EDUCATIONAL IN-SERVICE ON PROVIDING EVIDENCE BASED CARE FOR PATIENTS WITH MULTIPLE SCLEROSIS

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MULTIPLE SCLEROSIS: PROVIDING EVIDENCE BASED NURSING CARE

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DEDICATION

To my husband Dean, who provided unconditional support and encouragement over the last four years. Thank you for picking up the pieces at home when I was occupied with this project. Thank you for being my biggest cheerleader.

To my children, Oliver and Elsie, thank you for your patience and encouragement while I went back to school. I apologize for the sports I had to miss or the days I was busy and distracted working on this project. However, I hope you view this as a positive example of what hard work and perseverance can achieve.

ABSTRACT

Multiple Sclerosis (MS) is a chronic autoimmune disease that attacks the central nervous system (Cowan et al., 2020). Alberta is known to have one of the highest rates of MS in the world; 340 out of every 100,000 people are diagnosed with this disease (Government of Alberta, 2013). Individuals with MS are commonly hospitalized due to complications of their disease. Alberta nurses can anticipate providing care to hospitalized MS patients in the years to come. The purpose of this project is to facilitate knowledge translation by presenting current MS research and evidence-based material to frontline nurses on two acute care units at Chinook Regional Hospital (CRH) in Lethbridge, Alberta, Canada through educational in-services. The goal of this project is to develop an education session for frontline nurses to increase awareness and knowledge about MS and to improve outcomes for MS patients when admitted to hospital.

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LIST OF ABBREVIATIONS

AHS	Alberta Health Services
CASN	Canadian Association of Schools of Nursing
CIS	Clinically Isolated Syndrome
CNE	Clinical Nurse Education
CRH	Chinook Regional Hospital
DMT	Disease Modifying Therapies
EBP	Evidence Based Practice
ICU	Intensive Care Unit
LPN	Licensed Practical Nurse
MN	Masters of Nursing
MS	Multiple Sclerosis
MTLT	Mezirow's Transformative Learning Theory
PPMS	Primary Progressive Multiple Sclerosis
PRMS	Progressive Relapsing Multiple Sclerosis
RN	Registered Nurse
RRMS	Relapse Remitting Multiple Sclerosis
SPMS	Secondary Progressive Multiple Sclerosis

SECTION 1: INTRODUCTION

Multiple Sclerosis (MS) is an inflammatory demyelinating disease of the central nervous system and is the leading cause of nontraumatic neurologic disability in young adults (Padarti et al., 2022). Alberta has one of the highest rates of MS in the world with 340 out of every 100,000 Albertans diagnosed with MS (Government of Alberta, 2013). Although advancements in research and medications have provided an optimistic outlook for diagnosed individuals, MS remains a very complex disease. Symptoms vary with each individual and depend on where in the central nervous system is affected (Newsome et al., 2017). It can be challenging for nurses to provide care to hospitalized MS patients due to the variation of symptoms and disease processes each individual may exhibit. A theory-to-practice gap is evident in this area due to the lack of professional development education for local nurses about MS and caring for MS patients. The purpose of this project is to facilitate knowledge translation by presenting current MS research and evidence-based material to frontline nurses on two acute care units at Chinook Regional Hospital (CRH). The goal of this project is to develop an education session for nursing staff to increase their awareness about MS and current resources available. The short-term outcome of this project is to increase awareness and knowledge about MS, medications used to treat MS, nursing interventions for MS patients and a recently developed Lippincott resource. The long-term outcome is to improve hospitalized MS patient outcomes, such as decreased length of hospital stay and preventing hospital readmission (Padarti et al., 2022).

Nursing Practice Problem

Evidence Based Practice (EBP) is the procedure of clinical decision making by nurses using the best research evidence, clinical expertise, and patient values. EBP has been recognized as the gold standard for delivering compassionate care while promoting excellence in nursing (Farokhzadian et al., 2015). To implement new evidence into nursing practice, knowledge translation must occur. Knowledge translation has been defined by the Canadian Institutes of Health Research as: "a dynamic and iterative process that includes synthesis, dissemination, exchange and ethically-sound application of knowledge to improve the health of Canadians, provide more effective health services and products and strengthen the health care system" (2016). The problem arises when new evidence-based nursing knowledge is created but nurses are either not aware it exists, or are unaware how to access it. This is evidenced by nurses on both units 4B and ICU being unaware of the newly created Lippincott MS resource available through InSite to all AHS staff.

Purpose of the Project

Research has identified a knowledge-to-practice-gap regarding evidence-based practice for MS. A resource created by Lippincott Advisors (2023) provides extensive evidence-based information about pathophysiology, diagnostics, treatment, medications, and nursing interventions for MS. This project focuses on the planning, creation, and implementation of education sessions to promote knowledge translation with frontline nurses about MS through brief, succinct in-services on the medical unit 4B and the Intensive Care Unit (ICU) at CRH. 4B is an inpatient medical unit that provides care to patients admitted with a variety of diagnoses such as pneumonia, sepsis, and acute

coronary syndrome. Patients are managed on this unit unless their condition deteriorates, in which case they are transferred to the ICU for advanced medical support. These two units provide care to the most acutely ill patients at CRH and therefore are the two units providing care to hospitalized MS patients in southern Alberta.

Awareness and education about MS are important for acute care nurses in southern Alberta due to the high diagnosis rate of MS in this region, as well as the lack of specialized MS resources. Currently, CRH has one neurologist for the entire hospital and zero nurses specializing in MS care. Although there are MS clinics located in Calgary, Red Deer and Edmonton; southern Alberta lacks an MS clinic to provide access to valuable resources such as specific bladder-trained nurses, nurse practitioners and specialized neurologists. Consequently, nurses in southern Alberta lack support and resources when caring for hospitalized MS patients. The purpose of this project is to facilitate evidence-based knowledge translation about MS through an educational in-service provided to frontline nurses on units 4B and ICU at CRH, increasing their knowledge and awareness about MS and ultimately improving patient outcomes.

SECTION 2: LITERATURE REVIEW

A systematic review of the literature was conducted to analyze available information. Databases utilized in the search included CINAHL, MEDLINE (via PubMed), and Google Scholar. Databases were broken down by subject into nursing and neuroscience. Key terms included Multiple Sclerosis or MS, inpatients or hospitalized patient, knowledge translation, improving patient outcomes, research-to-practice gap, disease-modifying therapies, nursing education, symptom management, and patient care. To ensure this review only included the most current and up-to-date research, an exclusion criterion of research dated earlier than 2010 was incorporated, omitting any articles older than 13 years. Inclusion of peer reviewed articles was of utmost importance to ensure only scholarly literature was included in this literature review. The option of full text was an inclusion criterion as it is important to review and read the entire article. If full text was not available, the article was not considered. This review revealed the current theory-to-practice gap and the importance of providing quality care to hospitalized MS patients to ensure optimal patient outcomes are achieved.

Scope and Nature of Practice Problem

Patients with Multiple Sclerosis are 3.5 times more likely to be hospitalized compared to the general population, with medical costs of MS ranking second highest behind Congestive Heart Failure (Padarti et al., 2022). MS patients are often admitted due to complications of the disease, such as urinary tract infections or respiratory tract infections. Evidence has shown that MS patients are also at a higher risk for hospital readmissions associated with negative patient outcomes such as hospital acquired infections, deconditioning, and negative psychological effects (Padarti et al., 2022).

Hospitalization poses an increased risk of infection-related mortality for MS patients. These infections are most commonly respiratory and urinary tract infections, as well as sepsis (Nelson et al., 2015). While literature exhibits the risks acquired with a hospitalized MS patient, there are limited up-to-date resources and education opportunities for frontline nurses providing direct patient care for these patients.

The definition of evidence-based practice is "the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients" (Kingsnorth et al., 2020). Currently, there is a gap between the evidence and research on Multiple Sclerosis, and what is actually happening in frontline nursing practice. This has the potential to negatively impact patient care, resulting in suboptimal patient outcomes in hospital. Research identifies that continuing education and reinforcement of nursing skills produces improved patient outcomes (Mathers, 2011). The following details advancements made in MS research, Disease Modifying Therapies for MS treatment, and nursing interventions to improve patient outcomes.

Multiple Sclerosis

Multiple Sclerosis (MS) is a chronic autoimmune disease that attacks the myelin sheaths in the central nervous system (Kruger & Coetzee, 2021). These "attacks" are more commonly known as lesions. The location of the lesions in the central nervous system will determine which symptoms the patient may experience. MS may present with a variety of symptoms such as physical disability, vision disturbances, urinary or fecal incontinence, chronic pain, fatigue, spasticity, and cognitive deficits. In addition to physical symptoms, patients may experience psychosocial and behavioural changes due to management of the physical symptoms accompanying the disease. The average age of

diagnosis is 32 years, with most diagnoses occurring between 20 and 50 years. Risk factors for developing MS include low vitamin D exposure, living in latitudes farther from the equator, environmental agents, infectious viral agents (such as Epstein-Barr), and familial history (Maloni, 2013).

