601d22fb9ddcf32698c9/start?studentShare=true

10

Clinical Case

Clinical case study Emma will be used throughout the remainder of the modules. The rural adapted version will be utilized throughout this course to provide a tangible and realistic patient presentation.

American Nurses Association (2019)

Emma is a 68-year-old woman who recently had knee arthroscopy.

She lives in a town outside a large urban center in Saskatchewan. She is a single mother of three grown children and still cares for one of her children, who has a disability, at home. She is self-employed, so she can maintain her job and care for her child.

A few years ago, Emma started feeling knee pain and found walking increasingly difficult to walk. During an appointment with her family physician, she complained of pain and was prescribed Tylenol. At first, the medication appeared to diminish some of the pain, but it became increasingly more painful and difficult for her to get around. The pain started impacting her ability to work and care for her daughter.

With every visit to her family physician, Emma complained of increasing pain, stiffness, and difficulty getting around. As a result, her pain medication was increased, and eventually, she was prescribed medication for arthritis. Even with the new medication, the pain continued to impede Emma's ability to work and care for her daughter. She relied more and more on her other adult children to provide care for their sister so that Emma could find time to rest.

11

As Emma's capacity for work deteriorated, her income began to decline to the point that she was forced to investigate options for social assistance.

In the meantime, the complexity of scheduling caregiving for her daughter among other family members created tension in the family. Emma tried to ease the conflict between her children by taking more responsibility for her daughter's care. However, this only left her more exhausted and reduced her ability to do other activities. Gradually, she eliminated her weekly walk to the local grocery mart, arranging for groceries to be delivered to her home. She cancelled her membership at the nearby swimming pool as she was too sore and tried to make use of it.

After two years of suffering, Emma urged her family physician to refer her to a specialist for her knee pain. She also told her doctor about her concerns about the side effects of the medications she had been taking over the past several years, having heard from her son that excessive doses of Tylenol could interfere with liver function. Her physician agreed to refer her to the orthopedic surgeon who has an OR block once a month at your local hospital.

Emma waited six months for her consultation visit with the orthopedic surgeon. On the day of her visit, the specialist took her medical history, asked her to explain the problem, and examined her. He then told her that she would have to undergo several tests to determine if she was a good candidate for surgery.

Emma received a CT scan six months later, and because of a cancellation in her orthopedic surgeon's schedule, she could see him within two weeks after the scan was completed. The CT scan indicated that Emma's knee joint had a possible torn meniscus and required surgery. Emma was put on a waitlist and was told her surgery would be scheduled at her local hospital as soon as possible but that it may take up to 12- months.

After six months, Emma felt that her condition was deteriorating and was concerned that she hadn't heard anything about her surgery date. She didn't want to leave the house that summer, so she stayed home from her usual camping trip with her daughter to wait by the phone. At her wit's end and not knowing whom to contact for help, Emma phoned her local hospital. After being redirected several times, she was advised to call the surgeon's office. She did so but was given the same response: that she was on the list but that it could be up to 12 months before she received surgery.

After another two months, and still no information on her surgery date,

12

Emma broke down crying during a visit with a close friend. Concerned about Emma's state of mind and overall health, her friend called upon a specialist who was a long-standing acquaintance. The specialist said he would try to get Emma's surgery date moved up. Emma was called the following week, and her appointment was scheduled for one month from that day. She was also scheduled for a pre-operative appointment within two weeks.

During the pre-operative appointment, Emma spent a whole day with numerous health professionals who conducted various assessments, consultations, and tests. At the end of the day, she returned home exhausted and overwhelmed with information.

The day before her surgery, Emma spent the morning getting pre-operative tests done to ensure she was still a candidate for surgery. The next day, nervous but anticipating the relief of her pain, she was contacted by the hospital and told that her surgery had to be rescheduled due to an emergent case.

