BRIDGING THE GAP: THE IMPACT OF POST INTENSIVE CARE SYNDROME-FAMILY ON INTENSIVE CARE UNIT FAMILY CAREGIVERS

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BRIDGING THE GAP: THE IMPACT OF POST INTENSIVE CARE SYNDROME-FAMILY ON INTENSIVE CARE UNIT FAMILY CAREGIVERS

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ABSTRACT

The needs of the families of intensive care unit (ICU) patients are not formally acknowledged in the critical care setting, leading to significant challenges for these families. Family members often experience various symptoms, such as anxiety and sleep disturbances (Shirasaki et al., 2024). This is due in part to the stress encountered during their ICU stay, which combined with the needs of the ICU survivor, as well as unexpected challenges post-discharge from ICU to home, can lead to Post-Intensive Care Syndrome-Family (PICS-F) (Shirasaki et al., 2024). There is a notable lack of recognition and understanding of PICS-F among critical care clinicians, including critical care nurses (Shirasaki et al., 2024). The project aimed to bring awareness among ICU clinicians about PICS-F and their role in its mitigation, leading to improved outcomes for ICU families and their loved ones. The findings of this project suggest that ICU clinicians readily confirm the relevance of PICS-F in their clinical practice.

Key Words: Post-Intensive Care Syndrome-Family (PICS-F), Intensive Care Unit (ICU), Critical Care, ICU Survivorship, ICU Families, Post-ICU caregiving.

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SECTION 1: INTRODUCTION

Nursing Practice Problem

The number of patients admitted to intensive care units (ICUs) continues to increase, as is the number of patients surviving ICU (Imanipour & Kiwanuka et al., 2020; Vester et al., 2022). Patients discharged from the ICU can experience psychological, cognitive, and physical difficulties, collectively known as post-intensive care syndrome (PICS), which can further complicate their discharge home and rehabilitation (van den Born-van Zanten et al., 2016; Stayt & Venes, 2019), and can result in readmission back to the ICU, adding further costs to the healthcare system (McPeake et al., 2022). Simultaneously, family members of ICU patients can experience physical, cognitive, and psychological challenges, known as post-ICU care syndrome-family (PICS-F) (Avgeri et al., 2021; Shirasaki et al., 2024). Family members are vital to a patient's health and quality of life post-ICU discharge (Avgeri et al., 2021), underscoring the necessity for ICU clinicians to be aware of PICS-F and its implications.

Recognizing PICS-F is crucial for holistic patient and family-centered care in critical care, aligning with the core values of nursing that emphasize compassion, empathy, and comprehensive support (CACCN, 2019). As frontline healthcare providers, critical care nurses are uniquely positioned to identify and mitigate the effects of PICS-F. Early recognition and assessment are essential, as implementing screening tools and assessments can mitigate PICS-F. Presently, there is no policy or guideline that recognizes PICS-F in critical care settings within Alberta Health Services (AHS), or Covenant Health. Thus, there needs to be awareness and education for critical care nurses and other critical care clinicians who work in ICUs within these organizations.

Purpose of the Project

The project aimed to explore the existing literature surrounding PICS-F, which informed a PowerPoint presentation that was shared with ICU clinicians at the Misericordia Community Hospital in Edmonton, Alberta, with a specific intent to encourage ICU clinicians to become aware and knowledgeable about PICS-F. Gaining a deeper understanding of PICS-F is paramount to authentically addressing the needs of families and improving long-term ICU health outcomes for patients. Family members play a pivotal role in the recovery phase of former ICU patients at home. Consequently, ICU clinicians must recognize risk factors associated with PICS-F and be knowledgeable about effective mitigation strategies that can be implemented during the ICU stay.

SECTION 2: LITERATURE REVIEW

Background

Millions of individuals are admitted to intensive care units (ICUs) annually, with approximately a third requiring mechanical ventilation, and other invasive procedures (SCCM, n.d.). As medical advancements and treatments progress, the mortality rate among critical care patients has decreased, shifting the focus to post-ICU outcomes, such as the quality of life of ICU survivors and their long-term functional recovery (Esteban et al., 2013; Kang, 2023; Merwe & Paruk, 2022; van Beusekom et al., 2016). This paradigm shift is partly due to recent research examining the impacts of critical illness and ICU admission on both patients and their family members (Ågård et al., 2015). ICU hospitalization presents a challenging and stressful circumstance for patients and their families (Avegeri et al., 2023). Family members of ICU patients often find themselves thrust into stressful situations, assuming the responsibility for making decisions on behalf of patients and unknowingly becoming caregivers themselves (Avegeri et al., 2023).

A literature review was conducted using the Population, Concept, and Context (PCC) framework (Pollock et al., 2021) to address the research question: How does PICS-F affect the overall well-being of family members of adult patients discharged from critical care? The Population included family members of adult ICU survivors. The Concept was "impact of PICS-F," and the Context was "post-ICU settings." Inclusion criteria were studies published in English within the last 15 years, covering systematic reviews, literature reviews, and primary studies. Exclusion criteria included editorials, COVID-19 impact studies, and pediatric and neonatal critical care studies. The search was conducted in PubMed, CINAHL Plus, Web of Science, Medline, and Google Scholar

using key terms such as “PICS-F,” “critical care,” “intensive care,” “family or relatives,” “caregiving at home,” and “critically ill patient at home.”

The literature review aimed to understand the PICS-F syndrome (Post-Intensive Care Unit Syndrome-Family) and its impact on family caregivers of adult ICU survivors. The Social Ecological Model (SEM) was used to organize and synthesize the findings, including the risk factors of PICS-F, the impact of PICS-F on ICU survivors and family caregivers, current mitigation strategies, future recommendations, and the role of critical care nurses. The SEM model was chosen as the framework as it can recognize that caregiving experiences are shaped by various levels of influence, such as individual, interpersonal, community, organizational, and policy, all of which intersect with each other (Nguyen et al., 2022). By examining caregiving within this broader framework, we can gain deeper insight into the experiences of ICU family caregivers, inform practical approaches to support these caregivers, and address the challenges associated with PICS-F.

Post Intensive Care-Syndrome Family (PICS-F)

Critical care can be traumatic for patients and families (Osterman & Vincent, 2023; Padilla-Fortunatti et al., 2023; Wunsch et al., 2014). ICU survivors can further experience a diverse array of complications following their ICU stay, collectively termed post-ICU care syndrome (PICS). Symptoms range from physical weakness and fatigue to psychological issues such as depression, anxiety, and PTSD (Ågård et al., 2015; Cox et al., 2009; Choi et al., 2018; Merwe & Paruk, 2022; Parker et al., 2015 SCCM, n.d.). PICS can affect the ICU survivors’ quality of life and functional abilities, with many unable to return to their previous roles, affecting family dynamics (SCCM, n.d.). Family support is

crucial for patient recovery; however it also places a tremendous and unwilling burden upon family members, who then transition to becoming caregivers (Avegeri et al., 2023). It was found that up to half of the ICU survivors required care from family members at home (Avegeri et al., 2023), highlighting the importance of understanding PICS-F and its impact on patients and caregivers.

PICS-F was conceptualized through the collaborative efforts of researchers studying PICS, expanding the focus to include the impact on families. As they investigated the effects of ICU stays on patients, they also identified the significant physical, psychological, and cognitive problems experienced by the families of ICU survivors, collectively referred to as post-ICU care syndrome (PICS-F) (Ågård et al., 2015; Avegeri et al., 2023; Davidson et al., 2012).