Four manifestations of MS have been identified: Relapse Remitting MS (RRMS), Secondary Progressive MS (SPMS), Primary Progressive MS (PPMS), and Progressive Relapsing MS (PRMS) (Lippincott Advisor, 2023). Clinically isolated syndrome (CIS) is considered a sub group of RRMS and occurs when a patient has a single lesion discovered on an MRI along with a single incidence of neurologic symptoms (Lippincott Advisor, 2023). A patient with CIS will not be officially diagnosed with MS until further symptoms and lesions occur; it is commonly known as a precursor to the other types of MS. Relapse remitting is the most common form of MS, accounting for 85-90% of new diagnoses (Porten & Carrucan-Wood, 2017). This form of MS will have periods of remission between relapses; however, the damage that occurs with each relapse is irreversible. RRMS will often progress to SPMS within 10-20 years of onset. Secondary Progressive is similar to RRMS, but the continuation of relapses and the patient's inability to recover between relapses causes moderate to severe disability. Primary Progressive MS is characterized by a progressive deterioration from disease onset without the ability to fully or partially recover (Porten & Carrucan-Wood, 2017). Progressive Relapsing MS is a steady progression from onset but also includes acute attacks; PRMS is very rare and accounts for less than 5% of MS cases (Lippincott Advisor, 2023).

Understanding the pathophysiology and disease process of MS is important for nurses providing care to MS patients. Awareness of the four different types of MS is

valuable for the nurse to truly understand where the patient is in their disease process, what symptoms they may be experiencing, and what medications they may be taking to manage their MS.

Disease Modifying Therapies

The development of disease modifying therapies (DMTs) has provided an optimistic outlook for individuals diagnosed with MS. Disease Modifying Therapies are a class of medications that impact the underlying disease and target the inflammatory process of MS; DMTs reduce the frequency and severity of MS relapses, reduce the number of lesions in the brain and spinal cord, and slow disease progression (MS Society of Canada, 2023). In the early 1990s, interferon beta was introduced as the first DMT for RRMS. Following this, glatiramer acetate and several interferon beta products were introduced as treatment options. In 2006, natalizumab became the treatment choice for highly active RRMS (Eriksson et al., 2018). Over the past two decades, the focus of MS research has been dedicated to the development of DMTs. Currently, 18 DMTs are approved by Health Canada (MS Society of Canada, 2023).

Nurses require awareness and education about DMTs due to the variation in administration routes: oral, subcutaneous injection, intramuscular injection, or intravenous administration. Administration frequency also varies with each medication. Clabridine is taken orally once a day whereas Ocrelizumab is given via intravenous infusion initially, followed with a second infusion two weeks later, and a third infusion six months later (Lippincott Advisor, 2023). It is important for the nurse to be aware of DMT treatment regimens to ensure patients don’t potentially miss a DMT treatment while in hospital. Several DMTs require frequent lab work to assess liver enzymes and

lymphocyte counts to ensure the medication is not causing adverse side effects (Lippincott Advisor, 2023). Select DMTs pose cytotoxic properties which could potentially cause harm to the nurse if the medication is not handled with appropriate personal protective equipment. For these reasons, it is important for the nurse to be able to identify DMTs and know where to access resources, such as a drug monograph, to obtain further information.

Patient's nonadherence to DMT treatments have shown poorer clinical outcomes including higher rates of relapse and disease progression (Nicholas et al., 2020). Nurses are vitally important in providing patient and family education opportunities to enhance adherence and treatment outcomes. A theory-to-practice gap is evident in this area due to the lack of professional development education provided to local nurses regarding DMTs. Given the significant role of the nurse in ensuring patients adheres to their treatment regimen, as well as providing teaching opportunities to patients about the medications, further education would be beneficial for patient care and outcomes.

Symptom Management and Nursing Interventions

Patients with Multiple Sclerosis may experience a variety of symptoms throughout the course of their disease. Despite advancements in understanding MS, significant symptoms remain difficult to manage, which can greatly reduce quality of life for MS patients (Burke et al., 2022). Symptomatic management is considered the foundation of comprehensive care for MS patients and should incorporate a combination of pharmacologic interventions, rehabilitation, psychosocial support, education, and counselling (Newsome et al., 2017). Burke et al. (2022) defines surplus suffering as distress experienced by patients over and above what they are already experiencing with

the physical, mental, and emotional burden of MS. It is caused by health care providers, such as bedside nurses, who brush off vague or invisible symptoms of the patient. This is caused by a misunderstanding or underappreciation of invisible symptoms such as fatigue, depression, or incontinence. Cowan et al. (2020) further explains that due to the unpredictability of the disease, MS patients often experience a sense of anxiety and uncertainty.

As many studies have focused on the physiological aspects of the disease, Cowan et al. (2020) identify a particular need for a formal approach to the management of psychosocial issues associated with MS. Interestingly, inpatients currently receive minimal psychosocial support during their hospital stay. This may prove detrimental for the MS patient, since hospitalization brings forth anxiety about what course their disease will take and whether hospitalization will cause a decline in their ability to function. de Souza Costa et al. (2016) comments further that emotional changes and ineffective coping were evident in the research and are aspects nursing staff must be aware of when caring for MS patients. Emotional changes such as anxiety, depression, or sadness have a direct effect on the patient's quality of life and may hinder their performance in carrying out activities of daily living (Cowan et al., 2020; de Souza Costa et al., 2016; Lavareda Baixinho et al., 2016). Research identifies the importance of understanding and managing physical symptoms, such as pain, to prevent the development of psychosocial issues like depression and anxiety (Walker et al., 2019). It is important for nurses to help patients with MS prioritize symptoms, provide individualized care, and consider family and significant others in treatment decisions (Newsome et al., 2017).

Literature identifies several evidence-based non-pharmacological interventions that nurses can perform to improve patient outcomes. Such interventions are listed as providing emotional and psychological support, and encouraging the patient to actively participate in decision making about their care (Lippincott Advisor, 2023). The empowerment of patients in self-care and involvement in their care plan is one way for the patient to cope with the complications and helpless feeling of MS (Afrasiabifar et al., 2020). Assisting with physical therapy and encouraging the patient to do as much as possible independently improves patient outcomes.

Lavareda Baixinho et al. (2016) recognizes the importance of physical exercise in the care of the MS patient; however, a designated rest time is also of extreme importance. Fatigue is a significant debilitating symptom for MS patients; therefore, it is important for the nurse to be aware of when a patient is becoming fatigued and to promote rest periods for the patient to conserve their energy.

Neurogenic bladder is a common complication of MS for patients and includes impaired bladder function, high intravesical pressures and urinary retention with the need for catheterization. These issues pose a significant increase in the risk of urinary tract infections, which is a common cause for hospital admissions in patients with MS (Thomas et al., 2022). Having a bedpan or urinal close to the patient is an important nursing intervention as the need to void can be immediate. This intervention can assist in preventing urinary incontinence, which has been proven to strongly correlate with high incidences of depression and anxiety (Cheng et al., 2020).

The theory-to-practice gap and knowledge translation issues are hindering nurses from performing these interventions with their MS patients. The listed nursing

interventions may seem minor; however, literature has shown they have the ability to improve MS patient outcomes while in hospital. Nurses require further education and accessible resources on symptoms such as fatigue, neurogenic bladder, pain, and the psychosocial symptoms that accompany this disease to provide interventions that improve patient outcomes.

Current Strategies to Address Problem

Currently, there are no strategies in place at Chinook Regional Hospital to address this theory-to-practice gap. A recently developed Lippincott resource has been published on InSite since January 2023, but has not yet been implemented at CRH. As an identified problem, the project purpose is to provide nurses with more information about MS and the Lippincott resource while assisting in knowledge translation to ensure optimal patient outcomes are achieved.

Gaps in Literature

Few studies are focused specifically on the Canadian context. As this project is taking place in southern Alberta, along with the high prevalence rate of MS in this area, the author was hopeful for more articles focused on MS care in Alberta. The mission statement of Alberta Health Services is to provide patient-centered care, therefore, studies focusing on the patient experience would be beneficial in supporting the concept of patient-centered care (Alberta Health Services, 2023). Gualandi et al. (2019) states that hospitals can significantly improve quality of service provided by exploring and understanding the patient's experience. Few studies exist that focus primarily on MS patients' experience while in hospital, and there is a need for further research in this area.

Several studies focus on the family caregiver's experience of caring for an MS patient, however; limited studies focus on the nurses' experience in providing care in a hospital setting to MS patients. Further research in this area could provide a valuable perspective from the nurses' lens to improving patient care.