After several days of waiting, she was called and told that her surgery would be the next day the surgeon was scheduled to be at the hospital. On the day of her surgery, she was fearful that her procedure would be cancelled again. She was prepped for surgery, and the procedure went smoothly.

Activity

Search **"nursing diagnosis"** in AHS KRS.

https://ahs.kfn.ocle.org/Login?url=https://search.ebscohost.com/login.aspx?direct=true&db=cmedltc&AN=MC143X&site=ehost-live

Nursing diagnosis manual : planning, individualizing, and documenting client care
Boerges, Marilynn E.
ISBN: 9780803676770
Sixth edition.
F.A. Davis Company, 2019

Original case study for reference.

Link:
https://publications.saskatchewan.ca/api/v1/products/91727/formats/108635/download

13

Download or Print the **Nursing Care plan template**.

Link: Nursing Care Plan Template.docx

Assessment	Nursing Dx	Planning	Implementation	Evaluation
Subjective Data: Objective Data:		Goals/Outcomes	Interventions w/ Rationale	Assess progress to goals

Review article, Application of the Nursing Process in a Complex Health Care Environment

Link:https://www.canadian-nurse.com/dev-cn-en/blogs/cn-content/2019/09/16/application-of-the-nursing-process-in-a-complex-he

Assessment

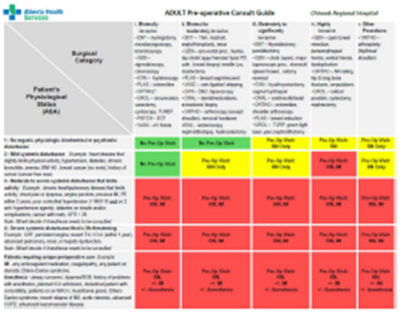
***Objectives:* On completion of this module, the learner will be able to:**

1. ***Apply the nursing process in PAC - Assessment***
2. ***Apply the AHS PAC Toolkit***
3. ***Apply the SDoH screening tool in Rural Surgical Environment***

American Nurses Association (2019)

Perioperative nurses must collaborate with surgeons, anesthesiologists, families, patients, pharmacists, and other healthcare professionals to optimize patients before the actual surgical day (Hines et al., 2013). PAC clinics are often the first interaction patients have with a perioperative nurse, and capitalizing on this opportunity can significantly improve patient outcomes (Conney & Wan-Yim, 2016).

The first step to providing preoperative care is identifying who else needs to be involved in the care. Patients are categorized based on their planned surgical procedure and physiological status. Utilizing Choosing Wisely Canada PAC consultation guide will assist you in identifying if you need to refer your patient to anesthesia or internal medicine for additional consultation.



Activity

Read South Zone AHS. Drop the PreOp toolkit slides.

Links:

Drop the Preop.pdf CRH Adult Consult Guide - July 2021.pdGuide Addendum -.

Read, Canada Chooses Wisely. Adaptable tool kit.

Link: Drop the Pre-Op - Choosing Wisely Canada

Nurse-led preoperative clinics have higher patient satisfaction and improved surgical outcomes (Conney & Wan Yim, 2016). Furthermore, nurse-led clinics make nurses feel more valued in their role and promote the advancement in registered nurses' professional roles (Whiteford et al., 2016).

Activity

Download a blank **preoperative assessment chart**.

Link: Day Surgery PAC Chart.pdf

The document, Emma **Nursing Assessment**.

Link: Day Surgery PAC Chart - Emma.pdf

Asynchronous group discussion. **Amend Poll Everywhere webpage or app**.

Link: https://www.polleverywhere.com/free_text_polls/mNmPYQvWKt62ne46XEzuM

Review the **SDoH screening tool**. Identify needs and critical risk factors.