Impact of PICS-F Through a SEM Lens

The Social Ecological Model (SEM) acknowledges the effects of individual behavior, interpersonal dynamics, and contextual factors on the overall health of individuals (Litchfield et al., 2021). The SEM was initially developed to describe the relatedness between person and context in developing and implementing public health initiatives (Litchfield et al., 2021). The SEM has been utilized as a framework that examines caregiving within the context of multiple levels of influence, including individual, interpersonal, community, organizational, and policy levels (Litchfield et al., 2021; Nguyen et al., 2022; Ornstein & Caruso, 2024). This expanded discussion illustrates the recognition of factors such as socioeconomic status, access to healthcare, social support networks, and cultural background, which significantly influence the caregivers' experiences and the outcomes of care recipients (Padilla-Fortunatti et al.,

2023; Ramadurai et al., 2022).

The literature reviews' findings on the impact of PICS-F were systematically organized and synthesized according to the various phases of influence within the SEM. The summary begins with the individual level of influence.

Individual Level

At the individual level, the SEM considers the characteristics of the individual shaped by their gender, racial identity, economic status, age, and genetics (American College of Health Association, n.d.). The SEM notes that individual coping styles, mental health, and previous stress experiences can impact a person's psychological well-being (Ornstein & Caruso, 2024). Within the SEM, the caregiver and care receiver can be viewed as individual entities with their properties, affecting each other's health status (Ornstein & Caruso, 2024).

The Family Caregiver:

For patients and families, discharge from the ICU to home signifies progress in their journey, yet it also presents challenges (Choi et al., 2018). The transition can be daunting, with family caregivers often unknowingly assuming a significant portion of the care responsibility for ICU survivors (Choi et al., 2018). Risk factors for PICS-F include 'invariant' factors such as being of a female gender, being of a younger age, and having lower education levels (Putowski et al., 2023; Shirasaki et al., 2024). Family members who experience PICS-F manifest signs and symptoms in the psychological, physical, cognitive, and social domains. Studies showed that family members often experienced anxiety, because they continued to worry about their loved one's prognosis (Choi et al.,

2018; Shirasaki et al., 2024). They also experienced symptoms of depression due to the uncertainty of the long-term impact of the critical illness, which led to feelings of hopelessness (Choi et al., 2016; Choi et al., 2018; Shirasaki et al., 2024). Some family caregivers also developed PTSD because of the trauma of the ICU admission (van den Born-van Zanten et al., 2016; Shirasaki et al., 2024). Families also reported having feelings of distress, fear, guilt, and general sadness because of what they and their loved ones experienced in the ICU as well as their journey post-ICU at home (Choi et al., 2011; Stayt & Venes, 2019; van den Born-van Zanten et al., 2016). Physical manifestations of PICS-F included sleep disturbances and fatigue among family caregivers due to the stress and demands of supporting their once critically ill, now chronically ill, loved one at home (Best et al., 2023; Choi et al., 2016; Choi et al., 2018; Shirasaki et al., 2024; Vester et al., 2022). Cognitive impairments reported included impaired concentration and memory problems (Frivold et al., 2016). Finally, social withdrawal was noted among those impacted by PICS-F, as family caregivers had often quit their employment and had little time to socialize with friends because of their caregiving demands at home (Ågård et al., 2015; Best et al., 2023).

ICU Survivors

As previously noted, PICS may persist for years following critical illness, leading to significant disability and increased care needs (Marra et al., 2018; Shima et al., 2020). However, studies have yet to be completed on the impact of PICS-F on ICU survivors. One study does show the potential impact that could be gained from understanding the impact of PICS-F: Avgeri et al. (2023) found in their study that 99.3% of ICU patients who survived ICU reported receiving support from one or more family members, with 79.2% of the caregivers being spouses and 42.6% being friends. It was noted that patients

who received more frequent care from two or more family members exhibited higher quality of life at 3- and 12-months post-ICU discharge compared to those cared for by fewer family members (Avgeri et al., 2023). This suggests that relying on a single-family caregiver may impact the long-term outcomes for an ICU survivor and increase the risk of burnout of caregivers (Avgeri et al., 2023).

Interpersonal Level

At the interpersonal level, the SEM helps us to understand how family dynamics and relationships can be impacted in the post-ICU care phase at home. Cox et al., 2009 found that caregivers experienced a sense of increasing distance in their relationship with the survivor, alongside feelings of irritation or anger while providing care. Both ICU survivors and family caregivers also experienced discordance between their personal expectations and the pace of recovery of the ICU survivor, which led to further stress and emotional strain between the ICU survivor and the family caregiver (Choi et al., 2018; Vester, 2022).

Community Level

At the community level, Petrinec and Daly (2016) noted that discharge of the patient from the ICU or the hospital may represent a new stressor for the families. Once at home, family caregivers have reported experiencing stress from managing and negotiating services for ICU survivors within health systems (Taylor & Quesnel-Vallée, 2017). Access to community resources, such as post-ICU care clinics that support both former ICU patients and family caregivers has the potential to ease caregiver stress experienced by ICU survivor families (van Beusekom et al., 2016).

Organizational

Presently, critical care units predominantly promote family-centered care (FCC) through the ABCDEF bundle of care, in which the “F” stands for family engagement (Grieshop, 2023). Specifically, these guidelines encourage ICU nurses and other clinicians to involve family members in the decision-making process and to encourage family involvement in direct patient care, including assistance with feeding and mobilization (Grieshop, 2023; Henderson, 2019; SCCM, n.d.). However, this approach does not assess the family caregivers' needs.

Policy Level

Finally, the SEM framework provides an opportunity to examine the role of government and how it shapes the social, economic, and environmental conditions of caregivers for ICU survivors. The approach to address PICS-F could vary depending on the country of residence, influenced by the political frameworks shaping healthcare spending. One study noted that Denmark supports financial losses due to hospitalization and ICU survivors' medical and rehabilitation costs (Kang et al., 2018). In the United States, several ICU recovery clinics and some clinics address PICS-F (Weinhouse & Lamas, 2020); however, accessibility to these clinics was affected by the funding model of the clinics. In Canada, post-ICU clinics can be found across larger metropolitan centers, with costs likely covered by the Canadian healthcare system; however, they do not directly address PICS-F (Alberta Health Services, n.d.; Alberta Health Services, 2024). Conversely, 50% of the ICUs in the United Kingdom have post-ICU clinics, some of which offer support groups to family caregivers (Flores, 2024). To highlight the impact

of government funding on policies addressing PICS and PICS-F, research should assess how much post-ICU discharge resource use is directly attributable to comorbidities faced by patients and families (Lone et al., 2013).

Current Strategies

Globally, ICU recovery clinics have been established to address PICS. In countries such as the UK and the USA, some of these clinics include support groups specifically designed to assist those experiencing PICS-F. Additionally, charitable organizations such as ICU Steps in the UK provide both virtual and in-person support for families affected by PICS-F (ICU Steps, 2024). They guide caregivers on self-care, encouraging them to prioritize their well-being, overcome guilt, and accept assistance from others (ICU Steps, 2024). Support groups are recommended by researchers who continue to work to understand PICS-F (McPeake et al., 2016; Milton et al., 2022)

In Canada, there are just a handful of post-ICU care clinics, including The ICU Recovery Clinic in Toronto, Canada (ICU Recovery Clinic, 2024), the ICU Recovery Clinic in Calgary, Canada (AHS, 2024), as well as the ICU Survivorship Clinic in Edmonton, Canada (AHS, n.d.). Although these clinics lack support for families affected by PICS-F, they can help decrease the burden of care upon family caregivers by addressing the care needs of the ICU survivors (Frivold et al., 2016; Ostermann & Vincent, 2023).