Knowledge Translation Theory

Knowledge translation is defined by the Canadian Institutes of Health Research as " a dynamic and iterative process that includes synthesis, dissemination, exchange and ethically sound application of knowledge to improve the health of Canadians, provide more effective health services and products and strengthen the healthcare system" (Alberta Health Services, 2022a). A significant amount of time passes between when new knowledge is created to when it is put into practice. It is estimated that after an average of 17 years, only 14% of new research findings are actually put into practice (Alberta Health Services, 2022a). This emphasizes the challenge of introducing new research and health interventions into practice. The goal of knowledge translation is to bridge the gap between creation of evidence-based research, and implementation of the research into nursing practice. This occurs by linking knowledge producers and knowledge users to maximize the potential of new knowledge (Alberta Health Services, 2022a). This project will facilitate knowledge translation by providing educational in-services to frontline nurses about MS by applying the new evidence-based resource created by Lippincott (2023).

Theory of Adult Learning

As this project was created for frontline nurses who have completed undergraduate education, principles from the theory of adult learning were incorporated

to ensure appropriate teaching methods were utilized in the education sessions to assist in knowledge translation. It is important to note that adult learners, especially nurses already established in their careers, have preexisting knowledge and life experiences that influence their nursing practice and their ability to learn new information. With this in mind, this project focused on Mezirow's Transformative Learning Theory (MTLT) in adult education.

Mezirow's Transformative Learning Theory

The principles of MTLT in educating adult learners were applied in this project. Rojo et al. (2023) defines transformative learning as a metacognitive reasoning process, that challenges problematic sets of assumptions and expectations towards an inclusive and reflective mindset that is more open to change. This process allows the learner to transform their own perspective and assumptions, leading to a greater learning experience. Nurses benefit from this type of learning as it promotes critical thinking, an essential skill in the nursing profession (Rojo et al., 2023). The purpose of this project is to not only provide education about MS, but also transform the nurses' awareness about the complexity of the disease. With this awareness and knowledge about the Lippincott (2023) MS resource, nurses would ideally access this resource when caring for MS patients to ensure they are providing evidence-based care.

Three major themes are identified in MTLT: experience, critical reflection, and development (Anand et al., 2020). Research has identified MTLT as a guide for developing nursing education activities to effectively motivate and empower nurses' current practice and develop new habits to deliver quality, patient-centered care (Campbell & Brysiewicz, 2017). This theory focuses on the notion that learners can

adjust their thinking based on learning new information (Western Governors University, 2020). With the application of the theory of knowledge translation and principles of adult learning, the following will provide a detailed outline of the project planning, creation, implementation and evaluation process by following the knowledge translation template provided on the AHS website.

SECTION 3: PROJECT PLANNING, CREATION, IMPLEMENTATION, AND EVALUATION

Background & Purpose of the project

As MS is a very complex disease, this category of patients can be challenging for nurses to care for in the hospital setting. Although southern Alberta has a high diagnosis rate of MS, these patients are infrequently admitted to CRH. With the complexity and infrequency of caring for these patients, it is difficult for nurses to feel confident and proficient in caring for MS patients. Through discussion with stakeholders at CRH, it became evident that frontline acute care nurses would appreciate educational opportunities to increase their knowledge and awareness about MS. The purpose of this project is to facilitate knowledge translation by presenting current MS research and evidence-based material to frontline nurses on two acute care units at Chinook Regional Hospital (CRH). The goal of this project is to develop an education session for nursing staff to increase their awareness about MS and current resources available. The short-term outcomes of this project are to increase awareness and knowledge about MS, DMTs used to treat MS, nursing interventions for MS patients and a recently developed Lippincott resource. The long-term outcome is to improve hospitalized MS patient outcomes, such as decreased length of hospital stay and preventing hospital readmission (Padarti et al., 2022), although long term outcomes will not be evaluated in this project. A post presentation survey will evaluate if the in-services were effective in facilitating knowledge translation and increasing nurses' awareness about MS. The following provides a detailed description of the planning, creation, implementation and evaluation process required for this Masters of Nursing project.

Planning the Deliverable

The education sessions created for this project were grounded in the AHS knowledge translation process as demonstrated by the following chart. This process was chosen due to the education sessions taking place in an AHS facility. Therefore, it was deemed appropriate to follow the AHS knowledge translation process. The following will describe the target audience, key messages, products and strategies, resources, timeline and evaluation in further detail.

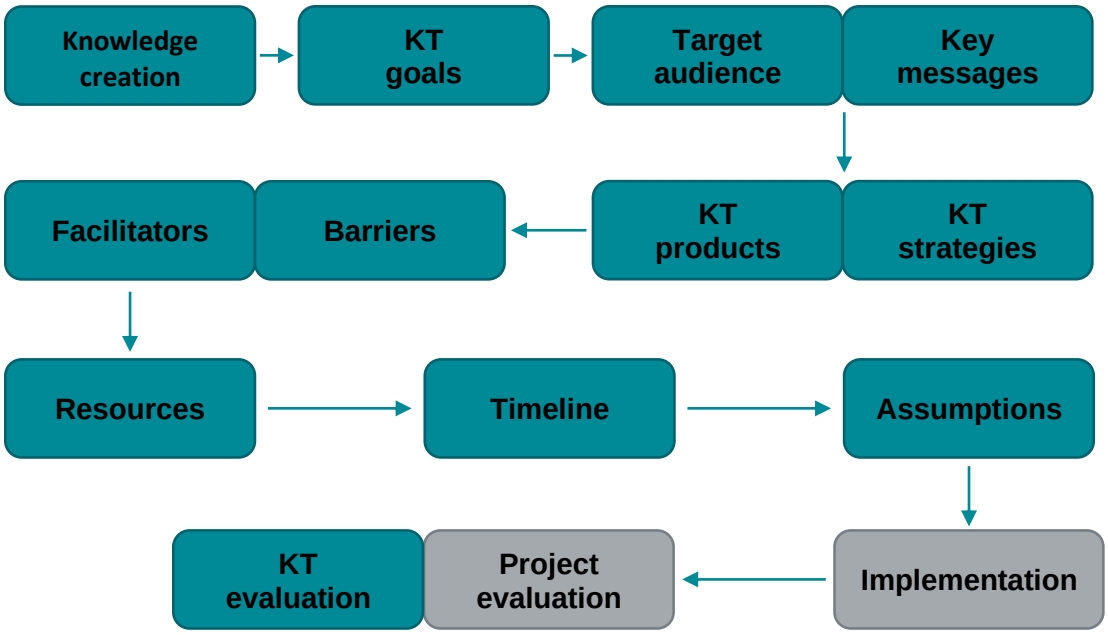

Figure 1: Knowledge Translation Planning Process

(Alberta Health Services, 2022b)

Target Audience

As per the professional practice-in-action guidelines by Alberta Health Services (2021), all healthcare providers are required to contribute to new evidence-informed knowledge that improves clinical reason and decision making. It is also required of AHS

nurses to translate knowledge into practice and continually develop skills (Alberta Health Services, 2021). Knowledge-based practice is considered a nursing practice standard by the College of Registered Nurses of Alberta. According to Standard 2, Alberta nurses must continually acquire and apply knowledge and skills to provide competent, evidence-informed nursing care and service (College of Registered Nurses of Alberta, 2013). These guidelines and standards assisted in determining frontline nurses as the target audience for this project.

Nurses providing direct patient care, and working on unit 4B and the Intensive Care Unit at CRH were the target audience for this project. These two units were chosen as they provide care to the most acutely ill patients at CRH. Unit 4B is a general medical unit where MS patients may be admitted for complications such as pneumonia or sepsis. If the patient's condition declines or becomes progressively worse, they will be transferred to ICU for more critical care interventions. Evidence has shown that compared to the general population, the risk of ICU admission is higher for individuals with MS. The one-year post-ICU-admission mortality rate is also higher in the MS population, with the leading cause of death attributed to infection (Marrie et al., 2014).

Stakeholders

Stakeholder involvement was vital to planning this project. As the education sessions occurred on the units at CRH, the nursing unit educators, nurse clinician, assistant head nurses, and unit managers are all valuable stakeholders. These individuals have been involved in the discussion and gathering of resources over the past several years for the creation of this project. As their primary role is to assist in knowledge translation by providing educational opportunities for the nursing staff of the unit, they

have both confirmed the need for additional learning and resources about MS for nursing staff, as well as provided input and recommendations into this project.

A second group of stakeholders are the health care providers who participated in and provided feedback on the educational in-service. As reflection is an important aspect of adult learning, the feedback from this group of stakeholders has the potential to improve this project. Additionally, this educational in-service has the potential to increase their awareness of evidence-based research, thereby improving the patient care they provide.