Link: SDoH Screening Tool - Emma.pdf

Complete the nursing assessment section in the care plan

Diagnosis

Objectives: ***On completion of this module, the learner will be able to:***

1. ***Apply the nursing process in PAC– Diagnosis***
2. ***Correlate clinical assessments to support a nursing diagnosis***
3. ***Identify appropriate preoperative conditions as a cause of signs and symptoms***
4. ***Demonstrate clinical reasoning in applying data and patient feedback to identify preoperative nursing diagnoses***

American Nurses Association (2019)

Nursing diagnosis is a clinical judgment about individual, family, or community responses to actual or potential health problems/life processes. A nursing diagnosis provides the basis for selecting nursing interventions to achieve outcomes for which the nurse is accountable" (NANDA-I, 2021).

Activity

Identify appropriate **preoperative nursing diagnosis** for Emma.

Search "nursing diagnosis" in AHS KRS.
https://ahs.idm.oclc.org/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=cin&jid=MG4X&site=ehost-live

Nursing diagnosis manual : planning, individualizing, and documenting client care
Doenges, Marilynn E.
ISBN: 9780803639270
Sixth edition
F.A. Davis Company, 2019
CINAHL Complete
E-Book

Complete the nursing diagnosis section in the care plan.

Planning

Objectives: ***On completion of this module, the learner will be able to:***

1. ***Apply the nursing process in PAC in rural settings – Planning***
2. ***Correlate nursing diagnosis to realistic planning for the rural surgical patient***
3. ***Plan preoperative care and optimization, including 5DoH strategies***
4. ***Apply the PreOp Toolkit***
5. ***Demonstrate clinical reasoning in applying clinical and social implications***

American Nurses Association (2019)

Planning preoperative surgical care needs to involve the patient and family perspective. Ensuring time is allocated to understand individual patient goals fully and the surgical teams' goals are essential.

> Connecting the Disconnected: Taking the Extra Step. Perioperative nurses must reconcile healthcare information from multiple sources, which is not always readily available. "We have all these pieces, and we put the glue between them, put them in order and fill the space between them—otherwise, you don't have any continuity. As the frontline staff members, nurses not only recognize but can confront gaps in care and '*take the extra step*' and '*be resource*' in advocating for the patient" (Malley et al., 2015, p.8)

There are 3 phases to planning: initial, ongoing and discharge.

1. The nurse in the PAC setting completes **initial** planning.
2. Nurses, in collaboration with the multidisciplinary team, continue **ongoing** planning. As investigations or further information comes forth, appropriate priorities can be set.
3. Preparing for successful **discharge** is a critical element of surgical planning. If your patient can joke about "being discharged before they ever get into surgery," you are on the right track.

Continue nursing care plan for Emma. Each diagnosis needs to have a clear and measurable goal. Goals are formulated from evidence-based practice guidelines. Link to Lippincott Procedures here: Lippincott Procedures (ovid.org)

Activity

Read the article, **Applying Evidence-based Principles to Guide Emergency Surgery in Older Adults.**

Link: Evidenced based Surgical Care - Olde

Read the article, **Impact of Nutrition on Enhanced Recovery after Surgery.**

Link: Impact of Nutrition on Enhanced Recov

Read Article, Discharge Home After Ambulatory Surgery.

Link: Ensuring a Smooth Discharge Home Aft

Asynchronous response Poll Everywhere.

Link: https://PollEv.com/discussions/Rnc4ejlVfhGVzniH5oYwK/respond

Complete the nursing planning section in the care plan.

Implementation

***Objectives:* On completion of this module, the learner will be able to:**

1. ***Apply the nursing process in PAC– Implementation***
2. ***Correlate nursing planning to realistic implementation for the rural surgical patient***
3. ***Discuss strategies related to the implementation section of the nursing care plan***
4. ***Practice documentation***

American Nurses Association (2019)

Action the plan. As PAC nurses, you will use cognitive, interpersonal, and technical skills to implement the care plan (Ackley et al., 2017). Implementing

planned interventions requires the PAC nurse to use critical thinking and clinical judgment.

Continued reassessment of the patient is necessary to identify changes in healthcare status requiring revision of the plan. The nature of changes can include physical, cognitive, emotional, social, or psychological.