In addition to the ICU recovery clinics in Canada, several not-for-profit organizations in Canada provide resources for individuals who identify as caregivers, including Caregivers Nova Scotia (Caregivers Nova Scotia, n.d.), and Caregivers Alberta (Caregivers Alberta, 2024). These organizations offer various resources, such as respite

care services and caregiver coaching and peer support meetings, which aim to support caregivers in managing their stress and coping with feelings such as guilt and grief (Caregivers Nova Scotia; Caregivers Alberta, 2024).

Finally, within the ICU setting, ongoing and timely communication can help to decrease the effects of PICS-F (Imanipour & Kiwanuka, 2020; Kelly et al., 2021; Mistraletti et al., 2017; Putowski et al., 2023), as families consider it essential to receive regular, and transparent information about their loved ones' prognosis (Mistraletti et al., 2017). Additionally, ICU brochures available in some ICUs serve as a valuable communication tool (Mistraletti et al., 2017; Shirasaki et al., 2024). These brochures provide detailed information about the ICU stay and list various resources for caregivers, including information about what to expect during the ICU stay, explanations of standard procedures, tips on communicating with ICU clinicians, and information about ICU recovery clinics (McPeake et al., 2016; Mistraletti et al.; Shirasaki et al., 2024).

Caregiving and Critical Care Survivorship

The literature review on PICS-F revealed a significant and recurrent theme across all the research findings: the concept of caregiving. This discovery underscores the importance of further discussing the impact of caregiving.

Caregiving and the burden of family caregiving are well-established concepts extending far beyond critical care. Terms such as "family caregiver," "caregiver," "carer," "informal caregiver," "unpaid caregiver," "care partner," and "care provider" are synonymous descriptives commonly used in literature to refer to individuals who undertake unpaid care roles (Parmar, 2023). Caregivers provide unpaid care for family or friends and assist with activities of daily living or continued psychosocial support for a

person with a chronic illness, disability, or an older adult who is unable to manage their care independently (Wang et al., 2020). In fact, in the United States alone, an estimated 34 million family caregivers provide most of the at-home care for patients with various chronic and long-term illnesses, highlighting their indispensable contribution to the healthcare system (Kearns et al., 2020). Unpaid caregivers, typically family or close friends, are instrumental to the sustainability of North American healthcare systems, as their unpaid labor accounts for $27 billion in Canada and $642 billion in the United States (Cameron et al., 2016).

It is also important to note that today, the epidemiological profile of the population in need of care has changed substantially due to technological advances, including medical and surgical interventions (Law et al. 2021, Watland et al., 2023). Medical advancements have led to increased survival rates among patients with critical and chronic illnesses and have resulted in an increased prevalence of frailty and multi-morbidity among the population (Law et al., 2021). However, current health systems that evolved from specialist care and single, disease-oriented programs are poorly equipped to address this new reality of individuals living longer, perhaps frailer, and with multiple chronic illnesses (Law et al., 2021). The ‘gift of caregivers’ contributions in terms of the care they provide for their loved ones and the economic savings for the healthcare system (MacDonald & Hirdes, 2019) comes with personal consequences that include poor physical and mental health outcomes, as well as professional sacrifices and economic losses (Law et al., 2021).

In the context of critical care, caregiving is woven through the experiences of families affected by PICS-F. As patients transition from ICU to home, family members

often assume the role of primary caregivers, managing complex medical needs and providing emotional support. This responsibility, much like the caregiving roles for cancer survivors or individuals with Alzheimer's, often goes unnoticed and unpaid, placing significant physical, emotional, and financial strain on caregivers (Choi et al., 2018). ICU families play a pivotal role in promoting the recovery of ICU survivors, with over 50% of ICU survivors relying on family members for care (Avgeri et al., 2023), emphasizing the need for further research to understand how caregiving tasks at home contribute to and exacerbate PICS-F.

Literature Gap:

The literature review indicates that studies primarily featured homogenous samples, with acknowledgment of gender, but excluded race, rurality, and other social determinants of health, thus narrowing their generalizability. Notably, the research often lacked baseline data on physical, cognitive, and social and solely focused on mental health impairments. In addition, frameworks such as the SEM should be considered to examine the influence of social determinants of health on PICS-F. This approach will enable a comprehensive understanding of how socioeconomic status, education, and community support impact the burden of care on families caring for ICU survivors. There is also a need for more qualitative studies to capture the nuanced experiences and challenges these families face.

Recommendations

Despite extensive evidence on the impact of PICS-F on family caregivers of ICU survivors, there still needs to be more funding for multidisciplinary models of post-ICU care that include physiotherapists, occupational therapists, and social workers. In

addition, there is also a need for more support for family caregivers within these clinics, particularly in North America. This gap may be partly due to the Western medical model, which is disease-focused, with much of the funding focused on acute care measures, with minimal attention to the post-acute healthcare needs of former patients and their families (Kang et al., 2018). Increased recognition and funding for family caregiver needs are essential, along with providing support groups and social work assistance within ICU recovery clinics. These services should be widely accessible, offering in-person and virtual attendance options.

Additionally, family-centered care in the ICU continues to promote the ABCDEF bundle of care approach (Grieshop, 2023), focusing exclusively on the patient while neglecting the overall well-being and needs of the family caregivers. The health and well-being of ICU families should be equally important as patients themselves. It is important to recognize families, who are encouraged to become caregivers in the ICU and often become sole caregivers at home post discharge from ICU, as more than simply 'partners' in patient care. Family members need to be recognized as a separate entity or 'patient' themselves, requiring a framework of care to understand their needs separately from the needs of the patient. For example, the Caregiver Centered Care (CCC) framework notes that family caregivers are the unseen workforce of society and the foundation of the healthcare system, and that healthcare workers need to identify, engage, and support family caregivers (University of Alberta, 2024; Parmar et al., 2021). Adopting frameworks such as the CCC, ICU clinicians, and health systems would be able better understand and assess the needs of family caregivers of ICU patients (Henderson, 2019; Parmar et al., 2021; Watland et al., 2023).

Much of what is considered ‘resources’ for ICU families places the burden of responsibility to mitigate PICS-F upon the family members themselves. This is illustrated through encouraging self-care practices, such as maintaining a balanced diet and getting enough sleep (ICU Steps, 2024, SCCM, n.d.). To help address this, ICUs and ICU recovery clinics should develop the capacity to assess and identify PICS-F signs and symptoms. For example, consulting social workers or transition-to-home healthcare workers in the ICU can assist family caregivers identifying their anticipatory needs, including rehabilitation needs for ICU survivors at home, as well as community and financial support for the families themselves.

Implications for Nursing

Critical care nurses play an instrumental role in providing holistic and empathetic care to patients and their families (CACCN, 2019) while balancing their duty to provide life-sustaining care to critically ill patients and managing ethical and moral dilemmas (Bruyneel et al., 2021; CACCN, 2019). Critical care nurses can identify at-risk families early by recognizing symptoms of PICS-F (Watland et al., 2023). Thus, critical care nurses are uniquely positioned to help address PICS-F within the ICU. By recognizing symptoms of PICS-F, critical care nurses can identify at-risk families early. Nurses in the ICU play a pivotal role in coordinating care and consulting with social workers and spiritual care providers to help families process their ICU experience and plan for a successful discharge. By facilitating connections to necessary resources and support systems, critical care nurses can significantly mitigate the impact of PICS-F, ensuring both patients and families receive comprehensive care and support during and after the ICU stay.