Learning Outcomes

The education sessions created to assist in knowledge translation focused on four key messages which will be described as learning outcomes. The short-term learning outcomes for this project are to increase acute care nurses' awareness and knowledge regarding:

1. Advancements in MS research have provided an optimistic outlook for patients. Southern Alberta has one of the highest rates of MS in Canada, therefore nurses working in southern Alberta must be aware of the complexity of the disease.
2. Disease Modifying Therapies have the ability to increase quality of life in MS patients and slow disease progression if patients adhere to their medication regime. It is important for nurses to be aware of these medications to not only administer the medications safely, but also provide teaching opportunities to patients and their families.
3. There are nursing interventions specific to MS that nurses can perform to improve patient outcomes. Nurses will become more aware of the importance of symptom

management in MS patients, as well as be able to identify various symptoms associated with the disease.

4. An evidence-based MS resource is available to all AHS staff through the InSite portal. This Lippincott resource has valuable information on the pathophysiology, diagnostics, treatments, and medications for MS patients.

Collaboration

In discussion with the nurse clinician and educator in ICU, as well as the assistant head nurse of 4B, both units emphasized that the in-services must be short in order for nurses to attend without jeopardizing the flow of their shift or patient care. As these stakeholders have previous experience conducting in-services, their suggestions and knowledge were valuable and taken into consideration.

These stakeholders also provided input as to the most optimal time to hold the in-services to allow for maximum attendance. As per recommendations of the stakeholders of 4B, it was decided that 11:00 would be the most opportune time for the in-service to occur on both June 14 & 15, 2023. As 12-hour shifts are exclusively utilized in ICU, the ICU nurse clinician recommended 16:00 on both June 14 & 15, 2023 as an optimal time for the in-services to occur.

To ensure an appropriate space was utilized to promote learning, the conference room on unit 4B and in Pod B of the ICU was confirmed. As the conference room on 4B is in the centre of the unit, it was decided that this space would be most beneficial for nurses currently on shift so they could easily leave if they were urgently required by their patient. While the main ICU does not have a large enough conference room, the

conference room in ICU Pod B was decided upon as it frequently hosts in-services and has the required technology for presentations.

Creating the Deliverable

Theoretical Foundation

This Masters of Nursing project has been created following the theoretical foundations of Mezirow's Transformative Learning Theory as well as Knowledge Translation Theory and AHS knowledge translation template.

Strategies and Products

A lesson plan derived from an AHS template was created to support the organization and delivery of the presentation (see Appendix A). Lesson planning is a valuable process used extensively in nursing education and supports the presenter in engaging in active learning strategies (Moore-Cox, 2017). The lesson plan included tactics to ensure the presentation was interactive. Several slides were designed to encouraged audience participation by having attendees answer questions before the information appeared on screen. Interactive educational sessions have been proven an effective knowledge translation method for changing simple behaviours (Alberta Health Services, 2022c). The lesson plan also provided a timeline for each topic to ensure that 15 minutes for the total presentation was not exceeded, while allowing for a five-minute discussion period. Impactful presentations discuss the research aim and key findings relevant to practice, and allow time for clarification and questions to enhance translation of key messages (Eljiz et al., 2020).

The main knowledge translation activity for this project occurred in the form of an education session supported by a PowerPoint presentation. The use of engaging

presentations, utilizing software such as PowerPoint, has been proven effective in knowledge translation for healthcare professionals (Eljiz et al., 2020). PowerPoint was chosen as compared to other presentation software, such as Prezi, since it does not require internet access, thereby eliminating the risk of technical difficulty due to poor internet access. The PowerPoint is comprised of 10 slides that focus on the previously mentioned four learning objectives (see Appendix B)**.**

The PowerPoint and Lesson Plan were then reviewed by the faculty supervisor and nurse educators on both 4B and ICU. Written feedback was received by all three nursing educators with an important and appreciated suggestion put forth by the educator from 4B to include the use of the multidisciplinary team under the nursing interventions heading. This revision was made and provided a valuable addition to the presentation.

To evaluate whether the presentations were successful in facilitating knowledge translation, a pre-and post-survey were created to evaluate the participants' knowledge about MS prior to and immediately after the presentation. The pre-survey is comprised of two multiple choice questions while the post-survey has a total of eight questions; two short answer and six multiple choice. These eight questions were created with the intent of evaluating if the four learning objectives were effectively communicated to the participants.

Recruitment

After the dates were confirmed with the units, and the PowerPoint was revised and finalized, an email was sent to both unit managers to advertise the in-services to the respective staff members (see Appendix C). The email advertisement was sent out to all staff on units 4B and ICU on June 2, 2023. The 4B nursing educator also suggested the

invite be extended to the staff of unit 4C as this unit primarily cares for patients with neurologic conditions, such as strokes. The nursing manager of 4C was receptive and supportive and sent the email to invite all 4C staff as well. Additionally, print advertisements were created, printed, and posted in the staff rooms of both 4B and ICU on June 6, 2023 (see Appendix D).

Resources

Several resources were required to successfully create the deliverable. A computer with Microsoft Office, including Word and PowerPoint, was necessary for the creation of the presentation, lesson plan, and advertisement. Internet access was also required to distribute the email advertising the in-service to staff on each unit. Additionally, paper and a colour printer were used to print the advertisement, as well as the pre-/and post-surveys. Conference rooms with technology, such as large screens, were used on both 4B and ICU to perform the presentation. The AHS approved Lippincott clinical resource was also a valuable resource used to provide evidence-based information in the education sessions.

Human resources, such as the stakeholders and frontline nurses, were also considered resources for this project. Stakeholders, such as the nursing unit educators, have experience in leading education sessions on these units and provided valuable feedback and guidance during the project. Nursing staff involvement and participation in the in-service was vital to the success of this project.

Timeline

This project was created and implemented over the course of two academic semesters. In the first semester, a project proposal was created to provide background, a

literature review, and the overall proposed plan for creating the deliverable. Over the course of the summer semester, the information from the project proposal was compiled to create the PowerPoint and lesson plan for the presentation, as well as the pre-and post-surveys to be used in the evaluation process. The in-services were then held midway through the summer semester to allow time for evaluation, reflection, and creation of this final report.

Ethics

This project utilized the Alberta Innovates ARECCI (A pRoject Ethics Community Consensus Initiative) screening tool to help determine the level of risk in the project, the type of ethical risks, and the appropriate type of ethics review (Alberta Innovates, 2023). In completing the screening tool, a score is generated based on the question answers to identify the project's level of ethical risk.

The screening tool resulted in a score of 10 which states that the project involves somewhat more than minimal risk and should be reviewed by a second opinion reviewer. The question that affected this score was that of an inexperienced project lead. However, this risk was mitigated with the involvement of an experienced instructor overseeing the project. As no patients were directly involved in the project, there is no perceived risk to any MS patients.

Implementing the Deliverable

The in-services occurred on 4B on June 14 & 15, 2023 at 11:00 and in ICU at 16:00 for a total of four in-services. The presentation was created to ensure delivery of information was limited to 15 minutes with a 5-minute question period to follow. This

projected timeline was successfully followed with in-services concluding at the 20-minute mark.

Attendees

A total of 32 participants attended the four offered in-services. Surprisingly, several different designations attended which provided valuable insight and discussion opportunities. A total of 28 nurses attended: 24 Registered Nurses (three being nursing unit educators and one nurse clinician), two Licensed Practical Nurses (LPN), and one Student Nurse. One participant from each of the following designations also attended: Speech and Language pathologist, Registered Dietician, Physiotherapist, Pharmacy Manager, Critical Care Consultant, ICU unit manager and Director of Women's and Childrens Health for South Zone. Staff from unit 4B showed the highest percentage of attendance at 39%, followed by ICU staff at 25%, other disciplines at 22% and 4C staff at 13%. Nurses, both RNs and LPNs, were of the highest attendance at 77%.

Discussion

The allotted discussion period following the presentation provided valuable opportunity for questions, comments, and critical reflection from the participants. Engaging in the process of critical reflection is crucial to transformative learning as it allows the learner to deconstruct their current practices, challenge preconceptions, and develop new ways of thinking with the supportive evidence (Owen, 2016).

Even though the in-service and presentation were created for the target audience of Registered Nurses, it was valuable to have other designations who care for MS patients attend. The suggestion from the 4B nursing educator to include multidisciplinary referrals in the nursing interventions made the presentation applicable for the multidisciplinary

team members who attended. A valuable point was brought up in discussion by the pharmacy manager, who stated that if a patient is due for a DMT infusion while they are hospitalized at CRH; the hospital pharmacy is able to get the medication sent down from Calgary. This not only provided great discussion, but also valuable information for the nurses to be aware of should they be faced with this situation in the future. As this occurred in the discussion period following the first presentation, this new piece of information was included in the subsequent three presentations.

Evaluation

Knowledge Translation Evaluation

Knowledge translation evaluation is utilized to ensure the intended impact was achieved (Alberta Health Services, 2019b). To confirm if knowledge translation occurred, a pre-and post-survey gathered both quantitative and qualitative data to evaluate if the four short term learning outcomes were achieved. Surveys have been identified as a convenient and beneficial method for collecting quantitative and qualitative data for knowledge translation activities (Alberta Health Services, 2019b). The pre-survey was provided at the beginning of the presentation and the post-survey was handed out immediately following the presentation. Anonymous completion was encouraged, with identical pencils provided for all participants.