Utilizing the Choosing Wisely Canada pre-operative clinic testing recommendations will assist you in identifying evidenced based investigations.

During the implementation phase, documentation of interventions and outcomes is completed. According to the Canadian Nurses Protective Society, the primary purpose of documenting is to note important patient information so that the patient receives the best and most personalized care (CNPS, 2019).

Documentation also serves to:

- facilitate communication between healthcare providers
- promote continuity of care
- meet legislative and professional requirements
- show accountability for the professional practice, and outline the nurse's commitment to providing safe, effective and ethical care
- inform quality improvement
- assist in research
- act as legal proof of health care provided

Activity

Read the article, **Preoperative Risk Factors and Positive Nursing Interventions.**

Link: Preoperative risk factors & Nursing in

Refer to the clinical case study. **Identify preoperative investigation, planning and medication teaching** you will deliver to Emma.

Link: Pre Op Medication Guidelines.pdf

Complete the nursing implementation section in the care plan.

Evaluation

Objectives: ***On completion of this module, the learner will be able to:***

1. ***Apply the nursing process in PAC – Evaluation***
2. ***Evaluate the effectiveness of the nursing care plan***

American Nurses Association (2019)

Evaluation is planned, purposeful and continuous. This phase focuses on the identified nursing interventions' effectiveness and actual outcomes. For rural surgical patients, this is a constant activity for the PAC nurse. Continued re-evaluation of the planned care should be forefront in caring for surgical patients.

To evaluate the effectiveness of your nursing care plan, consider your surgical patients' status. Did they improve, stabilize, or deteriorate?

The evaluation also includes the testing of the goal. Was the goal met entirely, partially, or not at all? It is also essential to identify the factors that contributed to the success or failure of the preoperative plan.

Activity

Read Article, **Screening for Social Determinants of Health in Clinical Care: Moving from the Margins to the Mainstream.**

Link: Screening SDoH.pdf

Read the article, **Associations between Social Risk Factors and Surgical Site Infections.**

Link: Social Risk Factors & Surgery.pdf

Complete the nursing evaluation section in the care plan.

Comprehensive Practice

Activity: ***Attend synchronous group online simulation training***

1. ***Date and time TBD via Doodle Poll***

Application of theoretical knowledge and comprehensive professional practice in a synchronous online platform. This session will be attended by rural perioperative nurses across the south zone.

This course will comprise a minimum of 60 min online session.

Doodle poll will be sent via email to all learners. Collaborative scheduling will be utilized to provide maximum opportunity for attendance.

References

Ackley, B. J., Ladwig, G. B., & Makic, M. (2017). Nursing diagnosis handbook: An evidence-based guide to planning care. 11th ed. Elsevier.

Alberta Health Services. (2021). AHS planning and performance: 2020-22 health plan & 2021-22 business plan.

Alberta Health Services. (2015). Rural facility clinical services capability framework manual.

American Nurses Association (2019) The nursing process.

Andermann, A., & CLEAR Collaboration. (2016). Taking action on the social determinants of health in clinical practice: A framework for health professionals. *Canadian Medical Association Journal, 188* (17-18)

Andermann, A. (2018). Screening for social determinants of health in clinical care: moving from the margins to the mainstream. *Public Health Rev* 39, 19.

Bisch, S., Nelson, G., & Altman, A. (2019). Impact of nutrition on enhanced recovery after surgery (ERAS) in gynecologic oncology. *Nutrients, 11*(5), 1088.

Canadian Nurses Protective Society. (2020). InfoLAW: Quality documentation: Your best defence.

Choosing Wisely Canada. (2019). Drop the Pre-Op: A toolkit for reducing unnecessary visits and investigations in pre-operative clinics.

Croke, L. (2020). Fostering patient engagement can aid in infection prevention efforts: The official voice of perioperative nursing. *AORN Journal, 111*(5)

Croke, L. (2021). Addressing health literacy in the perioperative setting: The Official Voice of Perioperative Nursing. *AORN Journal, 114*(5), P4-P6.