SECTION 3: PROJECT DESCRIPTION

Background and Planning

The purpose of the project was to increase the awareness and knowledge of ICU clinicians about PICS-F. This was done by using current evidence to develop an in-person and virtual PowerPoint education session about PICS-F. The education session defined PICS-F and highlighted the signs and symptoms, risk factors, and mitigation strategies of PICS-F. The effectiveness of the PowerPoint presentation was evaluated by a voluntary feedback form that was administered to the attendee's post-presentation.

Project Goals:

1. Increase the awareness of ICU clinicians about PICS-F.
2. Build knowledge and understanding about PICS-F.

Target Population

The target audience for the project included ICU clinicians and interdisciplinary healthcare workers at the Misericordia Community Hospital (MCH) in Edmonton, Alberta. The project was promoted to ICU nurses, charge nurses, intensivists, nurse practitioners, respiratory therapists, physiotherapists, social workers, hospital spiritual care, and the ICU leadership team.

Project Development Process

Between March and April 2024, informal conversations were had about the PICS-F project with the unit manager (UM), clinical nurse educator (CNE), and the research lead with the Edmonton Survivorship Clinic. A briefing note outlining the health concern, PICS-F, was emailed to the ICU UM and the CNE requesting for an in-person meeting.

On April 26, 2024, a 1-hour meeting occurred with the UM and CNE to discuss the intent of the project and the feasibility for ICU clinicians to attend the in-person PowerPoint presentation in the auditorium of the hospital. Permission was obtained to book the auditorium and disseminate posters (see Appendix A) via email to promote the project. Voluntary feedback regarding the PowerPoint presentation was received from the CNE, the Edmonton Survivorship Clinic researcher, the course instructor, and her PhD student. Feedback was carefully considered, and improvements were made.

Ethical Considerations

An ethics determination form was submitted to the University of Alberta Research Ethics Board (REB) to conduct a pre- and post-knowledge test. However, this evaluation exceeded the project's scope and timelines, and a revised evaluation form was submitted with the intent of only collecting feedback from participants who attended the PowerPoint presentation. Following revisions, a favorable ethics determination was obtained, allowing the project to proceed (see Appendix B).

Project Design

The ADDIE model guided the instructional design of the PowerPoint presentation on PICS-F. The ADDIE model was chosen because of its structured, comprehensive, and flexible nature. Its clear and sequential framework—comprising Analysis, Design, Development, Implementation, and Evaluation—ensures a thorough and organized approach, covering all critical components from needs assessment to final evaluation (Allen, 2006; Chevalier, 2011; McGriff, 2000). Unlike linear models, ADDIE's iterative process allows for continuous refinement based on feedback, ensuring the presentation remained relevant and impactful. The model's built-in evaluation phase emphasizes both

formative and summative assessment, facilitating continuous improvement (Allen, 2006; Chevalier, 2011; McGriff, 2000). Additionally, its structured phases promote collaboration among stakeholders, in this case, with the CNE and the ICU Survivorship Clinic Researcher, ensuring comprehensive and relevant content. Implementation involved delivering the presentation and engaging the audience, ensuring the presentation met its objectives, increasing awareness about PICS-F. The application of the ADDIE framework is illustrated in the tables seen below:

Table 1
Analysis Phase Overview

Analyze		
Instructional Goals	Target Audience	Required Resources
1. Increase the awareness of ICU clinicians about PICS-F. 2. Increase the knowledge of ICU clinicians about PICS-F.	Participants of the presentation include ICU clinicians who directly and indirectly care for ICU patients and families.	1. Presentation outline was created using the ADDIE framework. 2. Personal laptop to facilitate virtual aspect of presentation. 3. Misericordia auditorium room, including desktop access for in-person aspect of presentation. 4. Presentation feedback form. 5. Lunch was provided.

Table 2
Design Phase Outline

Design		
Learning Objectives	Instructional Strategies	Evaluation Strategies
• Define PICS and PICS-F. • Identify signs and symptoms of PICS-F for early detection during	• Education in-service June 5, 2024. • 45-minute PowerPoint presentation,	• 5-10 minutes allotted for post presentation feedback.

the ICU admission stage. • Identify risk factors for PICS-F. • Develop an understanding of the impact of PICS-F on family caregivers and former ICU patients.	and included a case study and a PICS-F video.	

Table 3

Development Phase

Development		
Learning Resources	Validation	Pre-test
• PowerPoint presentation and session notes • Case study • PICS-F YouTubeVideo • PowerPoint Presentation outline • Poster development and dissemination to MCH ICU team.	• PowerPoint presentation was shared with Edmonton ICU Survivorship Clinic research lead, the CNE, and the course instructor, and a PhD student for feedback.	Written feedback on the utility of the presentation and effectiveness of the content was received.

Table 4

Implementation Phase

Implementation	
Pre-Implementation	Recruitment
• Revisions were made to the PowerPoint presentation based on feedback received in the development phase • Signup sheet for the presentation was monitored to	• ICU clinicians were made aware of in-service education through MCH ICU email, ICU weekly newsletter, and poster reminder in break room.

ensure the timing was conducive to clinical schedules for the target audience.	• Sign-up sheet was available in ICU lunchroom. Participants also had the option to email their desire to attend the presentation.

Table 5

Evaluation Phase Summary

Evaluation	
Formative Evaluation	Summative Evaluation (Momennasab et al., 2023)
Feedback on the content and session notes was received from the Edmonton Survivorship Clinic research lead, the ICU CNE, the course instructor, and a PhD student.	• Level 1: Reaction—was measured by Question #3 '*The subject was relevant to my professional development.'* This question assesses the participants' initial reaction to the presentation. • Level 2: Learning—was measured by Question #5 *'As a result of the presentation, I am more knowledgeable about PICS-F.'* • Level 3: Behavior—was measured by Question #7 *'How will you implement findings from this presentation in your clinical practice?'*. • Level 4: Results—unable to assess the intermediate or long-term impact of this project.

Additionally, the Cognitive Domain of the Bloom's Taxonomy (Terhaar & Wilson, 2016) was utilized in the instructional design of the PICS-F PowerPoint presentation to enhance learning outcomes. At the Knowledge level, the presentation provided participants with essential information on PICS-F, including its signs, symptoms, definition, risk factors, and prevalence. Moving to the Comprehension level, the presentation facilitated understanding by enabling learners to identify PICS-F during ICU admission and summarizing the relationship between critical illness, ICU interventions, and the development of PICS-F. Additionally, a case study was incorporated to provide

context, helping learners grasp the impact of PICS-F on ICU survivors and their family caregivers, thus reinforcing their comprehension of the subject matter.

Project Implementation

The education session was held June 5, 2024, from 1300 to 1400h and was attended by ICU clinicians both in person and virtually. This time was selected because patient rounds are generally completed by 1200h, thus facilitating higher attendance.

Learning Objectives

The presentation attendees were provided with the objectives, which included developing an awareness and knowledge about PICS-F, including the signs and symptoms, risk factors, and current, as well as future strategies for the mitigation of PICS-F. Specifically, the objectives of the presentation were for clinicians to:

- Define PICS and PICS-F.
- Identify signs and symptoms of PICS-F for early detection during the ICU admission stage.
- Identify risk factors for PICS-F.
- Develop an understanding of the impact of PICS-F on family caregivers and former ICU patients.

Rationale for Project Format

A one-hour PowerPoint presentation was chosen as an education strategy for this project as it was feasible. It provided flexibility for an in-person and virtual engagement with ICU clinicians who work directly and indirectly with ICU families (Thompson, 2020). The 1-hour time frame allowed clinicians to receive comprehensive information

about PICS-F while being mindful of their competing schedules. Furthermore, PowerPoint was also selected for its ability to create visually appealing valuable information, encouraging clinicians to self-reflect and contemplate how it applies to their clinical practice (Thompson, 2000). In addition, to stay within the time allotted, the presentation's content was predominantly shared in a didactic format. A case study was also woven throughout the presentation, as many adult learners are more inductive reasoners (Mahdi, 2020).

Evaluation Methodology

A formative evaluation of the presentation and content was conducted during the project development and before implementation. A draft of the presentation was shared with the ICU CNE and the nurse researcher working with the Edmonton ICU Survivorship Clinic. They both provided verbal and written feedback via email. This feedback was analyzed and integrated using the SWOT analysis (GÜRel, 2017). The formative evaluation strategy adhered to the principles of the ADDIE model of instructional design (Chevalier, 2011). The key findings are noted below:

Figure 1: SWOT Analysis of Stakeholder Feedback

Next, to evaluate the effectiveness of the PowerPoint education session, a participant feedback form (Appendix C) was created and administered immediately after the education session. The evaluation form aligned with Kirkpatrick's Four Level Training Evaluation Model as it gauged the immediate reactions, the perceived relevance and utility of the presentation, the extent of knowledge gained, and the perceived potential for change in clinical practice based on the content presented (Momennasab et al., 2023). Evaluating clinical practice and long-term ICU family health outcomes was beyond the scope of this project. The cumulative feedback can inform future evaluations and quality improvement work surrounding PICS-F mitigation strategies, including ICU clinician education.

The feedback form incorporated both formative and summative evaluation elements. The qualitative questions served as a formative function by evaluating the target audience's insights into how the presentation could be improved, while the Likert scale

questions provided summative data on the overall effectiveness and reception of the presentation. Likert scale responses are widely used psychometric tools that are designed to quantify people's opinions pertaining to various subject matters (Bishop & Herron, 2015).

Data Collection

A total of 29 individuals attended the presentation, with 24 attending in-person and five joining virtually via Zoom. The in-person attendees included a diverse group of healthcare professionals, while the virtual attendees comprised individuals from various critical care backgrounds. Despite the 29 attendees, only 20 evaluation forms were submitted. All 20 respondents completed the quantitative questions, and 15 responded to the qualitative questions. Additionally, results from the feedback collected were aggregated, ensuring anonymity and results were collectively analyzed.

Data Analysis

Descriptive statistics were used to systematically organize and summarize the quantitative findings of the Likert scale results. Descriptive statistics involves summarizing a set of data to provide a clear overview (Kaliyadan & Kulkarni, 2019) to interpret and make meaning of the results.

The table below summarizes the quantitative responses from 20 participants. Overall, responses show that most respondents felt the presentation was relevant to their professional development and that the learning outcomes of the educational intervention were met. In addition, 95% of the respondents strongly agree that the presentation

increased their knowledge about PICS-F, providing evidence that project goal #2 was achieved with this education intervention.

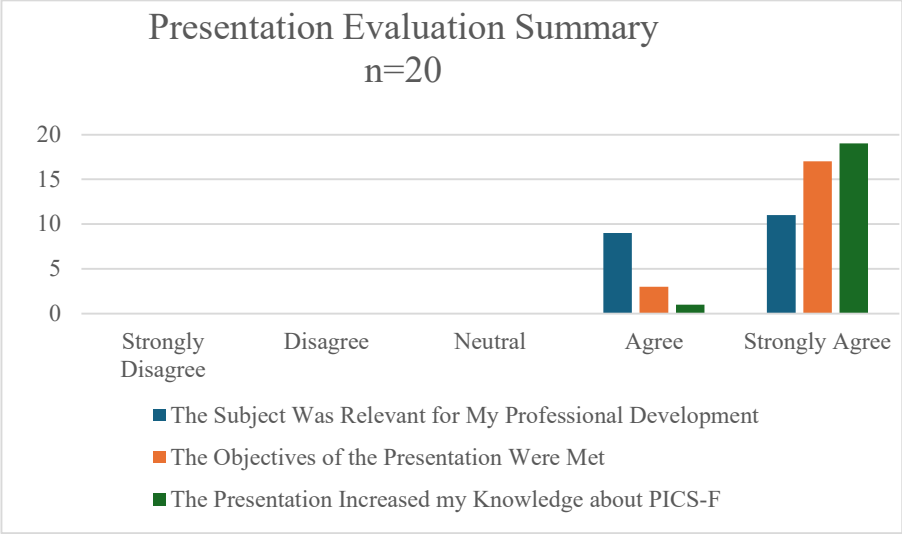

Figure 2*:* Summary of Participant Responses

The responses to the three open-ended qualitative questions— (1) What is the most important thing you learned from this presentation? (2) How will you implement findings in this presentation in your clinical practice? and (3) Please share any other feedback you may have below, including strengths and areas for improvement for this education session— were cataloged in an Excel spreadsheet, facilitating a thematic analysis. Thematic analysis is a method of analyzing qualitative data to identify, analyze, and report themes within the data (Braun & Clarke, 2006). This analysis yielded four principal themes:

1. Family-Centered Care

   Many respondents emphasized the importance of enhancing interaction with ICU patients' families. This included starting conversations with ICU families about their

needs and stressors, involving them early in the patient care process, and ensuring they are part of the transition to home planning.

2. Awareness and Utilization of Resources

   The responses highlighted increased awareness about existing resources such as post-ICU clinics. Respondents expressed intentions to promote these resources more effectively, including sharing information about post-ICU recovery clinics with families. Evidence of increased awareness indicated that project goal #1 was achieved through this educational intervention.

3. Enhanced Support for Families

   There was a clear recognition of the need for ongoing support for ICU families, not solely focusing on patient needs. Respondents recognized the importance of collaborating with social workers to support ICU families throughout their ICU journey.

4. Education and Advocacy

   Several respondents planned to advocate for families by sharing the concerns of ICU families with the care team to support family caregivers throughout their ICU stay and to facilitate a more successful discharge home.

The project findings and analyses suggest that the presentation learning objectives were largely met. It should be noted that critical feedback was also received from the presentation attendees. It was suggested that a second individual manage the virtual participants, which caused minor delays in the oral presentation. Two out of 20 individuals who submitted feedback appreciated the case study, as they noted that it provided a context for the PICS-F subject. In a future education session, the case study

could be presented at the conclusion to facilitate knowledge application, rather than integrating fragments of the case study throughout the education session. In addition, the analysis comes with some limitations. The data collection analysis and reporting were all conducted by the writer of this paper, which could introduce bias, specifically in the thematic analysis of the evaluation findings.

Project Limitations

There were several limitations in this project, including the format of the presentation. While PowerPoint presentations can be efficient and effective in some cases, they can also lead to predominantly passive learning. This linear format of learning may not have been conducive to the diverse learning styles of the participants (Thompson, 2020). Another limitation was the timeframe; one-hour may not have sufficiently covered all aspects of PICS-F in depth. In addition, results indicate that the presentation was not attended by a high number of frontline ICU nurses and that social workers, spiritual care, and physiotherapists were notably absent from attendance. This lack of diversity limits the comprehensiveness of the feedback and perspectives gathered. Effective PICS-F mitigation requires an interdisciplinary approach, and the absence of these key team members implies that the presentation did not reach all relevant stakeholders. Additional education sessions could have helped capture a broader audience to address PICS-F comprehensively.

SECTION 4: REFLECTION AND RECOMMENDATIONS

Project Development

The PICS-F project stems from my deep care for ICU families and my commitment to the well-being of both ICU patients and their families. Over my 15-year journey as an ICU nurse, I have observed a significant gap in the post-ICU care planning for patients and their families. Upon surviving their critical illness journey in the ICU, many patients and their families visited myself and my colleagues in the ICU to share their experiences and to express their gratitude. Through these interactions, I asked family members about their well-being, only to learn about their struggles with navigating the healthcare system and caring for their loved ones—challenges that they did not anticipate as they were solely focused on their loved one's survival. My concern for the well-being of the families inspired my curiosity to identify the needs of ICU families during their stay, and to provide resources and support to help mitigate PICS-F, ultimately facilitating a successful discharge home.

Embarking on this project, I encountered several challenges, starting with the literature review. Specifically, the literature was not extensive, with the noticeable scarcity of primary studies, particularly those exploring the impact of gender and race, both which can contribute to healthcare inequities in all healthcare settings. Despite these limitations, I worked diligently with the available primary studies and various literature reviews, keeping in mind that PICS and PICS-F are still relatively new to the clinical and research realms.

Next, creating the PowerPoint presentation proved to be a demanding and unexpectedly challenging task. Unlike my previous presentations within an academic

setting, which were primarily directed at peers and instructors during my MN journey, this presentation required a different approach. It needed to be pragmatic and accessible, designed to effectively reach a diverse audience that included frontline clinicians, ICU leadership, and researchers. The goal was to convey the complexities and nuances of PICS-F in a manner that was both informative and appealing. This involved a thorough understanding of the content and a strategic approach to its presentation. Consideration was given to varied perspectives and priorities of the audience, ensuring the information was relevant and actionable for each group. To illustrate key points about PICS-F, I incorporated various elements into the presentation, such as visual aids, a case study, and a YouTube PICS-F video. Additionally, clear and concise language was used, avoiding overly technical jargon that could have potentially alienated some members of the audience.

Feedback played a crucial role in refining the presentation. Input from the CNE and a researcher from the Edmonton ICU Survivorship Clinic was particularly valuable. Their insights helped identify areas that needed improvement and highlighted strengths that could be further emphasized. To systematically apply this feedback, I used a SWOT analysis framework. This approach allowed for the categorization of the feedback into strengths, weaknesses, opportunities, and threats.

For example, the CNE and the research lead from the Edmonton Survivorship Clinic highlighted the strengths of the presentation, including its visually engaging PowerPoint and the comprehensive evidence drawn from the literature review that informed the content. Weaknesses, like areas where the content was too dense or complex, were addressed by simplifying and clarifying the information. Potential threats,

such as the possibility of disengagement from some audience members, were mitigated by ensuring the content was diverse and inclusive, catering to different learning styles and professional backgrounds.

Key Takeaways

The opportunity to create and deliver an educational session about PICS-F provided numerous valuable insights that I gained throughout the process. For instance, it would have been more effective to create an active learning session, rather than a passive learning environment, to allow for engagement, retention, and practical application (Phillips, 2020). Other key takeaways included the importance of clearly defining the problem statement using the Population, Concept, Context (PCC) framework (Pollock et al., 2021). Defining the problem statement for the literature review using the Population, Concept, Context (PCC) framework was instrumental in more than just guiding the literature search. This framework provided a structured approach that ensured a comprehensive and targeted review, enabling the identification of relevant studies and critical insights. Beyond the literature search, the PCC framework served as an anchor for the entire project, offering a clear focus on its direction and objectives. This clarity facilitated the development of practical and achievable learning objectives and outcomes, ensuring that every aspect of the project was aligned with the overarching goal of improving support for ICU families and mitigating the impact of PICS-F. Additionally, employing the logic model was invaluable, as it structured the project by ensuring the creation of practical and achievable learning objectives, and facilitating the measurement of the outcomes. Together, these tools provided a robust foundation for the project's success.

Additionally, navigating the ethics process, which initially seemed daunting, turned out to be seamless, given the immense support from the course instructors. In comprehending the ethical terminology and documentation, it was imperative to ensure that every facet of the project adhered strictly to ethical standards to safeguard the confidentiality of participants. Furthermore, articulating the project's intent was important and involved clearly defining the objectives, methods, and potential impacts of the project, ensuring transparency. The entire process underscored the importance of clearly articulating the project's intent and language in developing a proposal and submitting for ethics determination.

Additional realizations included the importance of using and updating the GNATT chart, to ensure the project remained on track to meet deadlines. This project management tool proved to be indispensable for tracking progress against the established timeline, enabling the identification of potential problems and the implementation of corrective measures in a timely manner. Furthermore, communication and seeking assistance were paramount in the project development with all stakeholders to ensure the utility of the project. Engaging in frequent dialogue with the ICU leadership team, and the course instructor, was essential for aligning the project's objectives. This approach aligns with the Canadian Association of Schools of Nursing (CASN) graduate-level competency, which emphasizes the importance of advanced communication skills and interprofessional collaboration (CASN, 2022). By actively engaging stakeholders and leveraging their specific expertise, the project benefited from a comprehensive understanding of the challenges and opportunities.

Implications for Nursing Practice

The literature review and subsequent PowerPoint presentation on PICS-F provided crucial insights into the professional development of ICU clinicians related to PICS-F education development. Critical care nurses have the potential to play an instrumental role in early and timely mitigation of PICS-F. The knowledge-to-practice gap in PICS-F among critical care nurses may be the result of various factors. One primary reason could be that PICS-F is a newly researched phenomenon that has not made its way to frontline ICU attention, leading to insufficient awareness and understanding. In a high stress environment, such as the ICU, immediate patient care often takes precedence (Christensen & Liang, 2023), leaving little time for addressing the needs of families and understanding PICS-F. To counter this, enhancing education and training programs of ICU nurses, to include evidence-based content and practical strategies to mitigate PICS-F is important. In addition to further training, the creation and implementation of clear protocol on assessment for PICS-F and regular communication with families about the patient's condition, connecting families with social work, spiritual care, and transition coordinators, and assessing their anticipated home care needs, which are all vital steps to mitigate and decrease the severity of PICS-F (Watland et al.,2023).

The presentation highlighted the strengths of current resources that ICU clinicians would have already encountered. Clinicians can endorse these for families who are at risk for PICS-F, including the Caregivers Alberta organization as a resource for ICU families. Although they do not explicitly focus on PICS-F, the organization offers support across physical, psychological, cognitive, and social domains relevant to PICS-F. Additionally, ICU nurses were reminded about other existing resources, such as the Edmonton ICU app

(Department of Critical Care, 2020) and family 'welcome' packages, which provide families with valuable information on ICU stay complications, including delirium and PICS. By endorsing these resources ICU nurses can prepare families for a more successful discharge home. Successful discharge planning, in which there is PICS-F screening of families in the ICU, as well as providing families with resources to mitigate PICS-F, could contribute to successful health outcomes for ICU survivors and potentially reduce re-admissions, easing the burden on the healthcare system.

Nursing has always championed holistic care for patients; it is now time to extend this to ICU families, by viewing them as a separate entity, with consideration for their well-being. This project challenged ICU nurses to extend their care philosophy to consider ICU families as 'patients' themselves, requiring comprehensive assessment and support during their ICU stay and upon discharge. This approach exceeds the current ABCDEF bundle of care approach that promotes family-centered care (Grieshop, 2023), in which ICU families are patient care partners, with no consideration for the needs of the families. ICU nurses can advocate to help change this and bring attention to the well-being of ICU families.

Future Direction of PICS-F Research

Future studies of PICS-F must consider the social determinants of health, including race, gender, and rurality to ensure that future resources and intervention strategies reflect the heterogeneity of critically ill patients and their families. At a personal level, this project serves as a foundation for my doctoral research, where I will explore the impact of PICS-F on Punjabi family caregivers of adult ICU survivors. The literature review and environmental scan for caregiver resources completed for this

project revealed valuable allies, such as Caregivers Alberta and Alberta SPOR (Strategy for Patient-Oriented Research) SUPPORT Unit (ABSPORU, 2024). The goal of AbSPORU is to support patient-oriented research by fostering collaboration among patients, families, researchers, healthcare providers, and policymakers. AbSPORU is one organization that facilitates patient and family research partners. Future PICS-F research should consider family partners in various stages of research design. Additionally, recognizing and mitigating PICS-F requires a collaborative approach involving various healthcare professionals, as the PICS-F phenomenon occurs in the homes of ICU families, and thus consideration should be given to reaching out to homecare and community health nursing colleagues.

Conclusion

The singular focus on patient survival can sometimes lead to neglecting the broader needs of patients' families, which are critical for managing PICS-F. The project aimed to address this gap by increasing the awareness and knowledge of ICU clinicians about PICS-F. Through a detailed literature review and a comprehensive PowerPoint presentation, ICU clinicians were provided with essential insights into the impact of PICS-F and the vital role they can play in mitigating its effects, including interventions such as early and timely communication between ICU clinicians and families, connecting families with interdisciplinary healthcare professionals, such as social work, and promoting ICU recovery clinics for follow-up for ICU survivors and families.

In summary, the feedback received from ICU clinicians confirmed the relevance of the topic for their professional development and their increased knowledge about PICS-F because of the presentation. The positive feedback from the ICU clinicians

highlights the project's impact and underscores the potential for these clinicians to serve as partners in future quality improvement work to help identify and lessen the impact of PICS-F within the ICU setting. This collective effort represents a meaningful step toward addressing the holistic needs of ICU patients and their families. By fostering a culture of awareness and proactive intervention, ICU clinicians can significantly contribute to mitigating the long-term effects of critical illness on both patients and their families, ultimately enhancing overall outcomes and quality of life.

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APPENDIX A: EDUCATION SESSION POSTER

APPENDIX B: DETERMINATION OF ETHICS

RESEARCH ETHICS OFFICE

2-01 North Power Plant (NPP)
11312 - 89 Ave NW
Edmonton, Alberta, Canada T6G 2N2
www.ualb.ca/reo

April 22, 2024

Aninder (Angie) Grewal
Faculty/Department: University of Lethbridge, Faculty of Health Sciences, Master of Nursing Project Route
Email: angie.grewal@uleth.ca

Dear Aninder (Angie) Grewal:

RE: Determination of Ethics Review Requirement

Thank you for requesting a determination for your project: "Bridging the Gap: The Impact of PICS-F on ICU Survivor Family Caregivers". We have reviewed the details provided in your submission received on 2024-04-22 07:56:55.

The project that you have outlined meets one of the conditions described under Chapter 2 of TCPS2 (2022) as an activity that does not require REB review and, unless you make changes to the project, ethics approval is not needed. As such, the project has been determined to be outside of the REB's mandate. However, please note that if data is collected for the purposes of such activities but later proposed for research purposes, it would be considered secondary use of information not originally intended for research, and at that time may require REB review.

As discussed, the purpose of the evaluation forms are precisely that, to improve the delivery of the educational session, and do not meet the definition of research.

Sincerely,

Charmaine N. Kabatoff
Senior Officer, REB for
Anthony S. Joyce, PhD
Chair, Health Research Ethics Board - Health Panel

APPENDIX C: POWERPOINT PRESENTATION FEEDBACK

Bridging the Gap: The Impact of PICS-F on ICU Survivor Family Caregivers

1. **Please select what best describes your clinical or non-clinical role in critical care:**

☐ Physician
☐ Nurse practitioner
☐ RN
☐ Respiratory therapist
☐ Physiotherapist
☐ Manager
☐ Educator
☐ Clinical nurse specialist
☐ Social work
☐ Spiritual care
Other_____

2. Please indicate your years of experience:

☐ > Less than 1 year
☐ 1-5 years
☐ 5-10 years
☐ More than 10 years

3. **The subject was relevant for my professional development.**

Strongly Disagree ○	Disagree ○	Neutral ○	Agree ○	Strongly Agree ○

4. **The content addressed the objectives set out in the presentation.**

Strongly Disagree ○	Disagree ○	Neutral ○	Agree ○	Strongly Agree ○

5. **As a result of this presentation, I am more knowledgeable about PICS-F.**

Strongly Disagree ○	Disagree ○	Neutral ○	Agree ○	Strongly Agree ○

6. **What is the most important thing you learned from this presentation?**

7. **How will you implement findings in this presentation in your clinical practice?**

8. **Please share any other feedback you may have below, including strengths and areas for improvement for this education session.**

APPENDIX D: GNATT CHART

Activity	Start Date
Finalize the Project Proposal	April 1, 2024
Email MCH leadership team briefing note and request for meeting to discuss project implementation	April 12, 2024
Meet MCH leadership team (1 hour in-person)	April 26, 2024
Submit PowerPoint Presentation to Edmonton ICU Survivorship Research team and MCH leadership team for feedback	May 7, 2024
Disseminate posters for education session email, MCH ICU newsletter, and in break room	May 7, 2024
Finalize PowerPoint Presentation	May 24, 2024
Education session: 'Lunch & Learn' PowerPoint • PowerPoint presentation Data Collection • Pre-test to collect baseline knowledge. • Post-test to collect learned knowledge post presentation. • Presentation evaluation questionnaire will be disseminated.	June 5, 2024 1300-1400h MCH Auditorium
Data analysis	June 10-14, 2024
Final Writing	June 18-July 29, 2024

APPENDIX E: POWERPOINT PRESENTATION

Bridging the Gap: The Impact of PICS -F on ICU Survivor Family Caregivers

By Angie Grewal RN, MN(s)

Land Acknowledgement

As someone who was born in India and arrived in Edmonton at the age of two, I humbly acknowledge the privilege I have as a first-generation settler to call Treaty 6 territory my home for 37 years. Treaty 6 encompasses the traditional territories of numerous western Canadian First Nations, including Cree, Dene (DEN–Ē), Stoney Nakota Sioux, Saulteaux (SO-TO), and Ojibwe (OJIB-WĒ), for whom I hold a deep respect for their histories, languages, and cultures. As a nurse scientist, I recognize the responsibility I have to create culturally safe spaces and environments of care.


Agenda
01 Background
02 PICS
03 PICS-F
04 SEM
05 Prevention
06 Resources
07 Recommendations

Objectives

1. Increase the awareness about PICS -F.
   a. Define PICS
   b. Define PICS -F.
   c. Identifying the signs and symptoms of PICS-F.
2. Identifying risk factors of PICS -F.
3. Understanding the impact of PICS -F on caregivers and ICU survivors.

Background

Millions of individuals are admitted to intensive care units (ICUs) annually, with about a third requiring mechanical ventilation and other invasive procedures [34].

As medical advancements reduce mortality rates among critical care patients, the focus has shifted to post-ICU outcomes, quality of life, and long-term functional recovery of ICU survivors [10, 16, 20, 38].

Case Study

Simrat , a 32-year-old married woman with two young children, was admitted to the adult ICU with severe sepsis secondary to necrotizing fasciitis in her left leg. Her medical history includes mild asthma and no significant surgical history. Simrat's condition rapidly deteriorated, necessitating aggressive medical intervention.

The ICU Survivor

Post-ICU Care Syndrome: S &S

Physical Symptom	Cognitive Symptoms	Psychological Symptoms
• Breathing difficulties • Weakness and balance problems • Neuromuscular impairments • Pain and numbness	• Memory problems • Difficulty concentrating • Slow cognitive processing • Difficulty performing tasks	• Anxiety • depression • PTSD • sleep problems

Merwe & Paruk, 2022

The Caregiver

Who is a caregiver?

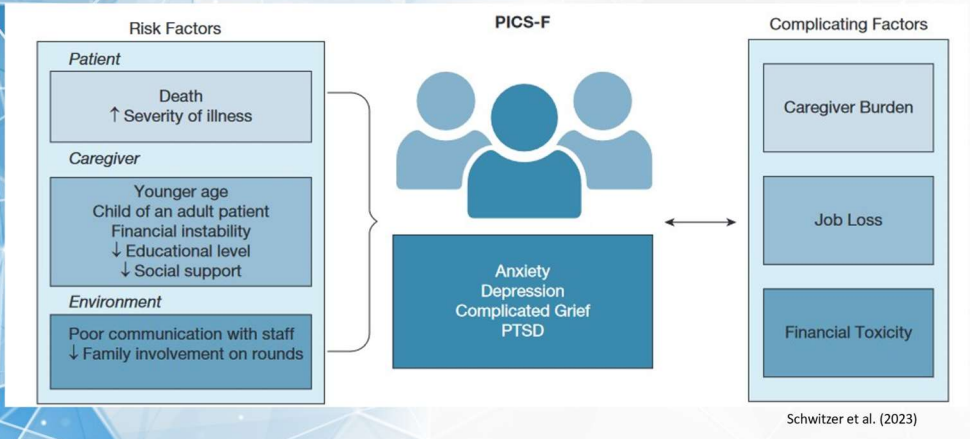
- A family member or someone who is like family who is providing care or support to a critically injured or ill person[49].

What is unpaid caregiving?

- Unpaid caregivers are people who provide care to family members and friends who need support with ADLs, personal care without financial compensation[50].

The Family Caregiver

Pics - Family: S &S



Schwitzer et al. (2023)

The ICU Family Caregiver

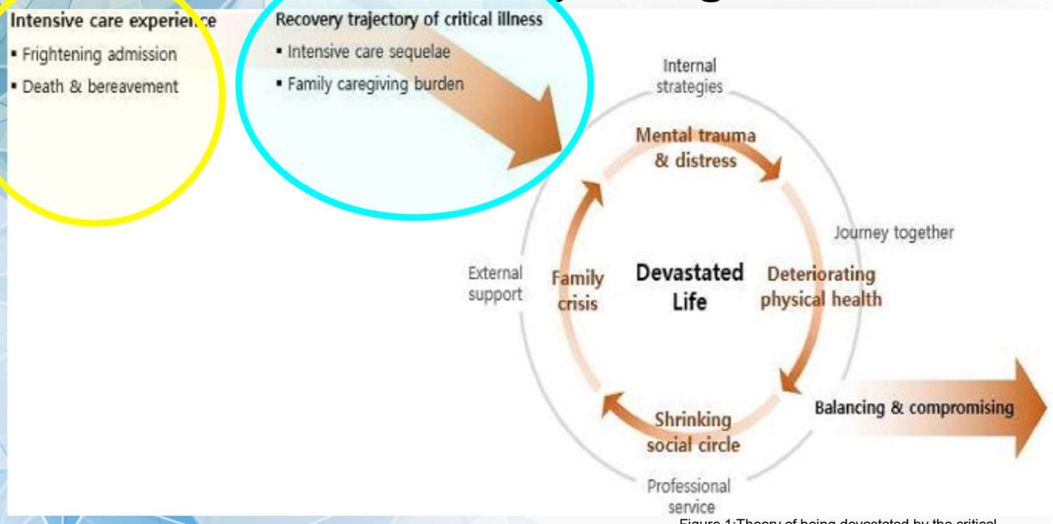


Figure 1:Theory of being devastated by the critical illness journey in the family. Kang et al. (2023)

PICS-F Video

Video Link:
https://www.google.com/search?sca_esv=da101aebc1066369&sca_upv=1&q=post+icu+care+syndrome+family&tbm=vid&source=lnms&sa=X&ved=2ahUKEwiWzOSPkpuGAxXbGTQIHck5BPoQ0pQJegQIChAB&biw=1536&bih=695&dpr=1.25#fpstate=ive&vld=cid:1a27763e,vid:MhdZGNaN6b4,st:0

Social Ecological Model

The SEM has been utilized as a framework that examines caregiving within the context of multiple levels of influence, including **individual, interpersonal, community, organizational, and policy -levels** [19, 23, 26].

PICS-F

PICS-F Through SEM Lens

Individual Level:

Family caregivers experienced stress, worry, and uncertainty post -discharge, leading to disruptions in their personal, work, and social lives .

Interpersonal Level

Strain on the relationship between ICU survivor and their family caregiver.

PICS-F

Community Level

Access to community resources, such as post-ICU recovery clinics that support both former ICU patients and family caregivers have the potential to ease caregiver stress experienced by family caregivers, thus mitigating PICS-F.

Institutional Level

Critical care units promote the ABCDEF bundle of care, where “F” stands for family engagement.

Family Models of Care

Family-Centered Care

Prioritizes involvement of patient’s family in decision-making, patient care planning, recognizing families as integral members of the **patient care team** [12, 13].

Caregiver Centered Care

Focuses on the needs, wellbeing, and support of the family member(s) who is providing direct care to the patient, offering tailored resources, education, and assistance to alleviate the caregiver’s burden and promote their own health and resilience [13, 29].

PICS-F

Policy Level

Need for policies to ensure there is comprehensive support for patients and their family caregivers, including financial assistance, caregiver leave, and access to mental health services [1, 2, 41].

Mitigation of PICS -F

- **First step is for ICU clinicians to recognize PICS and PICS -F**
- **Early family communication**
  - Frequent patient status updates
  - Involve family in decision making
  - Check in on family members
- **Prevention of PICS**
  - Early mobilization, decreased sedation, earlier extubation
- **Early involvement of spiritual care and social work**
  - Holistic support
  - Emotional support
  - Decrease financial burden upon discharge home
- **Referral to ICU recovery clinic**
  - Comprehensive follow-up patient care
  - Family support services (future work)

Resources

ICU Recovery Clinics

- **Edmonton Survivorship Clinic Edmonton, AB**
- **ICU Recovery**

Resources for Caregivers

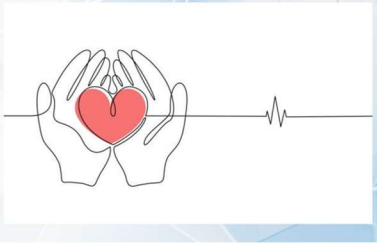
- Caregivers Alberta [47]
- The Ontario Caregiver Organization [48]
- Caregiver Nova Scotia [24]
- Edmonton ICU App [45]

Recommendations

- Designated ICU social worker or earlier consult with social work [14]
  - Proactive approach to assessing family caregiver needs
- Adoption of Caregiver Centered Care [29]
- Early and frequent communication with families [22, 35]
- Use of family diaries [35]
- Providing ICU 'welcome packages'
- Encouraging the use of Edmonton ICU App
- Implementation of culturally safe practices in ICU setting [51]

Recommendations

- Peer Support Groups:
  - In-person
  - Virtual



Summary

Recognizing PICS-F
- S & S
- Precipitating factors
- Mitigation strategies in ICU environment

- Advocating for change
  - In clinical practice
  - In research
  - Within organizations and institutions

Question and Answer...

Thank You

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