Pre-Survey

The pre-survey was short with only two multiple choice question, which focused on obtaining a baseline of the participants' frequency and confidence in caring for MS patients (see Appendix E). The pre-survey was designed to be brief as literature states

surveys should begin with easy to answer, non-threatening, and non-sensitive questions (Alberta Health Services, 2019a).

A total of four in-services were held; session one had 11 participants, session two had seven, session three had 10 and session four had four participants, for a combined total of 32 participants. However, only 28 participants completed the pre-survey resulting in an 88% response rate. This was mainly because some nurses joined the presentation late due to patient demand and acuity on the unit. The following bar graphs represent the responses to the two pre-survey questions.

1. How often do you care for an MS patient?

These results demonstrate how infrequently nurses care for MS patients in hospital. Out of 28 respondents, 57% stated they rarely (1pt/3-6 months) care for this category of patients while 32% state they occasionally (1pt/2-3 months) care for MS patients.

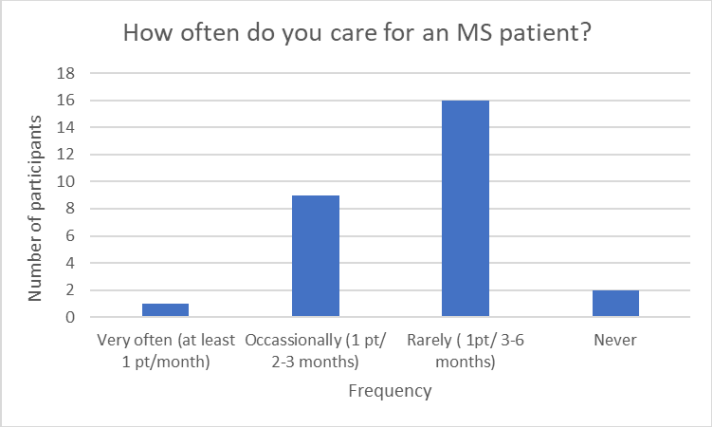

Figure 2: Frequency of care

Therefore, 89% of participants infrequently care for MS patients with only 3% of participants providing care for MS patients very often. Two participants commented that

they never care for MS patients. However, several different designations of health care providers attended the in-service, some who do not provide direct patient care, which may account for this answer.

2. How confident do you feel in caring for MS patients?

Interestingly, out of 28 respondents the majority of participants at 82% feel only somewhat confident in caring for MS patients, while 18% do not feel confident at all. The previous question provided evidence that MS patients are only occasionally or rarely cared for on 4B and ICU, supporting that fact that nurses do not feel overly confident providing care to this patient demographic. These results are worrisome as the participants of this survey provide nursing care to the most acutely ill patients at CRH.

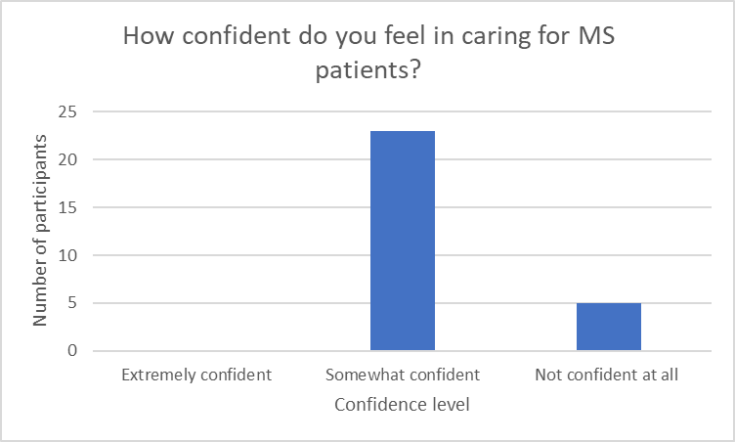

Figure 3: Confidence

These results confirm the writer's assumption that frontline nurses feel they require more support and educational opportunities to feel confident in providing care to MS patients.

Post Survey

The post survey was comprised of six multiple choice and two short answer questions (see Appendix F) to gather a combination of both quantitative and qualitative data. The questions focus on evaluating if knowledge translation occured in regards to the four short term outcomes of the deliverable. Questions 1 and 2 focus on evaluating if short term outcome one of increasing awareness about MS in southern Alberta was achieved; questions 3 and 4 evaluated if the participants gained a greater awareness of the importance of DMTs which is related to the second short term outcome. Questions 5 and 6 evaluate if the participants were able to identify appropriate nursing interventions for MS patients which is aligned with short term outcome three. The fourth short term outcome is evaluated with question 7 by assessing if the participants found the Lippincott resource to be a useful tool to reference when caring for MS patients. Question 8 allowed participants the opportunity to provide any additional feedback or comments.

Post Survey Results

A combined total of 32 participants attended the in-services with 30 post surveys completed resulting in a 97% response rate. Two surveys were not completed due to nursing staff having to leave the presentation early due to their patient's demands on the unit. The following will reveal the results of the post survey and evaluate if knowledge translation occurred with the education sessions.

1. Were you aware that 1 in every 385 Albertans have MS?

Out of 30 respondents, only 10% of the participants were aware of the prevalence of MS in Alberta, with 90% of participants being unaware of how common the disease is in our province.

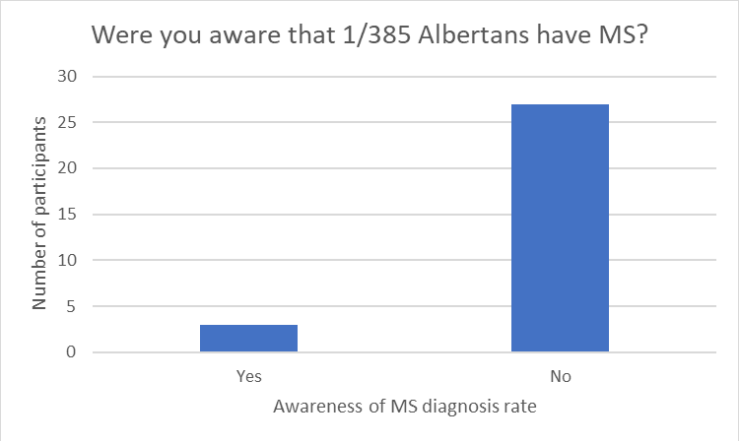

Figure 4: Awareness of prevalence

The results from this question correlate with the first learning outcome and demonstrate the general lack of awareness, thus confirming the need to continue with more professional development opportunities in this area.

2. How many forms of MS are there?

Immediately following the presentation, 25/30 or 83% of participants correctly identified that there are four forms of MS. As increasing awareness about MS was linked to the first learning outcome, this question provided evidence that this outcome was achieved.

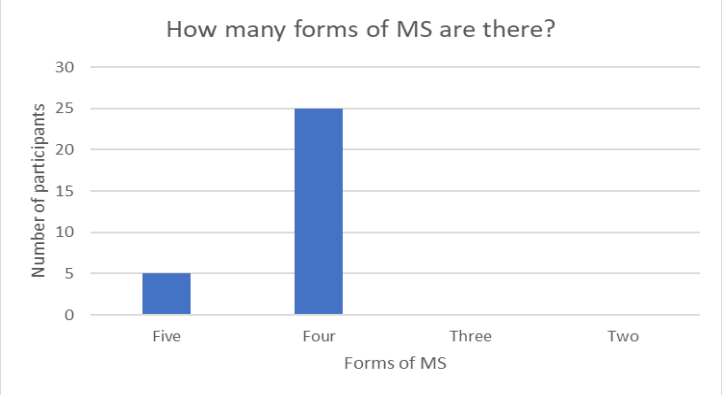

Figure 5: Awareness of types

3. How many DMTs are approved by Health Canada?

Immediately following the presentation, out of 30 respondents, 87% correctly identified 18 DMTs are approved by Health Canada. As increasing awareness about DMTs is linked to the second learning outcome; this question evaluated if this outcome was achieved.

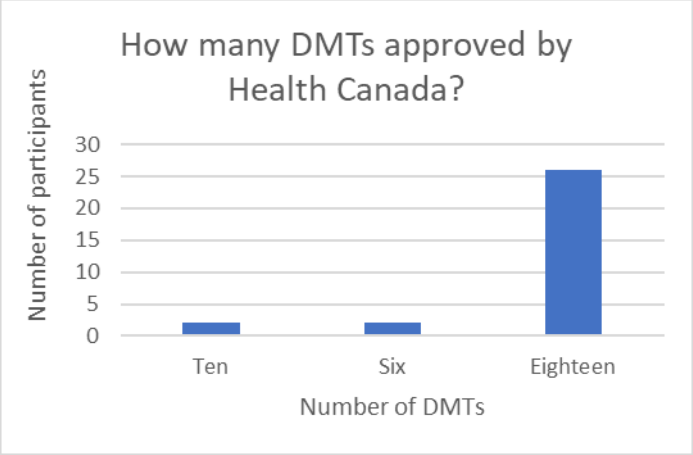

Figure 6: Awareness of approved DMTs

4. DMTs have the ability to ____ disease progression.

Immediately following the presentations, 53% of respondents correctly identified that DMTs have the ability to halt disease progression, while 47% chose decrease.