Ead, H. (2019). Application of the nursing process in a complex health care environment.

Garasia, S., & Dobbs, G. (2019). Socioeconomic determinants of health and access to health care in rural Canada. *University of Toronto Medical Journal, 96*(2), 44-46.

Government of Saskatchewan. (2009). Patient Experience Case Study - Emma's Story: A Women's wait for Hip Surgery.

Herdman, T.H., Kamitsuru, S. & Takao Lopes, C. (2020). NANDA International nursing diagnoses: Definitions and classification, 2021-2023. New York: Theme Publishers

Hines, S., Munday, J., & Kynoch, K. (2013). Effectiveness of nurse-led perioperative assessment services for elective surgery: a systematic review update protocol. *JBI Database of Systematic Reviews & Implementation Reports, 11*(9), 73–83.

Lara-Smalling, A., & Cakiner-Egilmez, T. (2014). Diabetes and Cataract Surgery: Preoperative Risk Factors and Positive Nursing Interventions. *Insight: The Journal of the American Society of Ophthalmic Registered Nurses, 39*(2), 18–20.

Leads. (2018). The Health Leads Screening Toolkit.

Liddle, C. (2018) An overview of the principles of preoperative care. *Nursing Standard. 33*(6), 74-81.

Malley, A., Kenner, C., Kim, T., & Blakeney, B. (2015). The role of the nurse and the preoperative assessment in patient transitions. *AORN Journal, 102*(2), 181.

Operating Room Nurses of Canada. (2021). ORNAC standards, guidelines, and position statements for perioperative registered nurses. https://www.ornac.ca/en/standards

Qi, A. C., Peacock, K., Luke, A. A., Barker, A., Olsen, M. A., & Joynt Maddox, K. E. (2019). Associations between social risk factors and surgical site infections after colectomy and abdominal hysterectomy. *JAMA Network Open, 2*(10)

Raphael, D., Bryant, T., Mikkonen, J., & Alexander, R. (2020). Social determinants of health: the Canadian facts. Ontario Tech University Faculty of Health Sciences.

Raphael, D., Bryant, T., Mikkonen, J., & Alexander, R. (2020). Social determinants of health: the Canadian facts. Ontario Tech University Faculty of Health Sciences.

Spruce, L. (2019). Back to basics: Social determinants of health. *AORN Journal, 110*(1), 60-69.

Whiteford, C., White, S., & Stephenson, M. (2016). Effectiveness of nurse-led clinics on service delivery and clinical outcomes in adults with chronic ear, nose and throat complaints: A systematic review. *JBI Database of Systematic Reviews and Implementation Reports, 14*(4), 229.

APPENDIX D: TIMELINE

Activity 2022	May				June				July				August			
Engage Core Stakeholders (managers/instructors/nurses)																
Formal and informal-Pre-Course implementation																
Formal- During course implementation																
Formal - Post course completion																
Present Deliverable NURS 6002 to peers via zoom Seminar 1																
PAC Deliverable (PAC course and lesson plan) formatting & editing																
Present Deliverable, including lesson plan, to Rural Perioperative nurses, in collaboration with surgical program educators.																
Initiate PAC course to rural perioperative nurses' and surgical educators																
Establish date and time for online synchronous session																
Review & incorporate feedback from surgical educators, nurses and managers																
Evaluation of PAC Course Outcomes learning for nurses																
Evaluation of PAC Course Outcomes and learning for educators.																
Evaluation Case Study & Practice Observation for nurses and educators.																
Deliverable reflection PAC course & Lesson Plan- initiate and develop section 4 of final paper course requirement.																
Draft Presentation to Peers ad Instructor																
Final Presentation to Peers and Instructor via Zoom																
Final Paper Writing																
Submission Faculty of Graduate Studies																
Completion or Revisions																