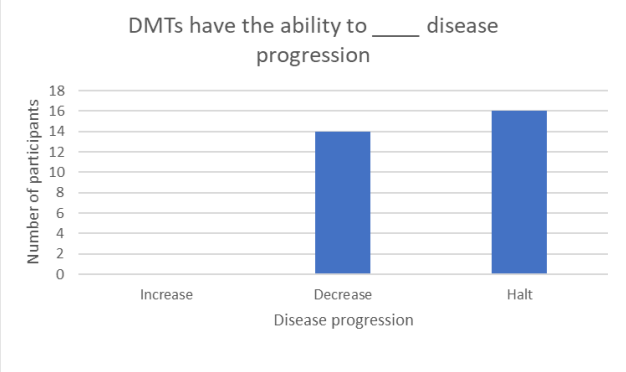

Figure 7: Awareness of DMT ability

This discretion was noticed upon reviewing the first presentation's post survey results when the results were 50/50. As this question focuses on evaluating the second learning outcome, changes were made in the following three presentations to emphasize that these medications halt disease progression. However, it is noted that halt and decrease are two very similar terms that ultimately are both correct. In the future, two more distinct words would be utilized in this question to avoid any confusion as well as changing the options in this question to binary.

5. What is surplus suffering?

Immediately following the presentation, 96% of participants correctly identified that surplus suffering is a misunderstanding or underappreciation of invisible symptoms. As this is a term that is not only applicable to MS patients, these results provide evidence that participants understand the impact on patients when ignoring their invisible symptoms.

6. List two nursing interventions for an MS patient.

All nursing interventions listed by participants were mentioned in the presentation and are correct resulting in a 100% correct response rate. A total of seven participants did not complete this question which provided a response rate of 77%. Therefore, a total of 23 surveys had this question completed resulting in 46 answers as the questions asks for two nursing interventions. A thematic analysis was completed as per the AHS data analysis guidelines to identify common themes in responses (Alberta Health Services, 2019a). The two most dominant themes identified in the responses are nurses having DMT knowledge and involving the patient in care planning. These two themes corelate with learning outcomes two and three as listed in the lesson plan; increasing nurses'

awareness about DMTs and acknowledging the importance of involving the patient in their care planning to promote independence.

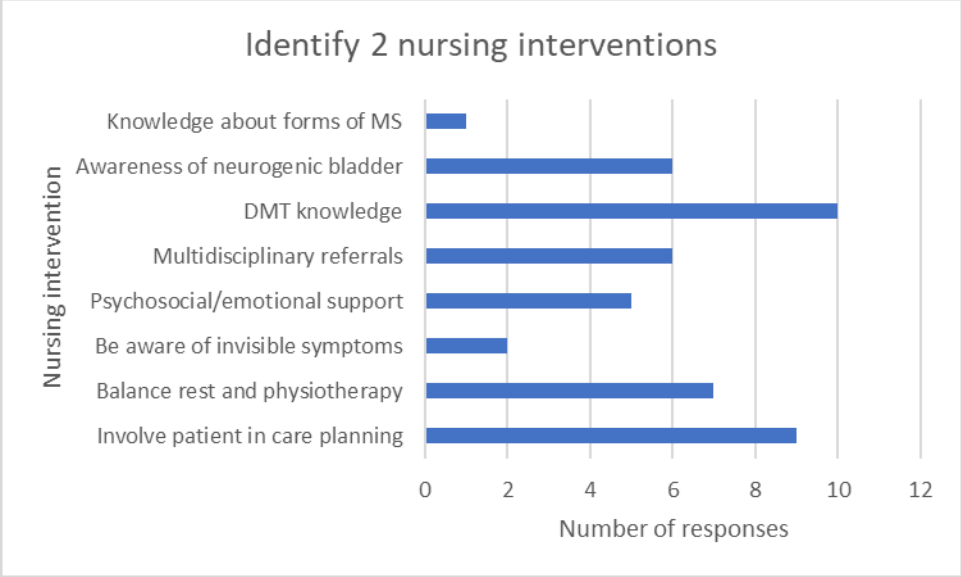

Figure 8: Awareness of nursing interventions

7. Do you think the Lippincott resource provides valuable information?

The response for this question was very strong with 100% of participants identifying the usefulness of the new resource therefore confirming the need for knowledge translation activities, such as the educational in-services. Participants were not only shown where on InSite the resource is located, but also the several steps it takes to find it. As such, participants will have the knowledge of how to access this resource for future use. One comment made by the ICU manager is that with the integration of Connect Care, a Lippincott link will be created on every home screen of the computers at CRH. By showing the audience where in Lippincott this resource is located, it is hopeful that nurses will access the resource when they have questions about caring for MS patients. The response to this question directly correlates to the fourth learning outcome

of this project: increasing the nurse's awareness about availability and access to the resource.

8. Please provide any additional feedback about information covered in the presentation.

As this question provided the participant with an opportunity to write any additional feedback about information covered in the presentation, several comments were made regarding how much the participants enjoyed the information. One participant stated "I loved this presentation; the information is totally applicable to my learning level." As one of the learning outcomes of this presentation was to increase awareness about DMTs, the following comment confirmed this outcome was achieved: "learning about DMTs was great and I will keep that in mind to ask patients when they are admitted if they are on a DMT".

Upon reviewing the survey results, the responses confirm that knowledge translation did in fact occur with participants who attended the educational in-services. It would be optimal to have a three-month follow-up survey with staff who participated in the in-service to assess if nurses are implementing the evidence-based knowledge they retained from the in-service into daily practice. Additionally, inquiry could be made to see if there was an increase in access to the Lippincott resource three months post in-service on CRH computers. This would provide further evidence that the knowledge translation process was successful. However, this timeline exceeds the requirements for this MN project.

SECTION 4: REFLECTION

The reflective process connects theory and practice, and helps understand the link between knowing and doing (Patel & Metersky, 2022). Reflection has been recognized as a critical skill for nurses as it prompts the development of personal philosophies and competencies that will inform professional nursing practice in the future (Parrish & Crookes, 2014). The following critical reflection of this project discusses the development process, major lessons learned, and implications for future nursing practice in accordance with the Canadian Association of Schools of Nursing (CASN) National Nursing Education Framework (2022). The CASN National Nursing Education Framework provides six domains of learning for the graduate level: knowledge, research skill and inquiry, nursing practice, communication and collaboration, professionalism, and leadership (Canadian Assosciation of Schools of Nursing, 2022).

Project Development Process

Since beginning my Masters education, I determined that my final project would focus on MS. Growing up with a parent with this disease, and eventually having more family members diagnosed with it, provided the drive to gain a greater understanding of MS. In the early stages of my graduate degree, I did a short clinical rotation at the MS Clinic in Calgary. Through this rotation, the lack of MS-specific resources in southern Alberta became apparent and influenced my desire to increase awareness at CRH about MS and where nurses could locate additional resources for support. My bedside nursing experience also provided the drive to understand how we as frontline nurses can provide evidence-based care to this patient population. Through discussion with co-workers on

both units, 4B and ICU, it was confirmed that frontline nurses were interested in learning more about MS and caring for MS patients.

My initial project plan was to create an up-to-date resource to be published on InSite about MS. However, through further inquiry, I discovered that this was already being completed by nurses at the Foothills Medical Center and therefore I would need to change the direction of my final project. Although this was difficult to accept after having this plan for the past three years, my faculty supervisor and I, decided I would provide educational opportunities about MS including the recently published Lippincott resource. Upon reflecting on this process, I see that I naturally gravitate towards educational opportunities and therefore this became a perfect fit. Though this change in direction was initially difficult, the process taught me the importance of flexibility and resiliency required to complete a project.

Major Lessons Learned

My project purpose was to facilitate knowledge translation by providing evidence-based information to frontline nursing staff, thereby improving patient outcomes. This directly correlates with CASN learning outcome 2.2.5 which states that Master's level graduates will engage individuals, families, communities, and populations in knowledge mobilization (Canadian Assosciation of Schools of Nursing, 2022). My educational in-service provided a form of knowledge mobilization to the health care providers of several different disciplines that attended. An important lesson learned is choosing an appropriate audience to ensure the success of an educational in-service. I learned that this in-service was more applicable to the medical units as opposed to the ICU. When patients require ICU care they are often intubated and on a ventilator; the information presented did not

address or consider this fact. The in-service was tailored more towards patients who have a more interactive connection with their nurses as opposed to being sedated and ventilated. Therefore, if I were to hold more in-services, I would expand to the other medical unit, 4C, and the surgical units, 3C and 4A, as I believe it would be more applicable to this group of frontline nurses.

A vital component of my project was to create an evaluation tool to confirm if knowledge translation had occurred as a result of my presentation. The pre and post survey utilized a combination of both quantitative and qualitative data; the results provided strong evidence that the presentation was successful in facilitating knowledge translation. As identified in the CASN learning outcome 3.2.3, developing quantitative, qualitative and mixed methods approaches to implement and evaluate quality assurance initiatives was achieved through the project evaluation plan, and the evaluation results were presented as part of the MN project presentation requirements (Canadian Assosciation of Schools of Nursing, 2022).

An important lesson learned from this process are the various steps required to complete a Master's project. To ensure ethical and professional standards are met, several different stakeholders must review and provide feedback on the information to be conveyed. This correlates with CASN learning outcome 5.2.2 in that the student will exercise accountability, autonomy, and integrity in collaborations with others in the health care system and in intersectoral partnerships (Canadian Assosciation of Schools of Nursing, 2022). This proved difficult when I had to wait on stakeholders to provide feedback so I could move on to the next step of the process. As I am currently employed in a 0.7 FTE in ICU, I had to strictly adhere to my timelines to ensure my project would

be completed by the proposed deadline. This lesson also provided insight into how important it is to communicate and establish strong professional relationships with stakeholders involved. As per CASN learning outcome 4.2.4, the student will use effective communication skills to develop collaborations and coalitions with intraprofessional, interprofessional, and intersectoral partners (Canadian Assosciation of Schools of Nursing, 2022). Effective communication skills were vital to communicating with stakeholders all throughout the project development process. I believe these strong communication skills will be an asset in my current nursing practice; whether collaborating with patient's family members, or other members of the health care team in ICU.

Implications for Future Nursing Practice

As the in-services reached an overall small group of nurses, it would prove beneficial to conduct additional in-services following the completion of this Master's program. In relation to the confidence level expressed by participants, I find it alarming that 82% of participants felt only somewhat confident in caring for MS patients while 18% do not feel confident at all. This provides evidence that frontline staff do in fact require further educational opportunities to ensure MS patients are suitably cared for at CRH.

Expanding to other units, such as the surgical units or the Post Acute Rehabilitation Program, may be valuable as these units also provide care to MS patients. Creating a zoom link for participants to attend the in-service while not on shift has the potential to increase the number of health care providers reached with the in-service. As attendance is directly related to patient acuity and staffing ratios, a zoom link has the

opportunity to mitigate the risk of low attendance. Undergraduate nursing students would also benefit from learning about MS patients during clinical rotations on these units; this presentation could be provided in the form of a post-conference discussion. As several members of the multidisciplinary team attended the in-services and participated in the discussions, it may also be beneficial to present this information to their respective teams.

A personal goal is to further investigate how to obtain more resources for MS patients in southern Alberta. As I have a vested interest in the care and success of MS patients, I hope to be a change agent to increase resources for MS patients in Lethbridge. Through my rotation at the MS clinic in Calgary, I was able to create and maintain contact with a Nurse Practitioner who is passionate about MS care, is aware of the need for more resources in southern Alberta, and could perhaps provide a connection between resources in Calgary and Lethbridge. Although the survey results confirm that MS patients are not cared for frequently at CRH, I would like to discover how can we add more outpatient services in the South Zone, or ideally an MS clinic, to help prevent hospitalization for MS patients.

As a Master's prepared nurse, I look forward to utilizing the new skills acquired throughout my Master's education in my own professional experience. In my bedside nursing practice, this additional education has exemplified the importance of looking at the "bigger picture" when providing care to patients and their families to truly understand the patient's current medical state and how they got to the point of needing ICU admission. The project route has exemplified the knowledge, resources, and accountability required to lead a project. I realized that I enjoy creating educational opportunities for nurses; perhaps this will lead down the path of a nurse educator in the

clinical setting or one day leaving the bedside to pursue an academic position to educate and inspire future nurses.

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APPENDIX A

LESSON PLAN: Multiple Sclerosis Educational In-Service

Date: June 14 & 15, 2023 (11:00 on 4B/ 16:00 in ICU).

Location: 4B conference room/ICU POD B conference room

Purpose

- To increase awareness regarding the complexity of caring for MS patients and introduce the newly created Lippincott MS resource on AHS InSite.

Target Audience

- Frontline Registered Nurses on medical unit 4B and the Intensive Care Unit at Chinook Regional Hospital.

Learning Outcomes

At the end of this in-service the participant will:

1. demonstrate an increased awareness regarding the complexity of MS patients and the prevalence in Southern Alberta.

2. have an increased understanding of what a Disease Modifying Therapy (DMT) is and the awareness of how to locate additional information regarding DMTs.

3. have an increased understanding of at least 2 nursing interventions appropriate for MS patients in clinical practice.

4. have the ability to locate the Lippincott resource on InSite for future reference.

Equipment Required

- Computer
- Internet access
- PowerPoint to create presentation and email advertisement
- Printer and paper for printed advertisement
- Conference room on the unit to perform in-service
- Projector and screen
- Pre/post survey questionnaires and pencils

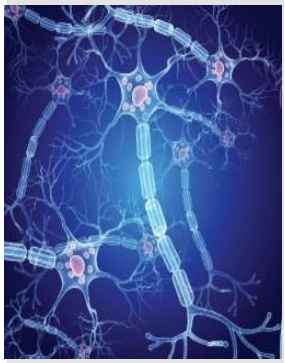
Learning Outcome	Content (12-16 minutes)
1 (4-5 minutes)	Demonstrate an increased knowledge base emphasizing: • complexity of caring for MS patients. • prevalence in Alberta: 1 in 385 individuals. • probability of caring for MS patients at CRH when located in a region with a high diagnosis rate. • slide 3,4,5/post survey questions 1 & 2
2 (3-4 minutes)	Demonstrate an understanding of disease modifying therapies: • increase awareness of these medications. • acknowledge the variety of administration routes and frequency. • acknowledge the importance of patients adhering to treatment regimen to improve patient outcomes. • slides 6 & 7/post survey questions 3 & 4
3 (3-4 minutes)	Demonstrate the importance of nursing interventions • acknowledge the importance of emotional and psychosocial support. • involve patient in care planning. • increase awareness of surplus suffering. • increase awareness of neurogenic bladder. • increase awareness about asking patients if they are on DMTs when admitted. • slides 8 & 9/ post survey questions 5 & 6
4 (2-3 minutes)	Demonstrate how to access Lippincott resource: • identify the steps in locating Lippincott resource on InSite. • have the ability to access resource in future when caring for MS patients. • slide 10/post survey question 7.

APPENDIX B

Power Point Presentation

Multiple Sclerosis

Providing evidence based nursing ca



June 14 & 15, 2023

Jeanine Sklarenko

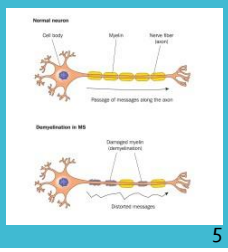
University of Lethbridge

Masters of Nursing Program

Introduction

- 13 years acute care experience as a Registered Nurse.
- Final project in Masters of Nursing at University of Lethbridge.
- Purpose is to increase awareness of:
  - Complexity of MS patients
  - Medications available
  - Nursing interventions
  - Lippincott Resource

Multiple Sclerosis

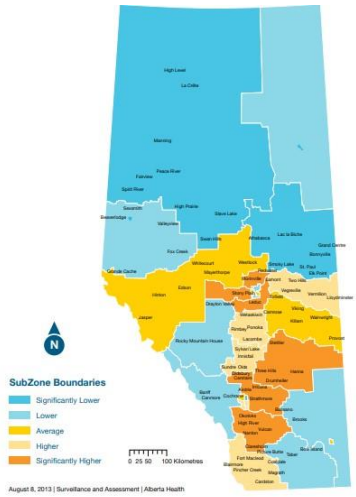


5

- MS is an inflammatory demyelinating disease of the central nervous system. 8
- Leading cause of non traumatic neurologic disability in young adults. 8
- Most common age of diagnosis is between 20 -45 years old. 2
- Twice as common in women then men. 3
- Patients with MS are 3.5 times more likely to be hospitalized than the general population. 10

1 in every 385 Alberta residents have MS. 4

MS in Alberta



- **FUN FACT: Canada has a high incidence rate of MS with Alberta having one of highest rates in the world** 3

Types of MS

Clinical Name	Description	Prevalence
Clinically Isolated Syndrome (CIS)	Single lesion on MRI and single incidence of neurologic symptom.	Precursor for other types of MS.
Relapse Remitting MS (RRMS)	Periods of remission between relapses; however, the damage that occurs with each relapse is irreversible.	Most common form of MS, accounts for 85-90% of new diagnoses.
Secondary Progressive MS (SPMS)	Continuation of relapses and the patient's inability to recover between relapses causes moderate to severe disability.	Approximately 50% of RRMS will progress to SPMS within 10 years of onset.
Primary Progressive MS (PPMS)	Progressive deterioration from disease onset without the ability to fully or partially recover.	Approximately 10% of diagnoses.
Progressive Relapsing MS (PRMS)	Steady progression from onset but also includes acute attacks.	Very rare, accounts for less than 5% of all MS diagnoses.

5,11

Disease Modifying Therapies (DMT)

- First line of MS treatment.
- Target inflammatory process.
- Reduce the frequency and severity of MS relapses.
- Reduce number of lesions in the brain and spinal cord.
- Slow disease progression.
- Currently 18 DMTs approved by Health Canada. 7

What do nurses need to know about DMTs?

- Variety of administration routes: IM, SC, PO, IV.[5]
- Monitor labs to assess liver enzymes and lymphocyte counts for Progressive Multifocal Leukoencephalopathy (PML). [5]
- Contain cytotoxic properties and may cause fetal harm. [5]
- **Patients who do not adhere to their treatment regimen have poorer clinical outcomes including higher rates of relapses and disease progression**. [9]

Nursing interventions for MS patients

- Managing symptoms is the biggest goal for patient care. [8]
- Includes pharmacologic interventions, rehabilitation, psychosocial support, education and counselling. [8]
- **Surplus suffering** is caused by a misunderstanding or underappreciation of invisible symptoms such as fatigue, depression and incontinence. [1]

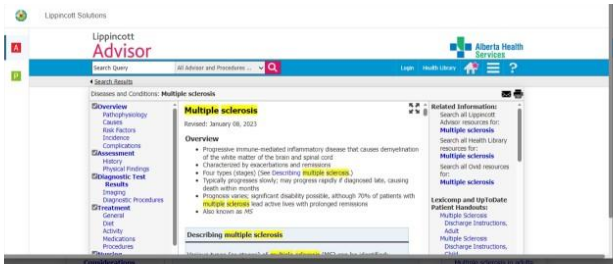
What can I do as a bedside nurse?

- Provide emotional and psychological support. [5]
- Encourage involvement in care plan. [5]
- Balance rehabilitation and physio interventions with periods of rest.
- Multidisciplinary referrals.
- Be aware of neurogenic bladder issues. [12]
- When pt is admitted, ask if they are on a DMT.
- Know where to access information on DMTs.

Do I have to remember all this???

Lippincott Resource on InSite

- https://advisor-lww-com.ahs.idm.oclc.org/lna/document.do?bid=4&did=1204002&searchTerm=Multipl%20Sclerosis&hits=multiple,sclerosis



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Thank you!!

Questions?

APPENDIX C

Invitation

Good afternoon,

Jeanine Sklarenko, a Master of Nursing student at the University of Lethbridge, will offer a 15 min education sessions on Multiple Sclerosis titled “Integrating Evidence into Practice” and highlight new resources available to front-line nurses.

The purpose of the education session is to foster the process of knowledge translation and increase awareness in frontline staff focused on four learning outcomes:

1. Increase awareness of the complexity of MS and patient care.

2. Increase understanding of disease modifying therapies (DMT) and supporting information.

3. Increase understanding of specific MS nursing interventions.

4. Introduce the new MS Lippincott resources available on InSite

Please join Jeanine and your colleagues for an interactive education session to increase your awareness of Multiple Sclerosis and best practices in providing quality care.

Date: June 14 & 15, 2023

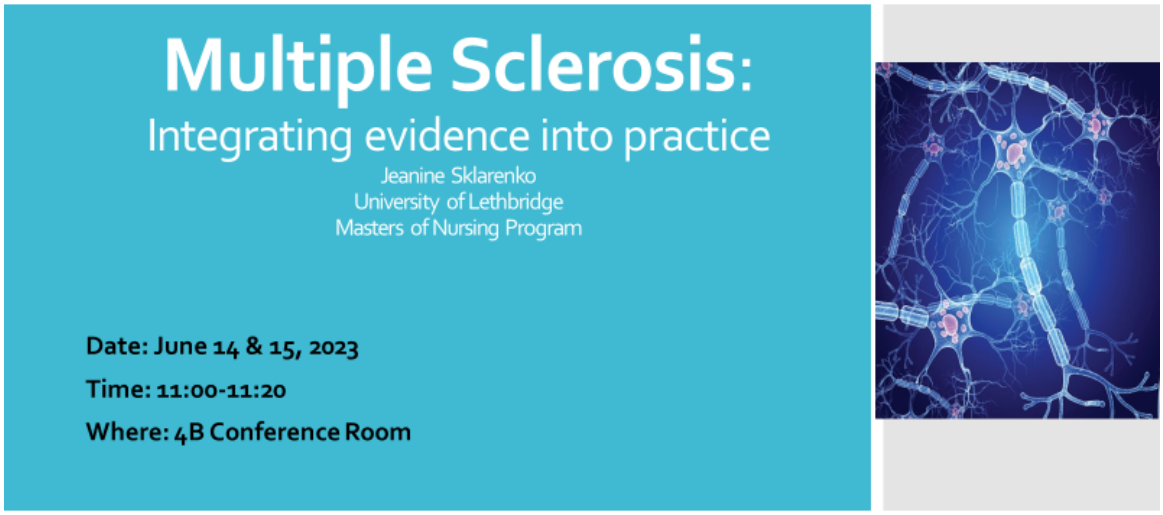
Time: 16:00-16:20

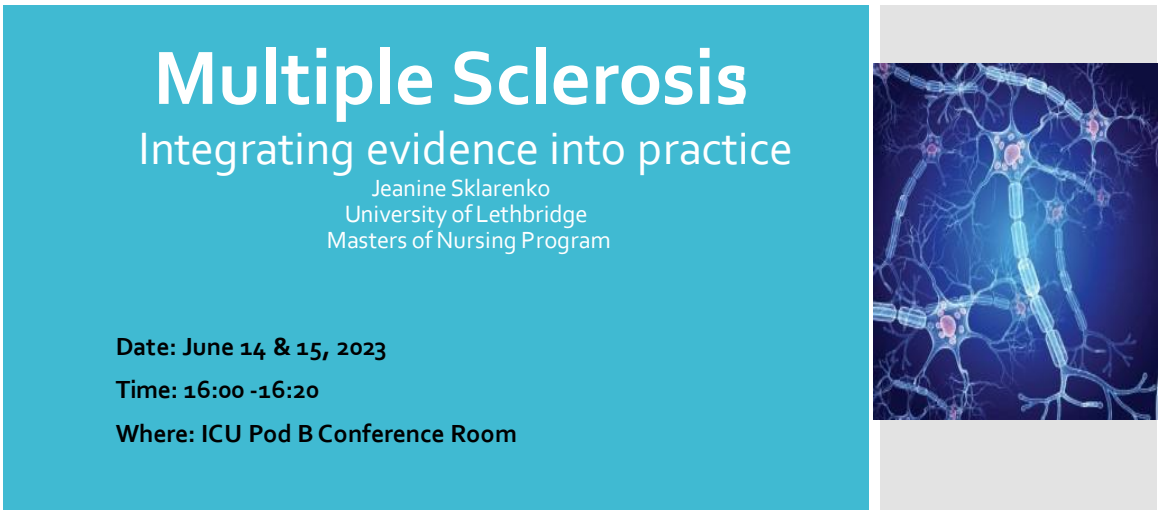
Location: Pod B conference room

(Manager signature)

APPENDIX D

Session Information Banner





APPENDIX E

Pre-Presentation Survey

1. How often do you care for an MS patient?
    a. Very often (at least 1 pt/month)
    b. Occasionally (1 pt/2-3 months)
    c. Rarely (1pt/ 3-6 months)

2. How confident do you feel in caring for MS patients?
    a. Extremely confident
    b. Somewhat confident
    c. Not confident at all

APPENDIX F

Post-Presentation Survey: Multiple Sclerosis

1. Were you aware that 1 in every 385 Albertans is diagnosed with MS?

    a. Yes

    b. No

2. How many forms of MS are there?

    a. 5

    b. 3

    c. 2

    d. 4

3. How many DMTs are approved by Health Canada?

    a. 10

    b. 6

    c. 18

4. DMTs have the ability to _____ disease progression.

    a. Increase

    b. Decrease

    c. Halt

5. What is surplus suffering?

    a. Suffering with the diagnosis more than others.

    b. Misunderstanding or underappreciation of invisible symptoms.

    c. Caused by diagnosis of 2 or more chronic diseases.

6. List two nursing interventions for an MS patient:

    1.

    2.

7. Do you think the Lippincott resource provides valuable information?

    a. Yes, I can't wait to access it for more information!

    b. No, I knew the majority of information included in the resource.

8. Please provide any additional feedback about information covered in presentation: