RURAL NURSES EXPERIENCES DURING COVID-19

EXPERIENCES OF RURAL ACUTE CARE NURSES DURING COVID-19 AND THE FACTORS THAT HELPED OR HINDERED THEM

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TITLE: Experiences of nurses working in small rural communities during COVID-19 and the factors that helped or hindered them

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LAY ABSTRACT

COVID-19 brought about unexpected changes to healthcare systems, putting a strain on nurses, including those in rural hospitals. This study aimed to learn more about the experiences that rural acute care nurses had during COVID-19, to see what was stressful for them and what helped them to deal with their stress. This study used a qualitative descriptive design to gather this information. Rural nurses were interviewed about their experiences during COVID-19, and this information was summarized. It was found that they experienced stressors, such as poor working conditions and loneliness, in the home, workplace, and in the community. However, people in these places could also offer support. Rural nurses appreciated when their workplace had adequate staff and equipment present for them to complete their work. This study showed how important it is for management to understand the needs of nurses particularly during times of crisis.

ABSTRACT

Background

COVID-19 brought about unprecedented changes to health care systems, putting a strain on nurses, including those in rural hospitals. The accounts of nurses who worked during COVID-19 can help to increase understanding of this strain and how nurses can be supported during such crises. The aim of this study was to increase the understanding of rural acute care nurses' experiences during COVID-19 and identify what challenged and supported them.

Methods

This study was completed using a qualitative description design, supported by the Society-to-Cells Resilience Theory. Convenience sampling was used to recruit participants with a target sample size of 10-30 nurses. Semi-structured interviews were conducted between March and May of 2023 via Zoom software; lasting from 60 to 90 minutes each. Content analysis was conducted by the primary researcher, with checks by a secondary researcher on two interviews for coding accuracy.

Results

Six Ontario rural acute care nurses participated in the study. Three related categories of factors emerged from the analysis; individual, workplace, and community factors. At the individual level, nurses faced social isolation, but were supported by their family and their own optimism. A key workplace factor that contributed to their distress

was poor working conditions, including ineffectual management. However, they were supported emotionally by their coworkers. Lastly, the community could have a positive or negative effect depending on how supportive they were of nurses during COVID-19.

Conclusion

Strong support systems, resource availability in the workplace, and active and supportive management increased nurses' well-being and resilience in the rural workplace. These findings can be used to inform future policy and management decisions in rural workplaces, especially during times of crisis, to prevent turnover and worsened mental health in rural nurses.

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LIST OF ABBREVIATIONS

CARRN	Canadian Association for Rural and Remote Nursing
CINHAL	Cumulative Index to Nursing and Allied Health Literature
CNO	College of Nurses of Ontario
COVID-19	Coronavirus Disease 2019
CPR	Cardiopulmonary Resuscitation
ER	Emergency Room
ICU	Intensive Care Unit
IPAC	Infection Prevention and Control
OR	Operating Room
PPE	Personal Protective Equipment
PSW	Personal Support Worker
PTSD	Post-Traumatic Stress Disorder
Public Health Ontario	Ontario Agency for Health Protection and Promotion
RNAO	Registered Nurses Association of Ontario
RNs	Registered Nurses
SARS	Severe Acute Respiratory Syndrome

DECLARATION OF ACADEMIC ACHIEVEMENT

I, Nicole Sala, declare this thesis to be my own work. I am the sole author of this work. Dr. Maureen Dobbins, Dr. Emily Belita, and Dr. Sheila Boamah provided guidance and editing throughout this work. Dr. Maureen Dobbins also provided advisement during the analysis portion of this thesis and acted in the role of a second researcher when analysing the data from two participants to create a coding dictionary. Aside from that, I completed all research work.

To the best of my knowledge, the content of this thesis does not infringe on any copyrighted material.

CHAPTER 1: Introduction

Ontario's health system is facing an ongoing crisis as nurses are leaving their jobs and sometimes the profession entirely in increasing numbers, resulting in vacancies that are difficult to fill (Fenn, 2021; Maunder et al., 2021). Vacancies in registered nursing (RN) positions in Ontario have doubled within the past four years, with approximately 10,000 vacancies in 2019 up to approximately 22,000 as of 2022 (Ontario Nurses' Association [ONA], 2022; Registered Nurses Association of Ontario [RNAO], 2022). Prior to the pandemic, rural Canadian hospitals were already having issues maintaining staff, with an aging workforce and decreasing availability of rural nurses (MacLeod et al., 2017). Recruitment of nurses to rural hospitals is a well-known and consistent challenge that requires specialized solutions specifically tailored for each workplace (McCallum et al., 2023). While the true rates of turnover during the coronavirus disease pandemic (COVID-19) in rural workplaces have yet to be identified, trend models concerning rural nursing homes in the United States suggest that rural hospitals likely faced comparable staff turnover to their urban counterparts (Yang et al., 2021). Much of the increase in turnover, or loss of nursing staff requiring replacement, during COVID-19 can be attributed to the stress, challenges, and workload worsened by COVID-19 (Al Maqbali & Al Khadhuri, 2021; Özkan, 2022). This increase in stress also caused an increase in burnout and mental health issues among nurses (Al Maqbali & Al Khadhuri, 2021; Özkan, 2022; RNAO, 2022). During challenging times such as COVID-19, nurses often need to use resilience, or the ability one has to overcome and heal during and after stressful events, in order to endure and persevere through them (Andersen et al., 2021;

Szanton & Gill, 2010; Yilmaz, 2017). Therefore, resilience and other sources of mental support were studied through the pandemic as methods for maintaining nurses' mental health and well-being (Marey-Sarwan et al., 2022; Siami et al., 2023; Tsouvelas et al., 2022). However, as rural nursing provides its own unique challenges due to the isolated nature of the workplaces and lack of resources, it is likely that rural nurses' experiences, challenges, and the sources of support that kept them working during COVID-19 differed from their urban counterparts (Jahner et al., 2020; Penz et al., 2019; Whiteing et al., 2022). Additionally, the experiences of rural nurses tend to go understudied, especially their experiences during the COVID-19 pandemic (Jahner et al., 2023). Therefore, this study sought to better understand the experiences of rural nurses during COVID-19 and identify factors that supported and challenged them. Managers, administration, and policy makers will be able to use this information in the future to better support rural nurses during times of crisis and large-scale change, with the intent of reducing turnover and worsened mental health.

This thesis consists of five chapters. Chapter 1 includes the introductory paragraph above, as well as the background information. The background section is intended to provide the reader with a better understanding of rural nursing in general, the challenges and supports common in the rural setting, and introduce the concept of resilience. The literature review will be addressed in chapter 2. This chapter reviews the techniques used to gather relevant literature and provides a summary of what is already known about the experiences of nurses, both urban and rural, during COVID-19. Chapter 3 covers the methods used to conduct the study. The results are reported in Chapter 4.

Lastly, chapter 5 provides a discussion comparing the extant literature to the results of this study. This chapter also includes a discussion of the strengths and limitations of this study, the implications of the results to various groups, and areas for future research.

Background

Nursing Workplace Conditions

Nursing can be a very rewarding profession; however, it can also be extremely emotionally and physically demanding at times and can create numerous sources of stress (Chana et al., 2015; Jahner et al., 2019). Nurses face many challenges including high workloads, excessive demands, and long workdays, with shifts that last eight to twelve hours or longer (Edward & Hercelinskyj, 2007; Peñacoba et al., 2021; Penz et al., 2019; Rieckert et al., 2021). The workload tends to be so heavy during the workday that nurses are unable to take breaks, which can potentially result in increased burnout and events that compromise patient safety, such as medication errors (Dekeseredy et al. ,2019; Gould et al., 2019). Nurses may also have difficulties completing their work when there are a lack of resources in their workplace, including inadequate staffing (Cooper et al., 2021; Dekeseredy et al., 2019). Another challenge that nurses often face in the workplace is violence. Workplace violence can occur from patient to staff or staff to staff (Edward & Hercelinskyj, 2007; Gould et al., 2019; Maunder et al., 2021; Yilmaz, 2017). Nurses may also face stress related to inflexible scheduling which negatively impacts their ability to

rest between shifts, preventing them from recovering physically and emotionally before returning to work (Wei et al., 2019; Dekeseredy et al., 2019).

Rural Nursing

This thesis investigated the experiences of rural nurses in Ontario. However, in order to do so, the concept of the rural setting or area needed to be defined and delineated from similar concepts. Generally, when researchers investigate Canadian nurses, urban, rural, and remote nurses are defined as such by the location of their workplace (Dekeseredy et al., 2019; Jahner et al., 2020; 2023; MacLeod et al., 2021). When a nurse works in a rural workplace, they are a 'rural nurse' (Dekeseredy et al., 2019; Jahner et al., 2020; 2023; MacLeod et al., 2021). Workplaces can be considered urban, rural, or remote depending on the local community's population, population density, and occasionally its distance from utilities such as large healthcare centres and specialist providers (Buck-McFadyen et al., 2019; Dekeseredy et al., 2019; Jahner et al., 2020; 2023; MacLeod et al., 2021). However, the definitions and limitations of these terms vary across publications. Generally, 'urban areas' are considered to have a large population with a high density and would have ready access to healthcare specialists (Buck-McFadyen et al., 2019; Dekeseredy et al., 2019; Jahner et al., 2020; 2023; MacLeod et al., 2021). The qualifying population and population density vary from study to study though, with some considering centres with a concentrated population of over 30,000 people to be 'urban' (Buck-McFadyen et al., 2019; Dekeseredy et al., 2019), while others use more exclusionary criteria, such as a population over 10,000 which is not 'rural' to define 'urban' centres (Jahner et al., 2020; 2023; MacLeod et al., 2021). In a similar vein to this,

definitions of ‘rural areas’ within current Canadian studies of rural nurses have notable variations across authors. In one definition, ‘rural areas’ are considered to be those with a population between 1,000 and 30,000 that exist separately from larger population centres (those with a population greater than 30,000) (Buck-McFadyen et al., 2019; Dekeseredy et al., 2019). Another common definition of ‘rural areas’ is those with a population greater than 10,000 but are not ‘urban areas’, again using exclusionary language to differentiate one from the other (Jahner et al., 2020; 2023; MacLeod et al., 2021). Some definitions also qualify ‘rural areas’ as being a specified distance from ‘urban areas’, such as “greater than 30 minutes away in travel time” (Dekeseredy et al. ,2019, p. 4) or “outside the commuting zone of larger urban centres” (Jahner et al., 2023, p. 881), however these limitations are not used consistently across the literature. Another relevant term relating to specific geographic regions is ‘remote area’. In the literature, remote areas are often described as those which are smaller in population and further from ‘urban areas’ than ‘rural areas’. They typically are defined as having a population less than 1000 (Buck-McFadyen et al., 2019; Dekeseredy et al., 2019), or in some cases a population of less than 10,000 (Jahner et al., 2020; 2023). Others define remote areas more so based on their distance from urban areas, rather than strictly on population size (Jahner et al., 2020). However, it is important to note that rural areas and remote areas are often grouped together in nursing literature due to the unclear delineation between them (Jahner et al., 2019; 2020; MacLeod et al., 2021).

Definitions can also be derived from the classifications of rural areas and population density provided by Statistics Canada (Chastko et al., 2022; Statistics Canada,

2018). Statistics Canada (2018) defines rural areas as those outside of any population centres, including population centres as small as 1000 people. This would not be the optimal definition for establishing what 'rural' is in the case of rural nurses, as hospitals tend not to be built outside of population centres, therefore this definition of 'rural nurse' would exclude nurses who worked in hospitals. However, this classification also defines the various sizes of population centres in Canada, with small population centres being those with between 1000 and 30,000 residents (Statistics Canada, 2018). This aligns with the definitions provided in much of the literature, and therefore may be a feasible statistic to use when defining rural areas in the context of nursing literature in Canada. Statistics Canada also has recently created a system for classifying the remoteness of various areas, with classifications ranging on a five-point scale from least remote to most remote based on population size and proximity to urban areas, which may prove useful in future nursing research for establishing criteria to define rural and remote areas (Chastko et al., 2022).

Overall, when reviewing the literature on rural nurses it is important to keep in mind that different scholars use different definitions, but generally nurses are considered urban, rural, or remote depending on the location in which they work. Rural areas or settings are those with smaller populations that are detached from and lack some of the resources available in larger urban communities, and remote areas or settings are those which are very small, isolated, and lack the majority of resources available in urban areas (Dekeseredy et al., 2019; Jahner et al., 2020; 2023; MacLeod et al., 2021). However, it is also very important to remember when reviewing the available literature that some

literature treats rural and remote nurses as a homogenous group, and that definitions of what makes an area 'rural' vary, even in literature focussing on Ontario (Buck-McFadyen et al., 2019; Dekeseredy et al., 2019; Jahner et al., 2019; 2020; 2023; MacLeod et al., 2021; Whiteing et al., 2022).

Rural Nurses' Experiences.

In addition to the challenges that all nurses face, rural nurses have unique experiences and workplace stressors compared to their urban counterparts (Penz et al., 2019; Whiteing et al., 2022). Understaffing and nurse and physician shortages are very common issues in rural healthcare settings (Dekeseredy et al., 2019; Jahner et al., 2020; Whiteing et al., 2022). While exact figures or estimates on understaffing in rural hospitals have not been established, multiple studies describe how rural hospitals have reduced access to replacement staff due to high turnover and difficulties recruiting new nurses (MacLeod et al., 2021; Penz et al., 2019). Additionally, the amount of understaffing is expected to rise in the coming years as older nurses, who to tend make up a greater proportion of the rural workforce when compared to their urban counterparts, retire (MacLeod et al., 2021; Penz et al., 2019). When staff are hired in these settings, they may have difficulty adjusting to the new environment, as many rural hospitals have poor orientation and quality improvement practices (Whiteing et al., 2022). New nurses may also have difficulty adjusting to the scope of practice in the rural setting as rural nurses tend to require a greater scope of practice than an urban nurse (Whiteing et al., 2022). While urban nurses may have a specialized area of practice, rural nurses work to their full scope of practice or beyond due to the generalized nature of their role and lack of support

from other healthcare professionals (Whiteing et al., 2022). Frequently, rural nurses need to use skills that are beyond their scope of practice in emergency situations, taking on the roles of other registered health care providers in order to save the lives of patients (Penz et al., 2019; Whiteing et al., 2022). Nurses' ability to practice may also be limited due to the resources available in rural hospitals compared to their urban counterparts, with reduced access to medical equipment and other professionals, such as specialists and security personnel (Dekeseredy et al., 2019; Jahner et al., 2020). In addition, patients in these settings present with their own difficulties, as people in rural settings tend to experience more traumatic injuries due to the nature of rural work (Jahner et al., 2020). Those in rural communities are also more likely to die pre-maturely, with rural populations aged 0 to 44 having an 11% to 33% increased risk of mortality compared to their urban counterparts, potentially due to lifestyle and socioeconomic differences, as well as less access to primary healthcare (DesMeules & Pong, 2006), contributing to the complex nature of rural nurses' work. Lastly, studies have shown that management in rural hospitals may ignore complaints of abuse, inadequate organizational support, and staffing issues (Jahner et al., 2020; Whiteing et al., 2022).

The factors listed above contribute significantly to the distress that rural nurses encounter in their daily practice (Dekeseredy et al., 2019; Jahner et al., 2019; 2020; Whiteing et al., 2022). Working at the full scope of practice is an expectation of rural nurses, something that not many urban nurses experience as they are able to specialize and focus their scope (Dekeseredy et al., 2019; Penz et al., 2019). Working at this full scope requires a great deal of knowledge, as rural nurses are expected to have the

knowledge and experience to care for all patients that enter their place of work (Dekeseredy et al., 2019; Penz et al., 2019). However, rural nurses are also expected to go beyond that capacity and practice beyond their scope at times, without the education or experience required (Dekeseredy et al., 2019; Penz et al., 2019). This occurs due to the lack of professional resources, such as physicians or intensive care as described above (Dekeseredy et al., 2019; Jahner et al., 2020). While rural nurses need to perform at this level in order to care for their patients, they risk sanctioning, litigation, and their professional license when working beyond their nursing scope, resulting in a great deal of stress for rural nurses (Dekeseredy et al., 2019; Penz et al., 2019). Additionally, when nurses cannot attain timely access to necessary services for patient care, such as obtaining a specialist referral, they can often be plagued by feelings of guilt and shame if the patient experiences negative outcomes (Jahner et al., 2020). The increase in trauma and death present in rural hospitals can also be a major source of stress, as witnessing these events can induce secondary trauma in the nurses who care for such patients, especially when the patients are children (Jahner et al., 2020; Lenthall et al., 2009). Lastly, there is evidence that management of rural hospitals can be poor and ineffective, with managers in rural hospitals being perceived as unsupportive and unavailable (Jahner et al., 2020; Whiteing et al., 2022). These management practices can result in rural nurses feeling alone, unempowered, and forced into unsafe working practices, occasionally resulting in them leaving the workplace due to the poor working conditions (Jahner et al., 2020; Whiteing et al., 2022).

Another unique aspect of the rural workplace is its geographic location, especially in areas that are increasingly distant from urban centres. Rural nurses face physical, social, and professional isolation due to the more secluded nature of their communities (Jahner et al., 2019; Penz et al., 2019; Whiteing et al., 2022). Rural communities tend to be more geographically isolated from one another, making travel between locales more difficult (Lenthall et al., 2009; Penz et al., 2019). Geographic isolation can also limit work availability. If a rural nurse wanted to seek a position on a different unit or in a different workplace, they may struggle to find work opportunities locally (Jahner et al., 2023). Nurses may be socially limited to those around them, as rural communities tend to be small. They may also have difficulty accessing social support from friends and family, especially when relatives live far away, which can lead to social isolation (Lenthall et al., 2009). The pre-existing social isolation can also increase when there is tension between the nurses and their community, such as when nurses implement child protection protocols (Jahner et al., 2023; Whiteing et al., 2022). Issues between nurses and their communities can also arise when professional boundaries are crossed, as is more common in rural settings due to the small size of communities (Dekeseredy et al., 2019; Jahner et al., 2020; Kulig et al., 2017). In rural settings, nurses are recognized as healthcare professionals by members of their community due to the tight-knit nature of rural communities (Dekeseredy et al., 2019). Due to their established place as a nurse in the community, they may face unprompted inquiries for health advice when outside of work or inquiries about the condition of current patients (Dekeseredy et al., 2019). This can be stressful for nurses, as they may feel uncomfortable giving out health advice and

are unable to share private information with community members (Dekeseredy et al., 2019). Additionally, rural workplaces are professionally isolated (Jahner et al., 2019; Whiteing et al., 2022). Professional isolation occurs when nurses cannot access the experience and expertise of other healthcare professionals, such as physicians and specialists, resulting in nurses needing to practice beyond their scope as described above (Whiteing et al., 2022).

Rural Hospitals in Ontario During COVID-19

As described above, this thesis sought to describe the experiences of rural nurses in the acute care setting (rural acute care nurses) in Ontario during COVID-19. In light of the profound effects of COVID-19 on health care workers, including nurses in the Canadian health care system, it is important to understand the context of COVID-19 in rural settings in Ontario. COVID-19 initially emerged in Ontario in March of 2020 (Ontario Agency for Health Protection and Promotion [Public Health Ontario], 2020). By early April 2020, every public health unit in Ontario had reported at least one confirmed case of COVID-19, including more rural-focused health units such as Haliburton, Grey Bruce, and the Northwestern Public Health units (Public Health Ontario, 2020). While research specific to the admission of COVID-19 positive patients in rural hospitals is not currently available, it is possible that some rural hospitals admitted and cared for these patients within the early months of 2020 as all regions experienced positive cases. What is known about rural hospitals was the occurrence of emergency room (ER) closures throughout the pandemic. In a study of Ontario's ER closures since 2020, Larsen and colleagues (2023) identified 14 hospitals that experienced closures within this time. Of

those 14 hospitals, 11 were located in rural settings and closures impacted rural access to care disproportionately. These closures tended to be associated with inadequate staffing of nurses and doctors in these areas due to the increased stressors of the pandemic (Larsen et al., 2023).

Defining Resilience: The Society-to-Cells Resilience Theory

When facing challenges in the workplace, such as those brought about by the rural setting or COVID-19, nurses can respond in a variety of ways. The way nurses respond, and the impact these challenges have on the nurse in the short and long-term, can be influenced by nurses' resilience (Fredericks et al., 2022; Mathura et al., 2022; Mousavi et al., 2023). Resilience is a nebulous term in nursing research, with a variety of definitions and conceptual perceptions depending on the researcher and the context in which it is used. Resilience in healthcare can address the resilience of individuals, but also the resilience of systems (Hollnagel & Braithwaite, 2013). For the purposes of this thesis, the resilience of individuals will be explored. Some researchers consider resilience to be an ability (Conolly et al., 2022; Fredericks et al., 2022; Roberts et al., 2021), while others consider it to be a process (Abd- EL Aliem & Abou Hashish, 2021; Lorente et al., 2021; Wei et al., 2019), or even a trait (Jo et al., 2021). These differing definitions of the nature of resilience lend resilience differing qualities.

As an ability, resilience can be trained and strengthened (Szanton & Gill, 2010), whereas the phrasing of 'trait' implies that resilience is an inborn factor that is difficult to change, like one's personality (Luthans et al., 2007). Some researchers use the term

'process' to describe resilience more as an ability (Wei et al., 2019) while others who use 'process' describe it as a trait (Jo et al., 2021). Different researchers also describe the effects of resilience differently, with many describing how the goal of resilience is to adapt to adversity (Han et al., 2021; Karadas et al., 2023; Kim & Chang, 2022), while others explain how resilience helps nurses to recover from stressful events (Benbenishty et al., 2022; Conolly et al., 2022; Kunzler et al., 2022). While these definitions are similar, there are some notable differences. Therefore, before beginning this thesis, it was important to determine how resilience has been more consistently defined.

Szanton and Gill (2010) provide one such definition of resilience, as described in their *Society-to-Cells Resilience Theory*. They describe resilience as the capacity one has to overcome challenges and heal from their trials (Szanton & Gill, 2010). Szanton and Gill (2010) believe that everyone has the potential for resilience, and that their potential changes over time due to both internal and external factors. According to Szanton and Gill (2010), there are three potential processes (the *3 Rs*) that resilient people may undergo during times of high stress. The first is *resistance*, or *hardiness*, where the involved party does not bow to the pressure of a stressful event, instead maintaining their baseline functioning throughout. The second is *rebound*, or *post-traumatic/post-stress growth*, where the involved party is negatively affected by the stressful event, but rebounds with an increase in functional ability. Lastly there is *recovery*, where the involved party experiences a decreased level of function during a stressful event and is able to return to their baseline level of functioning afterwards. All three of these processes demonstrate forms of resilience, and different stressors can create different

responses in the same person (Szanton & Gill, 2010). A visual display of these processes is provided below in figure i.

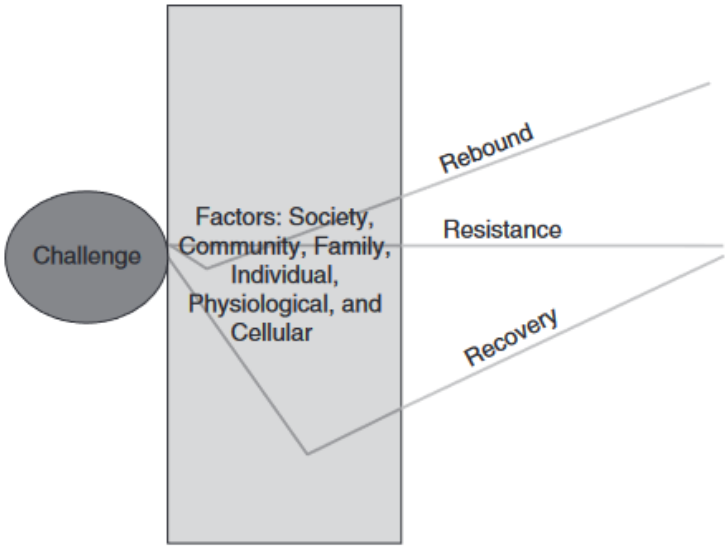

Figure i: Resilience in the Face of a Challenge (Szanton et al., 2010).

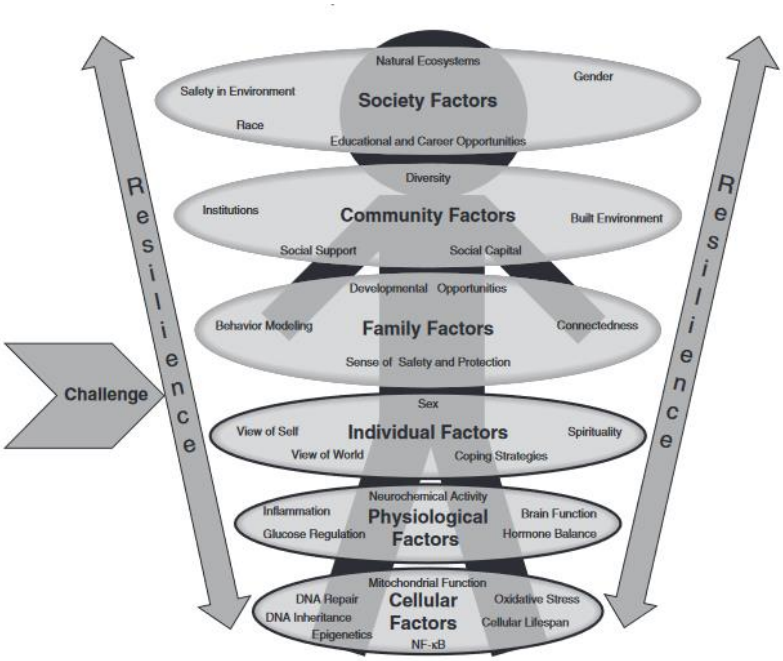

Figure ii: Different levels of the Society-to-Cells Resilience Model (Szanton et al., 2010).

This theory addresses more than just a definition of resilience; it also describes factors that can influence an individual's resilience (Szanton & Gill, 2010). These factors capture all areas of life that may impact one's resilience and illustrates how the differing aspects influence one another, allowing for a complete view of an individual's experiences in life. These factors start with the broadest influence, being society, and include the most individualized factors, being cells. A supportive image that visually displays the conceptual model for this theory is available above in Figure ii. The societal level primarily focuses on the society's capacity for equity, and how it allocates and maintains its resources. Changes to resilience can occur through economic factors, the physical environment, and opportunities for growth. The next level is the community. This level looks at resources available at a local level, including social supports, food availability, and schooling. The level after that is the level of family. Family includes the impacts of childhood experiences, the social supports received in the home, and perceptions of safety. After this is the level of the individual. This includes the individual's traits, perceptions of self and self-worth, and their coping strategies. This level ties in with the society level as it also looks at the impacts of gender, race and ethnicity, and sexuality. The physiological level addresses how the body handles stress, including the response to hormones, neurochemicals, and inflammation. The last level is that of the cells which considers how cells adapt to changes. This includes the individual's genetics, their capacity for DNA repair, and their mitochondrial function (Szanton & Gill, 2010).

Resilience is developed through and influenced by all these factors working in tandem (Szanton & Gill, 2010). Society is described as having the largest influence on an individual's capacity for resilience, however all levels can have an influence. Society can increase resilience by providing social supports, career opportunities, and access to natural resources. It can also prevent resilience by fostering prejudice, preventing equal job opportunities, and misusing natural resources. Resilience is supported at the community level when schooling, food, recreation, and community organizations are made readily available. Disrupting access to these services and resources can reduce the resilience of individuals. The level of family is characterized primarily by the impact of childhood experiences on an individual's coping skills. If the individual was nurtured and taught healthy coping mechanisms as a child, they are more likely to be a resilient adult. An individual's self-concept influences their ability to be resilient, as if they have a strong self-concept, positive affect (optimistic), and a sense of purpose, they are more likely to be resilient. Physiological and cellular factors have similar influences on individual resilience. If the body is unable to handle stress, psychological resilience can be lowered due to pain, cell degradation, and inflammation (Szanton & Gill, 2010).

Each of these levels can have unique effects on an individual's level of resilience, but can also interact (Szanton et al., 2010). For example, if someone lives in an area with poor access to social services but was raised in a safe and supportive environment, they may have strong resilience in spite of the negative societal influences. Consequently, the reverse may also be true. If someone lives in a very supportive environment but was taught poor coping skills as a child, they may not be resilient in the face of stressors.

Therefore, resilience cannot be supported in everyone if only one level is addressed. Any intervention focused on improving or increasing resilience should target multiple levels of the framework in order to produce the most lasting change (Szanton et al., 2010).

Theory Quality and Use in Research.

In order to assess the quality of this theory, Chinn and Kramer's *Critical Reflection of Empiric Theory* (2015) was applied and the previous use of this theory in other research was assessed before its use. Overall, this theory is of moderate to high quality, especially within the context of this study. It had clear definitions for the types of resilience, and the relationships between resilience and the factors of the theory are clear and well described. The individual factors of this theory are defined, however certain factors lack explicit definitions, relying on the reader to use their common understanding of them to provide a definition, such as in the case of *society*. Additionally, the relationships between the factors are left purposefully vague as the authors state they are too complex to succinctly describe within the theory. However, even with the lack of formal definitions of the factors, the theory is easy to understand and apply. It provides a broad overview of the factors that impact resilience, allowing for its application across different groups of people and different studies.

The conceptual definition of resilience described by this theory (the *3 Rs*- resistance, rebound, and recovery) is commonly used in research to provide a definition of resilience (Ang et al., 2022; Lin et al., 2019; Musil et al., 2021). However, when the theory is used to guide research, its primary application lies in how the factors that impact

resilience (the *Society-to-Cells* portion) are used to guide data collection and analysis. For example, one literature review by Leyva and colleagues (2017) investigated the resilience of older adults during climate change and used this theory to structure their data collection, analysis, and discussion. They chose to use this theory as it would allow them to better understand the experiences of older adults and examine the intersectionality of the factors that impacted their experiences (Leyva et al., 2017). In the review, only the *Society-to-Cells* portion of the theory was used, as they were focusing on the factors that impacted people's experiences (Leyva et al., 2017). Similarly, in a qualitative study of resilience in adult children of alcoholics by Park and Schepp (2018), the *3 Rs* were used to define resilience, but the *Society-to-Cells* portion was used in data collection and analysis. They too were focusing on the factors that impacted people's experiences, and so used the *Society-to-Cells* portion as a structure for the coding process (Park & Schepp, 2018).

Overall, the use of this theory in the literature spans different types of research, such as literature reviews, cross-sectional studies, randomized clinical trials, and qualitative studies and populations studied, such as older adults, those with chronic illness, caregivers, nurses, and students (Ang et al., 2022; Leyva et al., 2017; Lin et al., 2019; Musil et al., 2021; Jin et al., 2022). However, in most cases, the *3 Rs* are used to define resilience and the *Society-to-Cells* portion guides the research if the theory is used in research development (Leyva et al., 2017; Park & Schepp, 2018; Szanton et al., 2010).

Potential Outcomes of Nursing Workplace Stress

Rural nurses face many sources of stress related to their work as described above, such as increased traumatic injuries in patients (Jahner et al., 2020; Lenthall et al., 2009), a lack of professional resources (Jahner et al., 2019; Whiteing et al., 2022), and working beyond their scope of practice (Dekeseredy et al., 2019; Penz et al., 2019). This workplace-associated stress can predispose them to stress-related syndromes and illnesses (Han et al. 2021; Huang et al., 2021; Lorente et al., 2021; Lowe et al., 2020; Maunder et al., 2021; Rieckert et al., 2021). One of the more well-known of these occupational stress-related syndromes is burnout (Dekeseredy et al., 2019; Lorente et al., 2021; Maslach & Leiter, 2016; Rieckert et al., 2021). Burnout in the context of nursing can be defined as a complex responsive state characterized by depersonalization or cynicism, emotional exhaustion, and low personal accomplishment (Maslach & Leiter, 2016). Burnout is caused by excessive work-related stress without a chance for rest and recovery (Maslach & Leiter, 2016). A nurse experiencing burnout may present with exhaustion, resentment towards their patients or workplace, difficulty empathizing with others, and/or difficulty regulating their emotions (Dynamed, 2021; Maslach & Leiter, 2016). In terms of patient health, nurses experiencing burnout tend to make more medical errors and provide poorer quality of care (Lorente et al., 2021; Maslach & Leiter, 2016; Maunder et al., 2021). Additionally, nurses with burnout are more likely to develop mental illnesses, such as anxiety, depression, and post-traumatic illnesses (Dekeseredy et al., 2019; Lorente et al., 2021; Rieckert et al., 2021). Burnout in nurses has been on the rise in recent years. Prior to 2020, burnout was estimated to affect about 20-40% of nurses

(Maunder et al., 2021). However, in 2022 the rate of burnout in nurses in Ontario was estimated to have risen to approximately 75% (RNAO, 2022). This was likely due to the stresses of the COVID-19 pandemic (RNAO, 2022), which will be discussed in greater detail in the literature review. While exact figures surrounding the rates of burnout in rural nurses have not been reported in the literature, burnout is a concern for nurses in rural hospitals due to the challenging and potentially traumatising nature of the work (Dekeseredy et al., 2019; Jahner et al., 2020). However, the severity of burnout can be decreased or even prevented through the maintenance of resilience and encouragement of resilient behaviours (Andersen et al., 2021; Yilmaz, 2017).

Maintaining Resilience Among Nurses

Research conducted prior to COVID-19 found that resilience can be encouraged and maintained in nurses through a variety of methods (Rieckert et al., 2021; Velji & Brannon, 2021; Wei et al., 2019; Yilmaz, 2017). One way to do this is to ensure adequate resources are available (Cooper et al., 2021; Jeffs et al., 2021; Penz et al., 2019; Rieckert et al., 2021). These can include more standard measures such as ensuring adequate staffing and that staff have access to food (Cooper et al., 2021; Rieckert et al., 2021; Velji & Brannon, 2021), to more involved measures such as providing access to psychological support and counselling (Jeffs et al., 2021; Rieckert et al., 2021; Velji & Brannon, 2021). Another approach to increasing resilience among nurses is to foster a supportive workplace culture that aims to reduce stress (Gensimore et al., 2020; Gribben & Semple, 2021; Penz et al., 2019; Udod et al., 2021; Wei et al., 2019). A supportive workplace culture creates feelings of trust between nursing staff and reduces overall levels of stress

(Maunder et al., 2021; Udod et al., 2021; Yilmaz, 2017). Nurses can also be bolstered by having supportive, highly effective, and communicative managers (Gribben & Semple, 2021; Rees et al., 2019; Velji & Brannon, 2021). These managers encourage open communication, are clear and confident in their messaging, and focus on empowering the staff to participate in decision making (Labrague & de Los Santos, 2021; Rees et al., 2019; Rieckert et al., 2021; Udod et al., 2021; Velji & Brannon, 2021; Wei et al., 2019). Managers who exhibit such behaviours can support the mental health of their staff, encourage them to build healthy social networks, and increase workplace engagement (Wei et al., 2019). Additionally, a formal debrief system and daily mental health check-ins can support mental health (Chana et al., 2015; Gribben & Semple, 2021; Rieckert et al., 2021; Wei et al., 2019; Yilmaz, 2017). Formal debriefs typically occur after a potentially traumatic event and may include a specially trained debrief team (Wei et al., 2019), while daily check-ins can be done by a unit manager and help to screen for emerging issues (Rieckert et al., 2021). Lastly, nurses can be trained in resilience, coping skills, and mindfulness through research-informed training programs (Chana et al., 2015; Jeffs et al., 2021; Lorente et al., 2021; Peñacoba et al., 2021; Rees et al., 2019; Rieckert et al., 2021; Velji & Brannon, 2021; Yilmaz, 2017).

Maintaining Resilience Among Rural Nurses.

In addition to the strategies described above, rural nurses are also known to have certain strategies for maintaining resilience including speaking with and being supported by their peers and having a debriefing process implemented after traumatic events (Jahner et al., 2020; 2023). Research shows that nurses in rural hospitals tend to receive less

organizational support than their urban counterparts (Jahner et al., 2020). Peer supports are therefore very important as they often act to compensate for the inadequate support that rural nurses receive from leadership and the lack of mental health services available in rural settings (Jahner et al., 2020).

However, research on resilience among rural nurses is sparse, and it is currently unclear if there are additional factors that impact resilience among rural nurses aside from peer support. The volume of research on rural nurses tends to focus on how these nurses respond to and cope with traumatic events in the workplace (Jahner et al., 2020; 2023), however, not much is known about the experiences of rural nurses during the COVID-19 pandemic. To address this knowledge gap, a literature review was completed to seek the perspectives of acute care nurses working in both rural and urban settings during COVID-19, with the urban settings captured to provide a comparison.

CHAPTER 2: Literature Review

A targeted review of the literature was conducted in preparation for this study. The purpose of this literature review was to identify and summarize acute care nurses' experiences, challenges, and supports during COVID-19. The experiences of all acute care nurses were sought, rather than just those of rural nurses, due to the lack of information surrounding rural nurses' experiences in general and to provide an opportunity for comparison once data was collected. The results of this literature review are presented below. First, the methods used to collect, extract, and review the literature are described. This follows with a description of included study characteristics. Next, the results of the literature review are summarized. A summary of nurses' overall experiences is provided, with the challenges they faced described first, and factors that supported them following. A discussion is then provided surrounding the supportive factors and relating them to the resilience of nurses during COVID-19. Following this, rural nurses' experiences during COVID-19 are discussed, and lastly, gaps to emerge from the literature review are highlighted. The chapter ends by stating the research purpose and research questions for this study.

The Cumulative Index to Nursing and Allied Health Literature (CINHAL), OVID Medline, OVID Embase, and OVID Emcare databases were initially searched from early 2020 to January 2022. These databases were selected as they house nursing and medical-focused research. A search strategy was developed in consultation with a McMaster Faculty of Health Sciences librarian. Search terms were related to rural healthcare (rural health nursing, rural hospitals, etc.) and/or acute care nursing combined with either

burnout or resilience (burnout, resilience, hardiness, etc.) and nursing experience (nurse attitudes, nursing experience, etc.). Resilience was searched for alongside nursing attitudes and experiences to develop a better understanding of how various factors influence, promote, support, or hinder resilience. The literature searches were repeated on October 11, 2022 and May 25, 2023 to capture more recently published studies, particularly related to COVID-19. New search strands were added at this time to broaden the search and locate studies specific to acute care settings during COVID-19 as the initial searches did not locate many studies that focused on these settings. These new search strands were searched from 2020 to allow for the capture of any studies missed in the previous searches. Literature was limited to studies published in the English language. The complete search strands can be found in Appendix 1.

Studies were included if they focused on nurses in hospital settings. Both urban and rural nurses were eligible for inclusion. Studies needed to address nursing within the context of COVID-19 to be included in the literature review, therefore studies published prior to 2020 were excluded. Studies were included if they addressed the experiences of nurses and/or addressed the challenges or supports that influenced nurses' experiences. Lastly, any research design was included. Editorials, letters to the editor, and other similar article types were excluded. Studies were not limited by country of origin, or the location of the nurses studied as COVID-19 was a global phenomenon. COVID-19 impacted the provision of healthcare across the world (Haileamlak, 2021) and therefore this literature search was conducted under the assumption that despite the differences between international healthcare systems, the practice and experiences of nurses worldwide were

impacted by the pandemic. Therefore, there may have been similarities in the experiences of nurses from different countries during COVID-19 despite the differences in healthcare systems.

Covidence software was used to screen studies for inclusion and organize and summarize data as it was extracted. A template for extraction was created to facilitate the extraction of data surrounding COVID-19, rural nursing experiences, acute care nurses' experiences, as well as perceived positive or negative factors or outcomes related to nurses' experiences during COVID-19. Additionally, any information about nurses' resilience during the pandemic was extracted to help form a baseline understanding of how it may have been impacted during the pandemic.

Studies were assessed for methodological rigor independently by one reviewer. Tools used to assess rigor include the Joanna Briggs Institute Checklist for Cross-Sectional Studies (Moola et al., 2017), the Critical Appraisal Skills Programme Tools for Systematic Reviews (2018b) and Qualitative Studies (2018a), and the Mixed-Methods Assessment Tool (Hong et al., 2018). Percentage scores were used to rank studies as poor (0-40%), moderate (41-70%), and high quality (71-100%) due to the differing tools. Not all the tools used include a ranking system that places studies within the categories of poor, moderate, or high quality, so this percentage system was employed as a standardizing measure. These percentage scores were determined based on the criteria used by Health Evidence™, a registry of systematic reviews run by McMaster University (Dobbins et al., 2010; Yost et al., 2014).

Study Characteristics

A total of 26 studies were deemed relevant and included in the literature review. Of these, two were systematic or scoping reviews, 14 were cross-sectional studies, nine were qualitative studies of various designs, and one was a mixed methods study. Of these studies, five focused specifically on a Canadian context (Fredericks et al., 2022; Havaei et al., 2022; Jahner et al., 2023; Mathura et al., 2022; Rana et al., 2023), six focused on the United States (Beier et al., 2023; Easler et al., 2022; Fitzpatrick et al., 2022; Phillips et al., 2023; Robinson & Stinson, 2021; Rushton et al., 2022), while the remaining 15 focused on different countries internationally or sought a worldwide perspective.

Of the studies included, five focused on negative mental and psychological health outcomes in nurses such as burnout, post-traumatic stress, and stress-induced turnover. Eight of the studies focused on positive mental-health outcomes such as resilience, well-being, and high-quality care. Seven of the studies addressed both positive and negative mental-health outcomes, and the remaining five studies focused on the nursing experience, with no specific outcomes outlined in the research question. One study focused specifically on a rural nurse population, while the remaining 25 studies either focused on an urban or general population.

Methodological Quality of Included Studies

Study quality ranged from poor to high quality. Both systematic and scoping reviews were of moderate quality (Boone et al., 2023; Witt et al., 2023). The majority of cross-sectional studies were of high quality (n=13), with only one being ranked moderate

quality (Aloweni et al., 2022). Six of the qualitative studies were of moderate quality, and three were high quality (Jahner et al., 2023; Kandemir et al., 2022; Phillips et al., 2023). Lastly, the single mixed methods study included was of moderate quality (Fredericks et al., 2022). For more in-depth ratings, see Appendix 2. All studies were included in the literature review regardless of quality.

Nurses' Experiences During COVID-19

Nurses' Challenges during COVID-19

As described in the background, poor working conditions and increased stressors in the workplace can lead to stress-based syndromes like burnout in nurses (Han et al. 2021; Huang et al., 2021; Lorente et al., 2021; Lowe et al., 2020; Maunder et al., 2021; Rieckert et al., 2021). The unique conditions brought about by the COVID-19 pandemic introduced additional workplace stressors that impacted all healthcare professionals, including nurses. Among the studies reviewed, nurses reported that the pandemic created confusing and fear inducing working conditions, especially at the start of the pandemic when little was known about the disease and organizations were underprepared for what was to come (Kandemir et al., 2022; Marey-Sarwan et al., 2022; Park & Song, 2023). Nurses found that caring for COVID-19 infected patients was especially stressful because of the lack of knowledge surrounding the treatment and potential outcomes of COVID-19 (Kandemir et al., 2022). These nurses were also fearful of bringing COVID-19 home and infecting their family members (Blanco-Daza et al., 2022; Marey-Sarwan et al., 2022). Nurses described their work during the COVID-19 pandemic as similar to fighting in a

war and felt as if they were fighting an invisible enemy without the proper tools or training, making coping difficult for many (Marey-Sarwan et al., 2022). Nurses expressed concern about needing to fill roles that they were not trained for, such as nursing roles outside of their area of expertise when redeployed or even the roles of other healthcare providers (Kandemir et al., 2022; Marey-Sarwan et al., 2022). Nurses also expressed concern over the lack of available equipment such as respirators and personal protective equipment (PPE), and also found that wearing this equipment could cause a great deal of fatigue (Kandemir et al., 2022; Park & Song, 2023). Nurses occasionally described the negative implications of poor team culture, with some nurses describing a lack of cooperation and support from management as increasing their stress (Aloweni et al., 2022). Furthermore, nurses who cared for patients with COVID-19 tended to find the psychological and emotional support offered by their organizations to be less effective than those who were not caring for COVID-19 patients (Rushton et al., 2022). Overall, there was consensus amongst nurses that nursing roles, the expectations that were placed on them, and team culture changed during COVID-19 and these changes introduced new challenges and made their work more difficult and stress-inducing.

Nurses also faced discrimination from the public. In a study from the Philippines, approximately one third of nurses reported community members being afraid of contracting COVID-19 from them, and about one fifth reported being disrespected and mistreated by members of the public (Labrague et al., 2021). Another study from Spain found that the general public was three times more likely to shun nurses than the family members of nurses (Blanco-Daza et al., 2022). This discrimination added to the mental

health burden of nurses and increased the risk of nurses leaving the profession (Labrague et al., 2021). While these reports were from countries in Asia and Europe, rather than North America, there is a possibility that nurses in Canada had similar experiences. Overall, nurses felt lonely, isolated, and many felt as though their work was underappreciated during the COVID-19 pandemic (Blanco-Daza et al., 2022; Marey-Sarwan et al., 2022). Therefore, not only were nurses facing more difficulties in the workplace, but they were also facing difficulties when out in the community. This had an additional impact on their experiences during COVID-19 and may have impacted their ability to endure the challenges of COVID-19.

Overall, the pandemic seems to have affected nurses' well-being in a negative way (Blanco-Daza et al., 2022). The added stressors of the COVID-19 pandemic have resulted in increased rates of burnout, stress, and mental illness in nurses (Aloweni et al., 2022; Havaei et al., 2022; RNAO, 2022). When investigating mental health outcomes, publications were limited to those which studied nurses in Canada as they would be most directly relevant to the populations included in this study. As described above in the background section, the estimated prevalence of burnout in Canadian nurses rose between 35% to 55% from pre-pandemic estimates (Maunder et al., 2021; RNAO, 2022). Rates of other mental health conditions have also been on the rise in Canada, with one study of nurses in British Columbia finding that rates of anxiety and depression among nurses increased by about 10% to 15% between December of 2019 and May of 2020 (Havaei et al., 2022). The increase in burnout and mental illness among nurses during COVID-19 is important to identify as it has been linked to increased nursing turnover and intention to

leave the profession (Maunder et al., 2021; RNAO, 2022). For example, about 40% of the Ontario nursing workforce has indicated plans to leave the profession within the next five years, while RN vacancies in Ontario over the past two years have increased by 86% (RNAO, 2022). Rural hospitals in Ontario have experienced a great deal of turnover during the pandemic, with COVID-19 related nursing and physician shortages leading to the frequent closure of ERs (Zandbergen, 2023). Replacing these nurses is an expensive and time-consuming process (Clinton & Shehadeh, 2021) that becomes more difficult as the nursing workforce diminishes (RNAO, 2022). High turnover rates lead to short-staffed units, which exacerbates burnout in the existing workforce (Hallaran et al., 2021; Maunder et al., 2021). The subsequent burnout results in worsening quality and safety of care provided by nurses who stay (Conolly et al., 2022; Havaei et al., 2022). The negative impacts of COVID-19 on rural hospitals, in addition to the pre-existing issues such as high turnover, contributed to even further instability in staffing, creating more challenges for nurses and making it more difficult for them to function. As there is the potential for future pandemics or other crises (World Health Organization, 2022) it is important for rural healthcare organizations to prepare for the future and ensure that they can continue to provide high quality care to their community and protect the well-being of their nurses during such times.

Nurses' Supports and Resilience during COVID-19

In response to the worsening mental health issues among the nursing workforce, researchers investigated resilience as an intervention that could potentially reduce the negative impacts that the COVID-19 pandemic had on nurses' mental health. Some

researchers, such as Siami and colleagues (2023), Karadas and colleagues (2023), and Labrague and colleagues (2021), also investigated resilience as an outcome that was impacted by positive and negative factors inside and outside of the workplace during the pandemic. Of the studies included in this literature review, the majority of those that discussed resilience (n=10/14) defined it as an ability or capacity people have that they use to adapt or cope with stressful situations or changes (Conolly et al., 2022; Fredericks et al., 2022; Karadas et al., 2023; Labrague et al., 2021; Marey-Sarwan et al., 2021; Mathura et al., 2022; Mousavi et al., 2023; Park & Song, 2023; Siami et al., 2023; Tsouvelas et al., 2022). Other studies defined resilience as a process (Benbenishty et al., 2022), or did not provide a succinct definition (Easler et al., 2022; Fitzpatrick et al., 2022; Witt et al., 2023). Despite the differing definitions, there was a notable similarity in the contexts, results, and themes across the included studies. Overall, the definitions provided in the majority of included studies aligned with the definition of resilience provided in the *Society-to-Cells Resilience Theory* (Szanton & Gill, 2010), and therefore the *Society-to-Cells* definition of resilience will continue to be used to define resilience throughout this thesis.

When quantifying resilience, many studies used a variety of scales of resilience, including the Brief Resilience Scale (Benbenishty et al., 2022; Labrague et al, 2021; Siami et al., 2023; Tsouvelas et al., 2022), the CD- RIS scale (Fredericks et al., 2022; Mousavi et al., 2023), or a scale of their own creation (Park & Song, 2023). Other studies would quantify resilience using the descriptions provided by participants, or asked the participants how they would define their resilience (Conolly et al., 2022; Easler et al.,

2022; Marey-Sarwan et al., 2022; Mathura et al., 2022; Witt et al., 2023). Studies tended to describe resilience as high, moderate, or low. Those with high resilience had a greater ability to 'bounce-back' to their pre-stress state and emotionally recover after challenges with greater ease than moderately resilient people, and those with low resilience had difficulty returning to a normal state of functioning after challenges, if they were able to at all (Fredericks et al., 2022; Mathura et al., 2022). Some studies also referred to the concept of 'maintaining' resilience. As resilience is a capacity or an ability, 'maintaining' resilience refers to the act of keeping those abilities intact, and not having them be overwhelmed by increasingly stressful or repeated difficult situations (Karadas et al., 2023; Yilmaz, 2017).

In the majority of studies, when nurses were identified as having high resilience, this coincided with positive effects on nurses' mental health, along with being better able to endure and adapt to unexpected stressful events prior to and during the pandemic (Blanco-Daza et al., 2022; Labrague et al., 2021; Rushton et al., 2022). Only one study found that resilience did not protect nurses' well-being during the pandemic, as it could not overcome the negative mental-health impacts caused by the social rejection these nurses experienced during COVID-19 (Benbenishty et al., 2022). However, this result was not found in other studies included in the literature review and may be a result specific to the country sampled in the study (Israel) or because resilience was defined differently in this study compared to others. Other studies found that having high levels of resilience reduced the risk of COVID-19 related post-traumatic stress disorder (PTSD) by 54% (Blanco-Daza et al., 2022) and helped protect nurses from the negative effects of

social discrimination during the pandemic (Labrague et al., 2021). Individual resilience, when combined with high organizational effectiveness, was seen to reduce the risk of moral injury in nurses during COVID-19 (Rushton et al., 2022). Among those studies focused on understanding resilience, in general they found resilience plays an important role in nurses being able to endure and adapt to a stress-inducing situation such as COVID-19.

Several organizational interventions were highlighted as being particularly useful in maintaining the resilience of nurses during the pandemic. Supportive leadership, feeling appreciated by the healthcare organization, and being in overall good health were seen to reduce negative mental health effects in nurses during the pandemic (Aloweni et al., 2022; Boone et al., 2023; Fredericks et al., 2022; Karadas et al., 2023; Marey-Sarwan et al., 2022; Rana et al., 2023). Several studies found that when workplaces had high levels of collaboration and when nurses were allowed to participate in policy development that their nurses had, on average, higher resilience scores across a variety of scales (Aloweni et al., 2022; Mathura et al., 2022; Phillips et al., 2023). Nurses' resilience scores were also seen to be higher when they had access to functioning equipment, frequent breaks, and were scheduled in a way that allowed for rest between shifts (Blanco-Daza et al., 2022; Fredericks et al., 2022; Witt et al., 2023). Psychological support availability in the workplace also impacted nurse resilience, as nurses could better maintain their resilience with adequate psychological resources present in the workplace (Aloweni et al., 2022; Blanco-Daza et al., 2022; Fredericks et al., 2022). A systematic review of resilience training found that the provision of resilience training to

staff, centred on coping skills and mindfulness, was also associated with short term increases in resilience and reductions in mental health issues (Kunzler et al., 2022). Notably, nurses in one study who directly cared for patients with COVID-19 were seen to derive less benefit from organizationally provided psychosocial support (Rushton et al., 2022). Rushton and colleagues (2022) hypothesised that this was because the increased stress and uncertainty of providing care for patients with COVID-19 reduced these nurses' trust in their organizations and therefore they perceived them to be less effective, resulting in these reduced benefits from the organizationally provided support. However, nurses generally benefitted from the implementation of organizational interventions to improve or maintain their resilience, such as access to supportive management, rest, appropriate equipment, and resilience training.

Some researchers also looked at individual and personal factors that improved the resilience and mental health of nurses during COVID-19. Many nurses in qualitative studies described how they found the support of family, friends, and coworkers to be very beneficial in maintaining their mental wellbeing and resilience (Kandemir et al., 2022; Marey-Sarwan et al., 2022). Nurses from many countries such as Turkey, Israel, and the United States found the public displays of support from the public to be beneficial as well (Kandemir et al., 2022; Marey-Sarwan et al., 2022; Phillips et al., 2023). Some nurses in Spain and Turkey found self-imposed isolation to be a beneficial strategy for maintaining their mental health, as they no longer had to worry about infecting vulnerable friends or family with COVID-19 that they contracted at their workplace (Blanco-Daza et al., 2022; Kandemir et al., 2022). Self-care behaviours such as socializing, adequate sleep, and

appropriate nutrition and hydration were also seen to be useful for promoting resilience in Canadian nurses during the pandemic (Rana et al., 2023). Lastly, one study from the United States noted that having a deep connection to one's religion or spirituality could be effective in maintaining resilience and mental health (Rushton et al., 2022), while another found it had no effect (Robinson & Stinson, 2021). While these individual factors and strategies may vary across different countries, the research shows that individual factors and behaviours likely impacted nurses' well-being and capacity for resilience during the pandemic.

Rural Nurses' Experiences During COVID-19

No studies identified during the literature review focused specifically on the experiences of rural nurses during COVID-19. However, one study addressed traumatic events in rural nursing practice and related this to the potential traumatic events that occurred during COVID-19 (Jahner et al., 2023). Given this context, it was included in the literature review as it provided some insight into what rural nurses may have experienced during COVID-19, despite not specifically focussing on this topic area as COVID-19 caused higher rates of death than comparable respiratory illnesses (Xie et al., 2023), which likely was traumatic to witness for nurses (Kandemir et al., 2022; Tsouvelas et al., 2022). The study by Jahner and colleagues (2023) investigated how nurses in rural Saskatchewan, Canada responded to and coped with trauma-related events, such as patients' sudden deaths or violent injuries. In this study, the term 'rural' was defined as "individuals in towns or municipalities outside the commuting zone of larger urban centres (with 10,000 or more population)" (Jahner et al., 2023, p. 881), which does vary

from the definition used in this thesis (see Chapter 3 for complete definition). However, it is a similar population, being Canadian nurses, and there is a degree of overlap in the qualifications of what makes an area 'rural', therefore it was used during this literature review to inform an understanding of rural nurses' experiences during COVID-19. Nurses in the Jahner and colleagues' (2023) study expressed feelings of professional isolation resulting from a lack of resources; including physicians, emergency transport, and equipment. Nurses also expressed issues with human resources, describing a lack of staffing and absent or inadequate leadership. Nurses reported having a hard time moving past these traumatic events, as they would frequently see family members of patients in public, reminding them of the traumatic event. These nurses sought emotional support from their coworkers, friends, and family. Nurses described needing to do self-reflective practices and sought internal strength to overcome trauma. Overall, nurses described needing to find personal ways to deal with and overcome their trauma in order to keep going, resulting sometimes in mal-adaptive coping mechanisms (Jahner et al., 2023). While the Jahner and colleagues' (2023) study did not directly address the situations present during COVID-19, it provided some insight into what rural nurses may have experienced.

The Gap

The experiences of nurses during the COVID-19 pandemic have been well documented, including the increasing prevalence of mental health concerns and burnout and the importance of resilience in enduring these challenges. However, studies that investigated nurses' experiences during the pandemic focused on urban settings. There is

a distinct lack of knowledge and firsthand accounts of rural nurses' experiences with stress and supportive measures, particularly during the unique conditions of COVID-19 (Jahner et al., 2023). Therefore, this study aimed to increase understanding of rural nurses' experiences during these turbulent times and determine how they could be better supported in their work. This thesis project examined firsthand accounts of rural nurses just prior to and during the third wave of the COVID-19 pandemic using qualitative description, thus creating a baseline to build future research and policy.

Study Purpose and Rationale

The purpose of this qualitative descriptive study was to develop an understanding of the rural acute care nursing experience in Ontario within the context of the COVID-19 pandemic, and the challenges and supports rural acute care nurses required during this time. The goal of this research was to give voice to rural nurses by facilitating the telling of their stories about providing care to patients with and being exposed to COVID-19, to inform policy creation, managerial practices, and future research directions. The research questions for this study were:

Primary: What were the experiences of rural nurses in the acute care setting (rural acute care nurses) during the COVID-19 pandemic?

Secondary: How were rural acute care nurses supported or challenged during the COVID-19 pandemic and what factors (personal, etc.) influenced their experience?

CHAPTER 3: Methodology

This study was completed using a qualitative description design. The goal of qualitative descriptive research is to gather and collate stories and present them in a way that stays true to the original account and the participants' experiences (Doyle et al., 2020; Hart & Mareno, 2014). This type of research does not focus on creating a theoretical understanding of a phenomenon, but on describing and making the insider perspective of a phenomenon easy to understand (Bradshaw et al., 2017; Sullivan-Bolyai & Bova, 2021). Qualitative description is a naturalistic methodology that seeks to capture the phenomenon as it is, without introducing other factors into it (Kim et al., 2017; Sandelowski, 2010). This requires minimal interpretation, as the results should reflect and describe the participants' actual experiences, not be used to develop a theory based on the experiences (Bradshaw et al., 2017; Sullivan-Bolyai & Bova, 2021). Qualitative description involves the collection of rich non-numerical data, and analysis techniques based on the content of the data (Sullivan-Bolyai & Bova, 2021).

Often, a theory is used to guide the research by providing structure for data collection and analysis (Bradshaw et al., 2017; Sandelowski, 2010). In this study, Szanton and Gill's (2010) *Society-to-Cells Resilience Theory* was used, as it is of moderate to high quality, and has been used in similar research. The current study followed the trends of the studies before it as described in Chapter 1, where the *3 Rs* were used to define resilience and the *Society-to-Cells* portion was used as guidance. The *3 Rs* were used to provide a structured and clear definition of resilience, while the *Society-to-Cells* factors hypothesized to impact resilience were used to develop the interview questions and

structure the data analysis. The role of this theory in data collection and analysis will be expanded on below.

As an expectation of qualitative description, the reports of the findings were detailed, extensive, and used the language of the participants (Kim et al., 2017; Sullivan-Bolyai & Bova, 2021). Quotations were used to support the results that were collected from the data (Sandelowski, 2010). The description of the findings is 'low interference', meaning it has not been altered too far from the raw data, which allowed the findings to stay true to the participants' experiences, yet be understandable to outsiders (Latifnejad Roudsari, 2019).

Description of the population to be studied, inclusion and exclusion criteria

This study investigated the experiences of nurses who worked in rural hospitals in Ontario during COVID-19. For the purposes of this study, rural hospitals were defined as hospitals located in small population centres (1000-30,000 people) (Statistics Canada, 2018) that were not part of a larger urban centre (i.e. a small town incorporated into a city) and had less than 100 beds total (Ministry of Health and Long-Term Care, 2022). Hospitals in remote areas (those in population centres of less than 1,000 people (Statistics Canada, 2018), were not included as they may have experienced very different conditions from rural nurses during the pandemic due to their isolated nature (Lenthall et al., 2009). The criteria for determining which nurses are considered 'rural nurses' was chosen based on established criteria used in previous research (Dekeseredy et al., 2019) and, more importantly, uses measures established by Statistics Canada (2018) and the Ministry of

Health and Long-Term Care (2022). A complete list of eligible hospitals can be found in Appendix 3. To manage the scope of the project, participants were limited to RNs. Registered Practical Nurses were not included as they have a different scope of practice and care for patients with a lower level of acuity (College of Nurses of Ontario [CNO], 2018).

Participants were eligible for inclusion in the study if they met the following criteria: a) worked in a rural acute care unit (e.g., ERs, medical/surgical, ICUs, etc.) for at least six months during the COVID-19 pandemic, b) worked at this time in a RN role, c) worked either full or part-time providing them with a richness of their experiences. Individuals were excluded if they: a) did not work in the defined setting, b) worked in the defined setting for less than 6 months or as a casual worker since March 2020, c) did not work in this setting in a RN role.

Recruitment and Sampling

Recruitment occurred in two phases. The first phase employed three main methods for recruitment: 1) professional nursing organizations; 2) social media advertisements, and 3) snowball sampling. The first of these methods was to request that relevant professional organizations (RNAO, ONA, Canadian Association for Rural and Remote Nursing [CARRN]) allow researchers to post about the study on their social media pages (Facebook, Instagram, LinkedIn). However, only the CARRN agreed to send out recruitment materials in email form. The second avenue was to create ads for Facebook, Instagram, and LinkedIn that were targeted towards rural nurses in Ontario.

The advertisements used are available in Appendix 4. All recruitment materials redirected potential participants to an online screening tool for eligibility hosted by McMaster's LimeSurvey software. This tool included information about the study, the study consent form, and asked participants eligibility and contact information questions. The tool is available in Appendix 5. The third recruitment method of snowball sampling involved asking those who completed the tool to distribute a link to the tool to others who they believed may be interested in participating.

The second phase of recruitment introduced new methods as the initial methods provided no participants. The first original recruitment tactic of requesting professional organizations post about the study on social media was expanded to include McMaster University School of Nursing. It was believed that the School of Nursing could have an additional reach that would allow access to a more diverse and expanded pool of potential participants. Another recruitment tactic in phase two was to request that McMaster's alumni network contact potentially eligible alumni with recruitment materials. Current McMaster Nursing graduate students were also informed of the study. As all nursing graduate students are RNs, it was believed some may have met eligibility requirements. Students were informed of the study via an email from the Associate Dean of Graduate Education, and through posts on a student learning platform that all nursing graduate students can access (Avenue to Learn). An Assistant Dean of the Undergraduate Nursing Program at McMaster University identified key contacts at some eligible hospitals and forwarded the contact information to the researchers in this study. One researcher then reached out to these contacts to request that they forward recruitment materials to eligible

staffers and/or post the study posters in visible areas. Lastly, the CNO agreed to send the researchers a contact list of eligible CNO members who consented to being contacted for research purposes. These members were double checked for the eligibility of their workplace using the CNO's *Find a Nurse* tool (CNO, 2023) before being sent a study poster and a letter detailing the study in the mail.

Eligibility was assessed via a brief online survey tool as described above. Convenience sampling was used, so all potential participants who met inclusion criteria were contacted to book interviews. Purposeful sampling was intended to be used as the study progressed to select participants of previously unsampled ages, genders, and/or geographic locations to encourage maximum diversity of the sample. Different geographic areas may have had different access to resources, and different age groups and genders tend to have different levels of resilience (Chana et al., 2015; Cooper et al., 2021; Kılınç & Sis Çelik, 2021; Penz et al., 2019; Rieckert et al., 2021; Roberts et al., 2021). However, due to low recruitment numbers, all eligible participants who agreed to an interview were subsequently interviewed, and purposeful sampling was not completed.

Sample Size

The average sample size range for qualitative descriptive studies is 20-50 participants (Sullivan-Bolyai & Bova, 2021), although as few as 10 participants is not uncommon (Kim et al., 2017). Considering the average number sampled, the nature of this study, and the potential limitations to sampling, the estimated sample size for this

study was 10-30 participants. The final sample size depended on the number of people who volunteered to participate.

Data Collection Method

Data were collected from 60-90 minute semi-structured interviews conducted through Zoom software, either as a video or audio call. Interviews are one of the most common data collection methods for qualitative descriptive methods as verbal communication allows participant's answers to be captured in their own words (Kim et al., 2017). Individual interviews were conducted as the content could have been emotionally triggering and therefore unsuitable for focus groups (Sakamoto, 2018). Interviews were conducted throughout March and April of 2023. An interview guide was used to initiate the interviews but was not strictly adhered to (Sullivan-Bolyai & Bova, 2021). Interviews strayed from the guide as the participant's story emerged, which allowed for the generation of richer, thicker, and more authentic data (Milne & Oberle, 2005; Sandelowski, 2000; Sullivan-Bolyai & Bova, 2021). The time limit for interviews was set at 60-90 minutes, as this is the average length of time for qualitative description interviews and a longer interview length increases the transferability of results (Lincoln & Guba, 1985; Milne & Oberle, 2005; Sullivan-Bolyai & Bova, 2021). A single interview was conducted with each participant. Interviews were conducted virtually as this allowed for a wider geographic range of participants than with in-person interviews. While all calls would have ideally been voice and video, some calls were restricted to voice only based on participant preference. Transcripts were generated automatically using Zoom

software and were manually double checked for accuracy to ensure authenticity (Milne & Oberle, 2005).

The interview guide had six questions with several prompts. The interview questions did not include the word resilience because the definition of resilience in the nursing literature can vary (Conolly et al., 2022; Karadas et al., 2023; Lorente et al., 2021; Wei et al., 2019) and therefore different nurses may have different understandings of what resilience means. The intentional omission of the word was meant to avoid confusion and the posing of questions that might lead to inaccurate responses. The questions instead delved into the daily lives of the nurses in their clinical practice (question 1), the changes that COVID-19 brought to participants' lives (question 2), the challenges that occurred (question 3), what support they had in the workplace (question 4), and the supports they used to maintain their mental health and work-life balance (question 5). Resilience was later factored into the research through its connections to the extant literature (see Chapter 5). The prompts for questions three, four, and five were created using the *Society-to-Cells Resilience Theory* and investigated the different factors of the theory (individual, community, societal, etc.) that could influence coping and stress. The theory was used in this way to ensure that those interviewed considered all the factors that may have impacted their experiences. For example, question five asked nurse participants about the strategies they used or the available resources to support their mental health during the more stressful times throughout the pandemic. Drawing on the theory, the prompts addressed different fundamental tenets of the theory. To understand the *societal* influences, nurses were asked about how the environment around them

impacted their mental health, while at the *community* level nurses were asked about the social supports available or accessible in the local community. This proceeded through each level of the theory to the *physiological* level where nurses were prompted to discuss any self-care or health care behaviours they engaged in that helped support their mental health. The prompts for questions three and four also followed this pattern, with a series of prompts addressing factors at each level of the theory. The final question prompted the participant to discuss anything else they believed to be relevant. The questions and relevant prompts, as described above, can be found in Appendix 6. Although the interviews were conducted in 2023, the interview questions asked nurses to reflect on their experiences during COVID-19 and any changes that occurred since the pandemic started in 2020.

Data Analysis

Data analysis was conducted using content analysis (Sullivan-Bolyai & Bova, 2021). This is a naturalistic approach to data analysis that looks to identify patterns in the content. Codes were developed by identifying relevant words, phrases, sentences, or general themes in the raw data. The frequency with which the codes appeared was also noted to determine how relevant the code was to the population at large. Similar codes that reflect common experiences were then grouped together to form factors and categories. Relationships between the factors and categories were then identified to create a firm understanding of the data. These relationships were defined by the strength of the relationship, if it is positive, negative, or neutral, and if there was any degree of cause and effect between the factors and concepts (Sullivan-Bolyai & Bova, 2021). Category

development was guided by the factors described by the *Society-to-Cells Resilience Theory* in order to identify relationships and similarities between codes, but the codes and their relationships were not limited to the concepts included in the theory. There were codes that applied to multiple concepts within the theory, and others that existed outside of the theory, and these could not be ignored during analysis. Only the *Society-to-Cells* factors were used during data analysis, rather than the *3 Rs*, as to avoid making the analysis too interpretive than is appropriate for a qualitative descriptive study (Kim et al., 2017; Sandelowski, 2010). If the *3 Rs* were used during data analysis, participants' experiences and stories would have needed to be interpreted for the presence of resilience as well as the resilience process used/experienced (Szanton & Gill, 2010). Given that interpretation of the nurses' experiences was not the intent of this study, this level of interpretation was avoided.

In order to maintain the participants' voice throughout, *in vivo* coding, or coding using the participants' own language, was used (Saldaña, 2020). This allowed the participants' own voices to carry through the study and into the final analysis and write-up, ensuring the authenticity and credibility of the results (Lincoln & Guba, 1985; Milne & Oberle, 2005; Sandelowski, 2000). The process of coding also included the use of constant comparison, where coding occurs after each interview and all new codes are compared against the existing codes (Sullivan-Bolyai & Bova, 2021). NVIVO software (Lumivero, 2023) was used to support data analysis. This is a secure, qualitative data analysis software that assisted with organizing codes and creating an audit trail of decisions.

To ensure accuracy of coding and to eliminate any bias, a supervisory committee member completed an independent coding of an initial transcript, which was then compared to the coding produced by the primary researcher (Lincoln & Guba, 1985). During this process, a coding dictionary was developed. This described what each initial code encompassed and was linked to relevant quotes to support the codes. This dictionary then supported the coding of subsequent interviews. Codes of a later interview were checked against the transcript and dictionary by a committee member to ensure the codes continued to be accurate (Lincoln & Guba, 1985).

Definition of end-point(s)

The end-points of data-collection and analysis were intended to be defined by the presence of data and theoretical saturation (Saunders et al., 2018). Data saturation, or informational redundancy, would have been the first to occur and would mark the end of the data collection period. This occurs when new data repeats the content of the previously collected data, and little to no new codes are emerging. There may still be some new data emerging, but it is not relevant, and the time and resources that it takes to collect the data outweighs its potential contribution (Saunders et al., 2018). The second marker to occur would have been theoretical saturation to mark the end of the data-analysis period (Saunders et al., 2018). This would have occurred when no or very few new concepts and factors emerged from data analysis. This marker is characterized by the feeling that the factors can be easily generalized and have a sufficient amount of direct supporting evidence from the data (Saunders et al., 2018). Complete data and thematic saturation should bring the feeling of closure to mark the end-points of the study (Moser

& Korstjens, 2018). However, due to recruitment issues, the study was ended when no other participants were identified after multiple rounds of recruitment. A greater number of participants may have been beneficial in this case to ensure that data and thematic saturation were approached, however this was impractical considering the limitations of this thesis.

Reflexivity Statements

In qualitative research, the researcher is deeply involved in all aspects of the data collection and analysis process. As the research is based in narrative data, rather than numerical, the researcher's own beliefs, experiences, and contexts influence the data and study results (Finlay, 2002). Therefore, it is important that qualitative researchers recognize how they may influence study data and results in order to preserve the integrity of the research (Finlay, 2002; Parson, 2019). This can be done through a process called reflexivity, where a researcher sets out to establish and recognize how their own experiences may influence every stage of the research process (Finlay, 2002; Parson, 2019). Doing so can help them to better understand other's point of view and allows them to explore the different meanings of other's experiences (Finlay, 2002; Parson, 2019). The reflexive activity transcribed below was initiated by the primary researcher prior to beginning this research, but after the research topic had been established.

"I graduated with my Bachelor of Science in Nursing in 2017 and quickly found work on a medical/surgical floor in a small hospital where I worked until 2021. This hospital would not fit the qualifications of a rural hospital as outlined in this study,

however, is of similar size and would have qualified some years in the past prior to the population growth of the area. This gave me acute care experience in a similar setting to those who are participating in this study. During the four years when I worked there, I routinely cycled in and out of burnout a couple of times a year. There were ongoing issues with staffing and management. This was made worse by the pandemic, and ultimately lead me to leave that workplace and shift to public health. I believe that this is what motivated me to pursue this area of study, as I want to prevent others from undergoing the stress that pushed me out of acute care. This may also be of benefit to me, as I may be able to understand the perspective of the participants better, coming from a similar situation.

However, it is important that I do not let my own experiences and biases override those of the participants. During this study, I need to be aware of my own experiences and not ascribe them to others. I must be aware of this during both data collection and analysis. I must be open to the positive experiences of others as well. Just because I had an overall negative experience doesn't mean everyone will. Additionally, while I grew up frequently visiting family in rural areas, the culture of one area may not transfer to another, so I must remember not to project my own cultural experiences onto the data. This is true as well for my culture as a white cisgender woman, as I do not want to override other's cultures with my own. Overall, I must remember to keep open minded and allow the participants' experiences to drive the study.

As both the participants and I are nurses, I do not believe there will be a strong power imbalance. However, I must remain aware that being a researcher may lend me

some power over the participants. I do not want participants to feel forced to tell me things they are uncomfortable sharing, and so I must avoid using my power as a researcher to cause this."

Potential Ethical Issues

Ethics approval was sought at two points during this study through the Hamilton Integrated Research Ethics Board (project number 15553). Initial approval was given on December 14, 2022. An amendment to update and request approval for phase two recruitment efforts was approved on February 17, 2023.

Ethical issues were considered in regard to recruitment strategies. There was a risk that nurses may feel an undue influence to participate if the recruitment materials were received directly from professional organizations, especially the CNO. Therefore, a statement was included in all materials that stated that the organization sending out or associated with the invitation to participate or providing contact information was not involved with the study, participation was anonymous and therefore recruiting organizations would have no information on member participation, and that membership was not influenced by participation in the study.

Written informed consent was collected from individuals prior to screening for eligibility. When individuals followed the recruitment link, they were first presented with information about the study purpose, objective, and processes. They then needed to fill out the consent form before any data was collected. If individuals qualified for the study, they were also given the chance to review the consent form with the researcher prior to

interviewing and ask any questions. Participants were informed that they could withdraw their consent at any time on the consent form and verbally at the beginning of the interview. If any changes were made to the study design, all participants would have been informed of the changes via the communication method of their choice and given the chance to ask questions and withdraw consent as needed (Richards & Schwartz, 2002).

Study participants deserve dignity, respect, and confidentiality (Corbin & Strauss, 2015). As this study included sensitive information about participants' mental health, anonymity was important. Participants were informed that there is always a risk of data being leaked. Raw data was stored on an encrypted external drive, in a lockbox, in the primary researcher's home. Participant identifiers were stored separately from the raw data. Identifying information (names, locations, dates, etc.) was scrubbed from any data shared with other members of the research team, however there is always a risk that others may be able to identify participants based on context queues or quotes (Morse, 2007). McMaster OneDrive was used to share deidentified data, as it provides automatic, low-level encryption. Researchers, as much as possible, chose to include quotes and experiences that could not be linked to an individual in the final write-up, however the risk is always present. Participants were informed that there is always a risk that others could identify them based on their stories of their experiences, or the nature of their quotes. This allowed participants to make an informed choice of whether or not to participate.

This study covered topics such as workplace stress and trauma, death, and other potentially distressing topics. Discussing these occurrences had the potential to evoke

past traumas and cause emotional distress (Olson, 2018; Richards & Schwartz, 2002). However, some participants may have found telling their story to be beneficial to their mental health, and being interviewed about stressful topics can bring a sense of relief, rather than distress (Olson, 2018; Potrata, 2010). Therefore, these risks and potential benefits were highlighted in the consent form and participants were provided with resources in case of emotional upset. If a participant had become upset during interviews, the interviewer would have allowed them to stop the interview if desired, however this never occurred. Participants were informed that they did not need to share things that they did not feel comfortable discussing.

Lastly, there was a risk of secondary trauma to the researcher herself as an RN (Sanjari et al., 2014). The primary researcher was encouraged by her thesis supervisor to debrief after traumatic interviews, and contact and debrief with peer supports, or seek out urgent psychiatric care from the Student Wellness Centre at McMaster University if needed. Additionally, regular meetings were held to debrief with the thesis supervisor after the first interview. Completion of these activities helped ensure the primary researcher had access to adequate mental health supports in the case of secondary trauma and distress.

CHAPTER 4: Overview of Findings

This study explored rural acute care nurses' experiences during the COVID-19 pandemic. The overview of findings will start with a summary of the developed categories and factors. This will be followed by a discussion on the demographic characteristics of the nurses to provide context for the results. Next, a model that displays the three categories and how they relate to one another will be briefly discussed. Finally, the three categories, their factors, and how they relate to one another will be discussed in greater detail.

The nurses in this study shared much information surrounding the pandemic and described how it brought changes and challenges to their personal lives and nursing practices. Three categories of factors emerged relating to sources of stress and support that highlighted the commonalities and differences between these nurses' experiences during the pandemic. The three categories of factors to emerge from the data relate to the individual nurses and their personal lives, the organization nurses worked in, and the communities they lived in. These categories were loosely based on the *Society-to-Cells Resilience Theory,* however deviated from it somewhat. Within each category, several factors were identified as impacting nurses' experiences. The *individual* category encompassed the influences of nurses' home lives, habits, and individual traits, and is defined by the factors of *personal outlook and traits, friends and family*, and *self-care and coping behaviours*. The *workplace* also impacted nurse's experiences during the pandemic. This category described the events and interactions that happened within the workplace and includes the following factors: *small hospital infrastructural limitations,*

policy and practice changes, staffing, management style, and *workplace culture*. Lastly, the behaviours and actions of the members of rural nurses' small *communities* influenced those nurses' experiences during COVID-19. Factors included in this category are: *a sense of personal responsibility, pushback*, and *support from the community.*

Participant Demographics

Recruitment of the population for this study proved to be quite difficult. The majority of participants were recruited through the mailing list provided by the CNO. Of the 173 potential participants who were sent an invitation letter, five (3%) agreed to participate. One additional participant was directed to the study by a relative. Less than one third of those who completed an eligibility survey consented to an interview.

A total of six rural nurses were interviewed for this study. All participants were female, and their ages ranged from 40 to 63 years old, with a median age of 52. One participant had dependants. Participants' workplaces were located across much of Ontario's geographic area, including Northern Ontario, Southwestern Ontario, Central East Ontario (the Simcoe and Muskoka area), and Southeastern Ontario. No participants were recruited from the urbanized areas surrounding Lake Ontario, also known as the Golden Horseshoe, or the greater Ottawa area. Nurses' workplaces ranged from approximately 42 to 286 km away from the nearest large hospital (>100 beds (Statistics Canada, 2018)). The communities in which the nurses worked ranged in population from approximately 3,000 to 28,000 people, and the hospitals in which the sampled nurses worked ranged in bed capacity from approximately 20 to 70 beds. Of the six hospitals at

which the sampled nurses worked, two experienced some degree of unit closure or major service disruption since the start of the pandemic in 2020. The majority of participants reported that they lived in or just outside of the communities in which they worked.

While most participants worked in either an intensive care unit (ICU) (n=2) and/or ER setting (n=2), most participants (n=5) also reported working across multiple different settings during the pandemic either because they changed positions or because their role required, they work in multiple units. Other settings where nurses worked included medical/surgical (n=1), obstetrics (n=1), the operating room (OR) (n=1), rehab (n=1), or chemotherapy (n=1). Two of the participants had previously worked in an urban setting but moved to the rural setting sometime during the pandemic.

Model of the Factors that Influence Rural Nurses' Experiences

A model was created to visually represent the connection between the categories and demonstrate how the rural workplace has some unique qualities that make it distinct from urban hospitals. The model is shown in Figure ii.

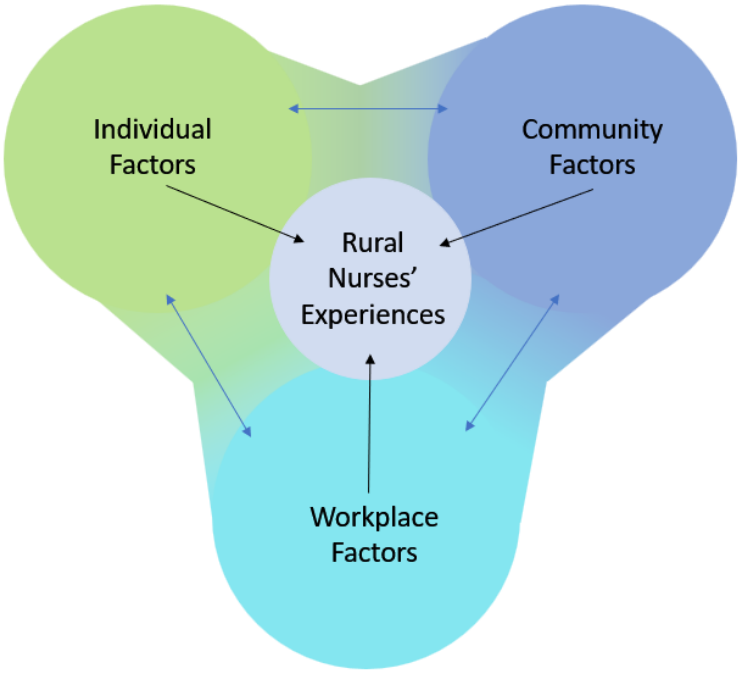

Figure iii: Model of Rural Nurses' Experiences in Ontario during COVID-19

This model has three circles representing the three categories of factors emerging from participant interviews. Each category leads into a central circle titled *rural nurses' experiences*. The center circle represents the individual nurses' personal response to the stress of the pandemic. As the model shows via arrows, all three categories impact the individual's experiences. These impacts will be discussed throughout the results section. What makes this model unique is its specificity to the rural hospital as represented by the blending across the three categories; these categories of factors are not independent of each other and have a great deal of overlap within this specific setting. Nurses in rural settings frequently live in their communities and either personally know or know of their community members. Patients may be family, friends, friends of family, or friends-of-

friends. Many nurses described how some of their closest friendships are with their coworkers. These connections, common in the rural setting, lead to distinctive interactions between the individual, workplace, and the community, and can create noteworthy stressors and sources of support for rural nurses, as demonstrated in the descriptions of the categories and factors. These connections are discussed in more detail after the description of the three categories.

Category One: Individual Factors

The category of individual factors encompasses multiple aspects of the participants' home and personal lives during the pandemic. Individual factors include the effects that the individual's emotional states, home life, personal relationships, and individual's health had on their experiences. Three factors emerged from the data: personal outlook and traits, friends and family, and self-care and coping behaviours. These factors were combined under one category as they all focus more so on the individual as a person and tend to occur most often in the physical setting of the home.

Personal Outlook and Traits.

For the nurses in this study, personal outlook appeared to have a great deal of influence on how they interacted with the world and how they endured during the stressful circumstances brought about by the pandemic. Many nurses displayed outlooks and personality traits that helped them to mitigate stress throughout the pandemic. One such state was the ability to maintain a positive outlook and stay optimistic. These nurses always looked for the good in their situation and in the people who surrounded them.

When asked, nurses stated that they believed their outlook about situations helped them to be optimistic about what was to come and helped them to cope with the uncertain circumstances of the pandemic. Another positive trait was the nurses' ability to prepare themselves for the social isolation brought about by mandated self-isolation procedures and quarantines. These nurses knew they would be isolated, especially if they contracted the COVID-19 virus, and mentally prepared to make the best of it. Nurse A stated how she "just decided in [her] head that [she] was going to have to be alone a lot" and that this helped her to cope with her quarantine. The nurses interviewed were realistic about their abilities and understanding of their own limits. They realized that they could not accomplish everything they wanted to when caring for their patients or at home and decided that they would try their best. Nurse E described this being a result of many years of nursing practice, stating "You learn, after all these years that there's some things that you can't control, and there's only one of you, and you just kind of, you know, knock off each task one at a time." These nurses were also able to recognize that they were developing burnout and took conscious steps to prevent this or reduce its impact. They did this by taking time away from work or changing job positions and starting in a new environment. As described by nurse F:

> "I was getting a little burnt out towards the end, and I found that my tolerance and my empathy was waning away. And that's one of the reasons why I had to switch floors is because I knew that I needed to change from the scenery, because I knew that I wasn't being the kind of nurse that I know I should be and I am."

Nurses in this study also moved to areas of lower acuity or positions with less hours (such as casual positions) in order to reduce stress and prevent burnout.

Isolation from Friends and Family.

During the pandemic, the government released social gathering restriction mandates, and the participants felt a responsibility to follow them. While this was beneficial for reducing COVID-19 transmission, it led to a degree of social isolation. Nurse A described how she "shut down [her] whole social circle right off the bat" when mandates were announced in order to protect herself and others. Nurses found this social isolation to be a major source of stress, especially when they were isolated from their family members. Some had family members who lived out of county that they were advised not to visit, and all avoided their family from a fear of spreading COVID-19 to them. Two nurses stated that they did not see their immediate family in person for over a year. Nurse F recounted how she did not see her children for about two years. She described how this felt, stating;

"I would normally, I wouldn't think twice about driving to visit any one of them, right. But during those two years I really didn't see them, because I was afraid I was going to give them something, even with, especially before my immunization […] Our kids are a big part of our life, so that probably the worst thing of those two years is that I feel like I lost that time"

Working long hours made this worse, as time to socialize was restricted. This isolation could reduce resilience in nurses, making the stressors of the pandemic more impactful on their mental health.

"I felt isolated. I wasn't motivated to do anything. When I got home from work I slept, and I'd eat, and I don't really remember having much of a life other than working." (Nurse F)

This was especially true when nurses were sick with COVID-19, as they became isolated from their family within their own house.

However, nurses found new ways to interact with their friends and family while still following social distancing guidelines in order to maintain their mental health and social circles. Some of the nurses socialized with friends and family using virtual tools, such as Facetime or Facebook during the initial mandates. Other nurses found ways to visit friends and family while maintaining social distance. Nurse A provided an example of this, explaining how she and her friends would have coffees together from the tailgate of their respective vehicles during the winter of 2020. Another nurse described visiting friends and family by sitting outside their windows and chatting. Nurse B expressed how her stress was relieved “once [she] could start seeing [her] grandkids again” after mandates were lifted and how “that made a big difference” in her overall stress levels. Nurses also explained the benefits of having a supportive partner or family that they lived with. As nurses were overwhelmed at work, they needed a stable home to relax in. One nurse explained how helpful her partner was when she was sick with COVID-19, describing how he would deliver meals to her while keeping the two of them isolated from each other. Overall, nurses found social support was to be beneficial for their mental health during COVID-19, and that they were able to maintain social support by finding creative ways to socialize.

Self-Care and Coping Behaviours.

Nurses faced many challenges to their health and well-being during the pandemic, related to COVID-19 or otherwise. Some nurses experienced changes in their personal life that added to the stresses of COVID-19, such as a death in the family or their own illnesses. Other nurses experienced COVID-19 stress-related illness. Some nurses explained how they experienced lasting fatigue related to COVID-19 stress and had difficulties in completing day-to-day tasks because of this exhaustion. Nurse F described herself as "a write off at home", while another explained how she had extremely low motivation due to the fatigue. Nurse B illustrated this feeling well, stating "there's periods where you're just so tired that you just, things at home could wait." This fatigue prevented them from caring for themselves.

In order to combat these issues, nurses adopted self-care behaviours. Nurses who faced personal health crises made their own health a priority by exercising and maintaining a healthy diet during their off-hours. Nurse D, after experiencing hospitalization, stated that "[she] took more time to [her]self" and that she "started to, you know, physically try to do more things on [her] days off that are healthy for [her]" in order to improve her overall health. She explained how she had been ignoring her own health, putting the priority on her workplace, but that her illness served as a reminder of the importance of taking care of herself as well. Other nurses found outlets for their stress through hobbies such as arts and crafts, reading, or watching television. Many participants described the benefits of living in a rural setting, and how the nature they were surrounded by was very beneficial for their mental health. Nurse E, who had

recently moved out of an urban area, detailed how beneficial she found the rural setting to be, stating;

"It's just trees all around my house. It's the most beautiful thing, and looking up at the sky and the clouds, and even at night, looking at the stars. Very, very, very good for my soul, my mental health and my soul for sure."

Nurses would engage with their environment through walking, exercising, or even just sitting outside and enjoying the day.

Lastly, a few participants described using alcohol as a coping strategy for stress relief. This was seen by these participants to be both a positive and negative coping behaviour depending on its use. Nurse F stated that she "drank more" when discussing the negative impacts that the pandemic had on her mental health. Nurse E used both cannabis and alcohol to help relieve her stress. She described her cannabis use with positive tones during the interview, however seemed to be more careful with her alcohol use, describing using alcohol "not heavily" but just enough to "forget the stresses of the day". Participants who used alcohol as part of their coping tended to frame it in a negative light and were wary of its potential for abuse.

Category Two: Workplace Factors

The category of workplace factors encompasses the stressors and supports that influenced nurses' experiences that were related to the participants' workplace. Five factors emerged from the data: *small hospital infrastructural limitations, staffing, policy and practice changes, management and administration*, and *workplace culture*. These

factors encompass and illustrate the major influence that the workplace had on these nurses' mental health and perceptions of stress through the pandemic.

Small Hospital Infrastructural Limitations.

With the need to isolate a large number of patients, many hospitals required changes in the layout of their units. Participants described some of these changes, such as units being split into COVID-19 and non-COVID-19 areas, public spaces or waiting rooms being converted into patient care areas, and additional infection control measures (such as plastic tents or additional curtains) added to ward style units.

Nurses also explained how changes to room layouts and purposes resulted in disorganization and longer standard procedures. Rooms designed pre-COVID-19 were not built with isolation procedures in mind and could not accommodate the current needs, and so other rooms would be adapted to fill these needs. Additionally, the existing structure of the rooms in these small hospitals were not designed for the increased patient volume and acuity brought about by a quickly evolving pandemic. Resuscitation areas were not big enough to suit their purpose and staff rooms were not big enough for people to adequately physically distance. Nurse F described fearing that someone would code in an isolation room, as the rooms were "tiny, like you fit the bed in there, you know, you had a blood pressure cuff" but that they did not have big enough isolation rooms to fit resuscitation equipment in the case of a code. Furthermore, there was insufficient space for enough overflow beds, even if non-patient spaces were used. Storerooms, recovery rooms, and pre-op rooms were converted into patient rooms. Retrofitting pre-existing

spaces for new purposes generated a lot of confusion and frustration as they were not originally designed with their new purpose in mind. As nurse D described:

> "We had a well-designed trauma room with, you know, all the kits we needed for any potential emergency situation, and all our cupboards in the trauma room had easy grab. Once it got moved into this new area a lot of the stuff was outside of the room, so you required more people to be available to hand you what you needed while you were in this modified trauma room. That was really stressful."

While nurses were able to adjust to the new layouts over time, there was still a need for more appropriate infrastructure. Nurse B explained how even prior to COVID-19 "the population is always growing" in her area and how the ICU is "pretty much always full right now". She described that even without COVID-19 they do not have adequate facilities for her community's population. Surge funding was granted to the hospital of one participant, who found this to be a temporary source of stress relief, as they were able to create more beds and hire more staff. However, when this funding ended, it created stress as the beds and staff were still needed given the local population. Additionally, nurses reported how the outdated technology and lack of available equipment in rural hospitals made their care less efficient than it could be. These settings often do not have the budget to afford electronic medication or narcotic storage, slowing down key nursing processes. For some participants, they noted that when new equipment was purchased or existing equipment updated, such as ventilation and cleaning equipment, it helped to reduce their stress.

A lack of appropriate equipment also created stress. Nurses described not having enough beds, respiration equipment, or COVID-19 appropriate sterilization technology,

resulting in more patients needing to be transferred to other centres and an increased time needed for cleaning. Nurse A, an OR nurse, spoke to how much extra time needed to be taken between cases to sterilize rooms, as cleaning staff did not have access to appropriate equipment to do so. She described how "the housekeepers, it would take two of them on a step ladder about an hour and a half to two hours to clean the room after", resulting in more work for housekeepers and a slower turnaround time for OR availability. One nurse also stated that her unit did not have any true negative pressure rooms for treating people with COVID-19. This lack of space and appropriate equipment was made more apparent by the issues with bed flow and gridlock across hospitals. If the Medical/Surgical unit in the hospital was in outbreak, the ICU would have to hold onto patients who could be stepped down and would need to refuse new critical care patients from the ER. Within larger hospitals there may be multiple units where patients could be sent, but if a single unit in these small hospitals closed, the flow of all patients within the hospital was stopped. As nurse E described;

> "There was a backlog of patients who were medically stable to go up to the wards. But there was no beds available, or they couldn't admit because it was shut down. So, there was a backlog of medical patients […] sitting in an ICU bed that […] they couldn't accommodate up on the medical wards. […] we couldn't bring our ICU patients in, so we had to CritiCall those ones out from the ER."

The limitations in access to adequate resources made nursing roles more challenging and stressful, as all admission and discharge processes were slowed down or halted.

These nurses also described how there was a lack of appropriate PPE present in some rural hospitals. Some hospitals had inadequate stores of PPE to deal with the

pandemic, with one nurse describing how they did not have access to N95 masks for the first six months of the pandemic. Other hospitals took the PPE away from nurses and restricted its use. This restriction was a major source of stress for nurses and felt like a cruel betrayal from their hospital administration. As nurse D described;

> "They called [a coworker] in to have him remove all the N95 masks from the isolation carts and put them in lock up. And he was trying to pull the trolley away from [a supervisor], asking him not to do that. And [the supervisor] said, 'We have to, because it's not airborne. And you can wear a regular surgical mask.' And this was in the initial days where we're told probably 10% of our work population is gonna be exposed and possibly die. And they took away the one protection we thought we had."

For those who had it, secure and assured access to PPE was a major source of stress relief. Those with limited or restricted access to PPE planned ahead for any future pandemic by building their own stores of PPE. This was done to avoid the severe stress of not having access to protective equipment if something like this should happen again in the future. As described by nurse F;

> "I will always keep a little supply for myself just in case. As long as I'm nursing, I'll never put myself in that position again where I'm unprotected going into rooms that I don't know what, you know, what could happen."

One of these nurses tucked them away in secret spots in her workplace, and the other bought her own and accumulated a supply at her house. Overall, secure access to necessary equipment can be a major source of stress relief for rural nurses, as it allows for stability in the workplace and in nursing practice.

Staffing.

All nurses in this study cited issues with staffing as a major source of stress. A few nurses in this study described how their nursing colleagues were leaving the workplace for a variety of reasons. Some of the causes for turnover stated by participants included stress, violence from patients, nurses seeking higher wages, a lack of available housing, as well as many others. Nurses also were on sick leave more frequently due to COVID-19 or for their mental health. Participants also explained how some staff refused to be immunized and therefore quit their jobs or took leaves of absence (could not work in the hospital setting if not immunized). Turnover and a lack of staffing in other departments, such as housekeeping, also increased stress for nurses. Nurses were concerned that, due to sickness and turnover, there would be no staff left to care for patients. Nurse A stated;

> "Basically, what the worry was, was that we were going to end up with no staff to treat anybody. And I think that's what the public didn't get. It's okay to fight this, but if you have no staff to run your operating room there's no operating room runs, or no staff for the emerge department."

This proved to be true for some rural hospitals, with a deficit in staffing causing ERs or ICUs to shut down. When those units closed, it meant that the surrounding hospitals would receive more patients and would be dealing with a heavier load and longer wait times. This caused some nurses to feel guilty or like they were letting down their community, with nurse E describing;

> "We couldn't keep up with critically ill patients for a small hospital. As well as there's a doctor shortage [locally] which the media isn't aware about, where we have to shut down

our ICU for a week at a time, and that's a huge disservice to our population […] It was distressing to us because we failed our community."

Additionally, a lack of ICU beds and staff in larger centres put strain on the staffing of smaller, rural hospitals. Nurses would have critically ill patients that needed intensive care waiting a long time to be transferred to larger centres. Nurses would need to stay with those patients for hours at a time without breaks to care for them while they waited for beds and transport to become available. As nurse D described;

"I was in the room for 5 and a half hours, I believe, with the patient. Nobody came to relieve me. Everyone was too busy. So, I had to wait till Orange actually came in to pick up the patient."

Many of these rural ICUs and ERs were only staffed with 2-3 nurses at a time, meaning that if a nurse needed to give one-to-one care for hours at a time, the floor would be down ⅓ to ½ of their staff. Nurse B described the difficulties in working in an understaffed ICU, stating how "you don't have the support" and how "sometimes it [takes] two people to work in the ICU when someone is really sick, and my experience over the last year […] you don't have a second ICU nurse, you don't have a backup" preventing her from working safely and efficiently.

COVID-19 specific processes, such as PPE, screening, and sterilizing, also took more time away from direct patient care. With the lack of staffing, nurses found these time intensive processes compounded delays in care. Additionally, administration and/or the Infection Prevention and Control (IPAC) team implemented processes without

considering the human resources needed to carry them out, resulting in increased pressure on nurses.

> “But then infection control, they had unrealistic expectations. You can't, you know, just spend all your time taking down and putting up curtains. Like there's other jobs you gotta do that kind of trump it.” (Nurse F)

Many nurses explained that they did not have time for breaks during the workday and tended to work a lot of overtime, which put a strain on the body and mind. Nurse F described her work schedule for the first two years of the pandemic, stating “I was probably doing, oh, at least probably 70, 75 hours in a week. Sometimes 80, because there just wasn’t staff.” Nurses also described how they did not have time to seek out supportive activities, with Nurse F stating “I wouldn’t even think about calling the EAP [Employee Assistance Program], because I couldn’t even imagine having the time to do it, you know what I mean?”

Stress was reduced when additional staff and personal support workers (PSWs) were brought in to help during outbreaks. Agency staff was also brought in to help, which was a first for many of these hospitals, having never used agencies to assist with staffing before. While some nurses had difficulty adjusting to the presence and work style of agency nurses, overall nurses were thankful for their help, with Nurse F describing how “when people would complain, I would be the first one to speak up and say, ‘do you want to go back to the way it was?’.” Lastly, Nurse E’s unit started giving nurses on call hours. She described the issues with this solution, stating;

"The money is great, but we got burnt out closer to the end. So, yes, it works as a temporary solution. But something long term needed to be done."

While nurses on her unit found it rewarding to be paid extra for on-call, the extra incentive could lead to nurses working too much overtime and becoming burnt out.

Policy and Practice Changes.

Along with COVID-19 came a slew of new policies and practice changes to accommodate the newly discovered illness and to prevent its spread. These policies could be a major source of stress when they were created without considering the unique needs and situation within a unit. As described under small hospital infrastructural limitations, rural hospitals often do not have the space or equipment afforded to larger urban centres. Nurses felt appreciated and supported when they were actively included in decision making processes surrounding policy and guidelines that were going to affect their work. However, being excluded from the creation of these policies made nurses feel underappreciated and underrepresented. Exclusion from decision making was noted as the greatest source of stress and frustration for one participant. Nurses describe feeling "out of the loop" and felt that sometimes administration was "putting patients more at risk by these procedures [they're] coming up with" (Nurse D). When policies or procedures were put into place that nurses deemed unethical, nurses would often disregard them or find loopholes in them so that they could act within their own sense of morality. Nurse A described how her team was being discouraged from giving cardiopulmonary resuscitation (CPR) to patients in the OR, even C-section patients, being told instead to have all patients be considered DNRs (do not resuscitate). She found

this to be ethically unsound, stating "And I think that if it had happened, we would have just gone ahead and coded them, I don't think it would have been up for discussion" describing how if this situation occurred her team would have coded new mothers getting C-sections anyways as they saw this to be the morally correct action.

Multiple nurses described the moral dilemma that occurred for them when they were instructed to focus on their PPE over the initiation of CPR. This was done to protect the nurses from contracting COVID-19 from these ill patients. However, this could result in a delay of one to two minutes before a patient started to receive CPR. Nurses found this break from usual practice to be alarming, as they feared potential adverse outcomes in patients. Nurse C described this well stating;

> "I've been in health care in different settings for [20+] years this year. […] the idea of [when] somebody goes down that you don't get in there right away and start compressions with no pulse […] How getting those compressions right away and circulating that oxygenated blood is like so imperative, right? So, for us to step back and be like, 'actually, I can't do that right yet. I don't have my PPE on' […] is so strange, it was so weird"

Nurses found these changes in mindset eased with support from empathetic managers and coworkers. Managers stressed the importance of keeping their staff healthy and worked with nurses to help implement these changes. Additionally, it helped that nurses saw the value in this change in mindset, as it was important to maintain staff health during times of low staffing.

Another major change that occurred to standard practices due to the pandemic was the limitation or elimination of outside visitors. With the prevention of visitors,

patients were on their own for most of their time in the hospital. Nurses felt badly seeing patients all alone during a very stressful time in their lives. Additionally, as patients could not regularly see their friends and family, nurses became a major source of emotional support for them, resulting in additional emotional strain. Nurse F described having an "overabundance of energy" to care for patients as the patients had "no one" and "couldn't even talk to their family because they […] couldn't say more than a couple of words at a time". However, this negatively affected her as she became "a write-off at home" as she was so exhausted by her work. It was especially difficult emotionally for the nurses when the patient was dying (either acutely or palliatively). Nurses did not feel that it was right to keep families away from their loved ones during these times, having only the nurse at the bedside while the patient died. As nurse E described "I guess that you can call that traumatic for nurses, having to be the only one at that bedside while they died from COVID-19 and the other comorbidities." This pain was even worse when the nurse personally knew the patient, as nurse D illustrated;

> "You know their families. You know the person. You just don't want it to be the situation the way it is, like to tell the family member 'you can't come in,' and knowing how heartbreaking that is for them. And feeling like 'this is lasting, like this doesn't go away, you know. Even when the person gets better.'"

Nurses empathized with their patients and community members and were challenged by the enforcement of new visitation policies which were a source of frustration and stress. They felt like they were constantly saying no to everyone. These feelings were worsened when visitation policies were inconsistent, either due to managerial exceptions or as patients moved between different hospitals. As nurse D described;

> "Other family members that would be standing outside a window trying to visit their loved one would see family members walking in. And it's a small town, it's a small hospital. That really affected people, it didn't seem fair."

She found it very frustrating when her manager kept making exceptions for certain people, and did not believe it reflected well on her, her manager, or the hospital.

As illustrated above, nurses would often find loopholes to circumvent policies that they thought were harmful to patients. In this case, they were concerned for the patient's mental health, and would do what they could to support them without putting their physical health at risk. Nurse F described the emotional weight of being told to avoid prolonged contact with her patients. As there were restrictions on visitors, this would mean patients would be alone for the majority of their time in hospital. This caused her moral distress as she knew this would be detrimental to their mental health. Therefore, she disregarded this guideline, stating "when you're trying to give someone a tiny bit of hope, just to pull through a week, you know you'll do almost anything." She described how nurses would do small things, such as place laminated pictures of patient's families in their rooms or bring in disposable reading materials for patients to help them feel less alone during their time spent in hospital. One nurse, witnessing the pain of lonely palliative deaths, encouraged those who could seek palliative care in the community to do so, as she hoped to avoid having patients and families in these situations. This provides an example of the connection between the workplace and the community within rural settings, as the nurse in question personally knew who was receiving palliative care in the community and could pass on the advice to palliate at home. It also helped when the

community came out to support these patients in any way they could and understood the limits that the nurses were put under. This included community members organizing window visits and food delivery for patients so that patients could feel their support without violating visitation rules.

There was a great deal of fear and uncertainty surrounding COVID-19 among most nurses interviewed. These nurses described how there was a deficit of knowledge about COVID-19 at the beginning of the pandemic. Nurses were unsure of the efficacy of their protective equipment and, as explained in *small hospital infrastructural limitations*, did not always have access to the equipment being recommended by professional organizations. This led several nurses to describe their fear of contracting COVID-19 from a patient and either spreading it to others, including their family, or dying from it themselves. A lack of knowledge about how to treat COVID-19 was also a source of stress. Policies were unclear and frequently changed, with nurse D describing how "[management was] trying to use the information they were getting and develop things, but it just felt like it was so disorganized initially, and you know you'd go in one day, and it would be one thing, and the next day it would be another." She felt as though "[she] couldn't keep up on the communication." One nurse, who moved from an urban hospital to a rural one during the pandemic, described how it seemed like rural hospitals had a larger knowledge deficit surrounding COVID-19 treatment than urban ones, resulting in additional stress for rural health teams. Experienced nurses, such as nurse D, were frustrated with the lack of pandemic preparedness, as they expected that hospital systems would have learned from severe acute respiratory syndrome (SARS), stating that it felt

like hospitals “were starting from Ground 0” when they could have prepared based on SARS. An additional issue rural hospitals sometimes faced was that geographically isolated hospitals struggled with long wait times for COVID-19 tests to come back. This made policies difficult to implement, as Nurse D described how it would take “days to a week before you got a COVID positive test back”, resulting in an excessive number of isolated patients.

Fear was made worse when nurses witnessed patient deaths in the early days of the pandemic. Nurses felt a great emotional toll from these deaths. Nurse F also described how larger urban hospitals would send them overflow patients “who they didn’t think were gonna make it,” describing how her team “did the best [they] could, but a large majority of them died,” leaving the rural nurses to bear the emotional weight of witnessing these deaths. Additionally, nurses felt great sorrow and frustration witnessing deaths that they believed could have been prevented, such as in patients who refused to follow mandates or accept treatments. As nurse F stated;

“You know what, that was probably the hardest thing in the world, is to see people, that [not following treatment plans and mandates], being a decision that kills them. You know it’s, it... I don’t know if I’ll ever, I don’t know if I would be okay with that.”

She believed that several of her patients would have lived, or at least had more time, if they accepted the realities of COVID-19 and how serious an illness it is, rather than treating it like a false narrative.

Uncertainty and fear were greatly reduced as the pandemic moved forward for a variety of reasons. Vaccination was described by most participants as a major source of

stress relief as they were less fearful of contracting COVID-19, spreading COVID-19, and saw improved outcomes in patients with COVID-19. Stress was also reduced when nurses had more information. Whether this was due to having easy access to up-to-date COVID-19 treatment and diagnosis information, learning from fellow staff members, or simply by gaining experience caring for patients with COVID-19, nurses with more information of what to expect found themselves to be less fearful of COVID-19.

Management and Administration.

Issues with management served as a source of stress for some participants during the pandemic. Frequent managerial changes were stressful, as nurses did not have consistency in leadership and direction. One nurse described how they had five different managers over the course of three years, and how none stayed long enough to offer support to the unit. Nurse E stated how "it seemed like every week there was a new leadership change, and we were tired of seeing that." Nurses complained of management being inaccessible and extremely difficult to get into contact with, only showing up when something 'big' was happening. Nurse E described her management as "ineffective", highlighting how there was a "lack of visibility" in terms of actually seeing and communicating with managers. This resulted in nurses feeling ignored by management, and needing to make decisions that they were not qualified to make. Isolation from management also resulted in nurses feeling unappreciated in their work, resulting in lowered morale. Nurses found that communication from some managers was "isolated" and unclear, resulting in confusion amongst staff, with Nurse D describing how "none of [the nurses] felt like we were always getting the same information." Nurses often felt that

managers and administrative staff were making decisions about policy changes and patient care without properly consulting nursing staff. As Nurse D described;

> "You just felt really vulnerable, and you didn't feel protected, and you didn't feel a part of the conversation. I think that's the biggest thing a lot of my nursing colleagues have felt. Like, you're not hearing us. You're not letting us be a part of this process. Yeah, we can go on the Zoom Meeting and we can ask questions once a week. But maybe we should be at the table too.'"

Nurses wanted to be included in decision making and believed that their inclusion could have led to more effective policies and practices. Several participants expressed that they were frustrated with and disconnected from their management.

Alternatively, nurses found that present and supportive management was of critical importance to maintaining a positive work environment. Nurses who felt supported by their management expressed how they were always present and accessible, and provided a source of emotional support to their staff during these difficult times. Nurse A described how "there was a lot more communicating that went on at that time and I think that was really important" and how her manager "always [made] sure that all the tools were there for us to work with." Nurse F explained that a manager has to be "the right fit" for the setting, and that they need to be "someone you can rely on, and you can trust". Nurses who did not have a positive experience with their management during these times describe how beneficial it would have been to have such a manager. Nurses also felt supported and believed there was an increase in team morale when other members of the staff took on an informal leadership role. This could include fellow nurses, doctors, or leadership staff from other units. Nurse F described acting as "counselor" and

"cheerleader" for her unit as she tried her best to keep team morale up. Nurse D explained how important it was that they had a "supportive doctor team in [their town]" that would "check in on us, and […] would try and listen to us". Overall, nurses expressed a need for strong and supportive leaders during such uncertain times to support their work and overall mental health.

Workplace Culture.

With the stress of COVID-19, nurses found that sometimes workplace culture and team dynamics changed. A change towards negative team dynamics could be a source of stress for nurses. Nurses found that their teammates could induce stress if they were dismissive of their fears and unsupportive of them in times of high stress. Nurses who experienced this found that it could increase feelings of vulnerability. Fear of COVID-19 also could impact team communication and culture, resulting in general confusion and bickering. Nurse D described their teammates as becoming "on edge and snippy" due to fear. Nurses also describe how fear caused a drop in team morale and an increase in burnout. Uncertainty about the transmission of the illness made nurses unsure of what measures to take to protect themselves and their patients, leading to some staff members refusing to work with COVID-19 positive patients. Additionally, poor communication across departments and a lack of support from other nursing units could cause stress as well.

Nurses sometimes felt that other departments were being treated differently than nursing. Nurses described how other departments, such as hospitality, physicians, and

management, got a lot more protection from infection than they did. Other departments changed their procedures to avoid direct patient interactions or were "wrapped like Fort Knox with plastic and glass" (Nurse D) to avoid infection transmission. Nurses explained how sometimes they were even picking up some of the more patient-facing jobs from other departments, resulting in an increased workload. This could include doing some of the work of food services, or even doing more assessments for doctors as doctors were advised not to see patients in person. Nurse D summarized this issue well, stating;

> "Nursing just felt like all the other designations within this hospital were more well protected than we were. There was big emphasis on that. And I mean you don't want anything to spread throughout the hospital, so I get it, but it just put more pressure on nursing, I think, to have to do things that… you know on top of already being so overwhelmed and busy."

Nurses also felt frustrated when staff members did not follow guidelines or required nurses to instruct them in proper infection control procedures. Nurses felt like they had to enforce regulations amongst their colleagues or even teach their colleagues proper donning and doffing procedures, which was frustrating and stressful for them. Nurse B described how "it was like you were walking through it with [non-nursing staff] to like [teach them] how they took off their stuff". Overall, rural nurses experienced more stress when their workplace had poor communication and when nurses felt undervalued and overworked.

However, a positive workplace culture could be a major source of support for rural nurses. Nurses described how having someone who understands exactly what you are going through by your side supporting you was very important. While family

members and friends may not understand or may be alarmed by what you are experiencing, other nurses can relate to you and empathize with your experiences. Nurse E described this well, stating;

> "It's very hard to tell someone about your day and what you've seen and not have them be mortified, right. If they're not in that, our profession, they would be mortified. […] I feel like I can only be supported if I would, if I could talk to someone within our profession, because they understand."

Nurses enjoyed having friends on their team and felt that the small-town feel of a rural hospital helped them feel supported and valued. Nurses described how working in a small hospital gives the workplace "a family feel" and how the friendly, "small town mentality" helps to support them in these high stress workplaces. Humour amongst the team was also valuable in helping to maintain good team and individual morale. Nurse E cited how "humour […] shed some light into the dark we saw" and helped them to destress at work. Nurses also noted how their coworkers became stronger and more resourceful under strain, and how this was of benefit to the whole team.

Nurses used informal debrief processes to help them deal with stressful events. None of the participants stated that there was a formal debrief process in place in their unit, but one did believe that it may be of benefit to their team. Nurses also worked together and alongside doctors to advocate for themselves as needed. Nurse E explained this process stating how "it can be quite easy once you get everyone on board and everyone to see what that goal is." Nurses found it beneficial to team morale when doctors and the IPAC team were accessible and supportive of their work. Being able to ask questions to IPAC helped reduce the fear and stress surrounding COVID-19. Overall,

rural nurses described the importance of having a positive workplace culture that encourages open communication and collaborative attitudes. Nurses expressed how important the social aspect of their work was, especially amongst their coworkers.

Category 3: Community Factors

The category of community factors encompasses how the local community's responses and actions during COVID-19 influenced rural nurses' experiences and stress levels. There are three community factors including *a sense of responsibility, support from the community*, and *pushback from the community*. Two of these factors oppose each other, with pushback summarizing how the community could induce stress, and support showing how the community can help relieve stress for nurses.

A Sense of Responsibility.

As described earlier, nurses' mindsets could greatly influence their ability to endure the stressors of the pandemic. One of these outlooks was a feeling of personal responsibility towards their community. Nurses felt internal pressure to keep working and to work a great deal of overtime to keep their hospitals running. Nurses would even sometimes put their own health at risk in order to be there for their community. Nurse F described this sense of responsibility, stating;

"I would have to be committed, you know, into a mental health unit for me not to go to work. I would have something major would have to happen to me. I'd have to have a heart attack or something. I would still go in."

Nurses described working over 70 hours a week through exhaustion, driven by the feelings of personal responsibility towards their community. Nurse F was asked by her family why she kept working even to her own detriment, to which she replied "Well, how can you not? How can you look at people and know that they have no one else to help them?" showing how her empathy and sense of responsibility towards her patients kept her working.

A sense of personal responsibility could also lead to social isolation, as nurses felt they needed to set an example for those around them, and therefore followed government mandates stringently. Nurse A described how she felt she "[had] to be an example, and [she had] got to just stay home and stay in [her] own region." This resulted in nurses avoiding contact with other people outside of the workplace, and, in some cases, becoming quite socially isolated.

Support from the Community.

All nurses in this study noted that having support from their community helped to reduce their stress, especially when they themselves were sick. Team morale was boosted when community members gave gifts, such as food or surgical caps, or showed vocal support through honking or painted rocks. This made nurses feel appreciated, and Nurse B described how community support helped to "restore [her] faith". Nurse A noted the help she received from her neighbours when she was sick with COVID-19, describing how "they would pick groceries out and put them on my deck for me." Multiple participants who had previously lived in larger urban centres noted how beneficial the

small-town atmosphere was in helping them to stay positive and motivated during these difficult times. As Nurse F stated;

> "I find the smaller communities have more of a sense of part of a community as opposed to not knowing your neighbors in the city. And everyone helps out, whatever little you can."

It was also very beneficial to have community members who were understanding of wait times and isolation procedures, as they were more likely to be patient and understanding of the limitations that nurses were working under. Additionally, being out in public and seeing people follow mandates could also boost morale, as it showed that many members of the community were willing to follow mandates to protect others in their community. Nurse D described how her community "showed appreciation in lots of different ways. And most, you know, most were really good about all the rules, like they understood too". Lastly, one nurse described how important it was to have a connection between the hospital and the local government. This way, nurses could work with local governments to find solutions to community issues that were limiting nurses' ability to give care. In her case, they were experiencing issues with a lack of housing preventing more skilled professionals, including nurses, from moving to the area, and so had a Town Hall meeting with local politicians to seek out solutions to remedy the issue. This allowed the town and hospital to develop plans on how to create housing options should a surge in nursing staff be needed again in the future.

Pushback from the Community.

Misinformation in the community resulted in a great deal of mistrust amongst certain groups. Nurses describe seeing misinformation spread by members of the community as "annoying". Nurses frequently described the stress induced by 'anti-maskers' and 'anti-vaxxers'. These members of the public who refused to follow masking mandates and get vaccinated were more likely to fight against hospital policy, such as refusing to wear masks, follow visitation rules, or follow isolation procedures if admitted. Both nurses and screeners would need to reiterate and enforce these rules, with nurses describing this as frustrating and stressful. Nurse A stated how "[she] found the biggest pushback were from the anti-vaxxers. They were cheesed off [annoyed]. They were pissed off that we sort of isolated them, and 'you didn't have the right to do that'" This misinformation and distrust also made it difficult to engage in health teaching with these groups as they refused to listen to nurses. Health teaching needed to be more repetitive and frequent, which was another source of stress and frustration. Nurses were "just so tired" of trying to get through to these groups and characterized health teaching with 'anti-vaxxers' as an "exhausting" process. Additionally, nurses in this study described the moral quandary that arose when admitting these people to departments with immunocompromised patients. Nurses witnessed death occurring in immunocompromised patients after they had contracted COVID-19 from an 'anti-masker' relative. Nurses feared that by admitting these patients who disregarded isolation rules, they would be putting the health of their other patients in jeopardy.

An additional source of stress for some nurses was that their community would look to them as a source of information. Nurse F described how she "was constantly getting phone calls when [she] was home from people in the neighborhood worried, you know, about this and that". She describes how "it's not like you're ever off duty, you know, you did a lot of unpaid work." While it was good to be able to clarify things for her community, she felt like she was working unpaid overtime in her off hours.

Connections between the Categories

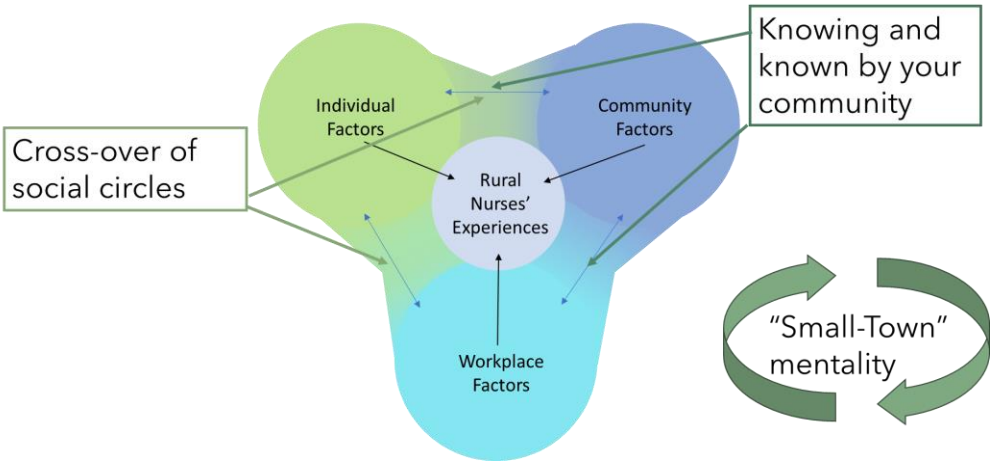

Figure iv: Model of Rural Nurses' Experiences in Ontario during COVID-19 with Connections Highlighted

There was a great deal of connection among the categories of factors that impacted nurses' experiences. These connections have been highlighted visually in Figure iv. To start, there was a notable *cross-over of nurses' social circles*. Nurses showed the connection between their individual lives and work lives by highlighting the importance of having coworkers as friends, both inside and outside the workplace. This connection

was also emphasized by another nurse describing the pain of knowing the family of her patient, and having to ban them from the bedside while the patient was dying. An example of the connection between the individual and the community was when one nurse noted how she took calls from many members of her community and acted as a resource for them when she was home from work. Another described the support her patients received from the community while they were sick, with volunteer window visit schedules being set up, showing the connection between the workplace and the community.

In their accounts of their work during the pandemic, rural nurses frequently referenced *knowing and being known* by their community, sometimes quite directly, but sometimes just in how they phrased things. Nurses were known to be nurses by their community, which, as described above, sometimes resulted in them acting in the role of a nurse while not working, such as the nurse who fielded health questions from her community. Nurses also knew their community as they would know the health conditions of those in their community, as seen with the nurse who knew who was receiving palliative care in her community and warned them to avoid in-hospital care.

Lastly is the concept of the *small-town mentality* that ran through all themes and interactions that nurses had. Nurse C phrased this concept well, describing the small-town mentality as "'I may not know you specifically, but […] you might know my grandparents', or '[…] I might not know who you are, but you know, Hello! Hope you're having a good day' kind of thing" showing the innate connection between members of small communities. Nurse F described seeing "[her] people" in the hospital, while Nurse

E used the term “everyone” when describing her community, implying a strong connection and unity within the community. As exemplified throughout this analysis, these aspects of community running through the work and personal lives of nurses can be a tremendous source of support, especially during turbulent times, but can bring additional stressors and personal involvement in their work.

CHAPTER 5: Discussion

The discussion section of this thesis will summarize and compare the findings of this study to the current literature, investigating the similarities, differences, and new information that this study adds to the literature. This will provide a holistic view of the experiences of rural nurses during COVID-19, as well as provide comparison across different settings. Nurses' experiences were also compared and connected to the literature surrounding resilience in nurses to try and identify how the factors described in the results could potentially have impacted the resilience of participants. As the data collected from participants did not directly address resilience, the connections to the available literature on resilience will allow for these experiences to be viewed through the lens of resilience, but should not be considered causal. These comparisons will be organized by category. The strengths and limitations of this study will then be summarized. Implications for practicing rural acute care nurses, managers, and administration, as well as community leaders and local governments will be outlined. Lastly, potential areas for future research will also be addressed.

Key Findings in Relation to Literature

Rural nurses' experiences during the pandemic were unique due to the high degree of interconnectedness between their personal lives, work lives, and the community. Rural nurses tend to live in the communities that they work, resulting in a great deal of interconnection between people they personally know and the people they provide care for in their workplace. These factors and interconnectedness between them

could cause nurses stress but were also a unique source of support. In their personal lives, nurses found that the pandemic and the social changes it brought, such as quarantine induced isolation from family and friends, were stressful. However, they endured through the stress by upholding an optimistic outlook, finding creative ways to keep social, and by exhibiting self-care and coping behaviours. The rural workplace itself was a major source of stress. Nurses in this study described how the physical infrastructure of rural hospitals, with a lack of isolation rooms, physical space, and appropriate equipment, was not adequate for the needs that arose during the pandemic. Furthermore, changing isolation procedures, a lack of resources including PPE, and unclear direction from management were identified in this study as making nursing practice confusing and stressful. Nurses in this study also found caring for and educating those who were in-denial about COVID-19 and its prevention was stressful and frustrating. However, nurses described several sources of support in the workplace that helped them to stay strong. One major source of support was the social support of their colleagues. Frequently, rural nurses in this study described how their coworkers provided psychosocial support during and after times of crisis that was perceived to be very beneficial. Nurses in this study also described the importance of managerial support to help manage workplace stress and uncertainty during these turbulent times. In addition, the community was perceived as both a source of stress and support. Feelings of moral obligation to continue working for the benefit of the community led nurses in this study to neglect their health and well-being in favour of others. Some community members denied the realities of COVID-19 or refused to engage in transmission prevention procedures, and this caused stress for

nurses. However, the community also served as a great source of support for nurses especially when they felt appreciated for the work they did for the community.

Category 1: Individual Factors

Having a positive outlook, supportive home life, and self-care behaviours were seen to be of great support to nurses' mental health during this study. Nurses in this study were buoyed by their ability to maintain optimism and a positive outlook. Multiple systematic reviews on nursing resilience found optimism to be a key factor in maintaining resilience (Cooper et al., 2021; Gribben & Stemple, 2021). Additionally, one study of nurses in Israel also identified optimism when investigating how nurses maintained their resilience during COVID-19 (Marey-Sarwan et al., 2022). Several pre-COVID-19 studies of various designs and nursing populations also cite self-efficacy and resourcefulness as important traits for developing and maintaining resilience (Ang et al., 2019; Chana et al., 2015; Gribben & Stemple, 2021). While not an identified outcome in this study, these traits were displayed by the rural nurses of this study when describing how they prepared themselves for isolation, how they sought out new ways to maintain social contacts, and how they became more resourceful in the workplace, all of which may have helped them to maintain resilience.

A few nurses in this study described how changing nursing positions (i.e., switching to a different specialty/unit type) reduced stress. These nurses moved to positions where they had to adopt new routines and practices, or into environments that could be considered lower stress in order to prevent themselves from developing burnout.

Transferring to a new position may be a valid strategy for preventing burnout and the poor-quality care associated with it (Jun et al., 2021), however there may be issues with this when it comes to the rural setting. Canadian rural nurses tend to have difficulties switching position due to the lack of availability of different work settings in their local area (Jahner et al., 2023). This issue would likely be more prominent for nurses in more isolated locales, such as Northern Ontario, where hospitals are a large geographic distance apart. Therefore, this strategy for reducing and preventing burnout may not be accessible to all.

Nurses in this study found social and physical isolation, especially from family, to be a major source of stress. Social isolation was a common stressor for both urban and rural nurses during the pandemic as people social distanced to try and prevent the spread of COVID-19 (Boone et al., 2023; Jahner et al., 2023; Mathura et al., 2022). Previous research described that social and physical isolation were issues for some in rural nursing populations prior to COVID-19 as well (Jahner et al., 2019; Lenthall et al., 2009; Penz et al., 2019). One of the major factors that encouraged nurses in this study to self-isolate, aside from the mandates, was a fear of infecting their friends and family members with COVID-19. Phillips and colleagues (2023) and Marey-Sarwan and colleagues (2022) also described nurses as having a fear of bringing COVID-19 home from work and unintentionally infecting one's family. This appears to be a common fear and source of stress for nurses, as these studies addressed urban populations in the United States and Israel respectively (Marey-Sarwan et al., 2022; Phillips et al., 2023), which represent different geographic populations compared to this study.

One finding from this study that contradicted reports from other studies (Kılınç & Çelik, 2021; Marey-Sarwan et al., 2022) was that nurses in the current study emphasized how they felt that their family could not truly empathize with their work-related experiences. They described how family members overreacted to something they considered more mundane and how it made them feel misunderstood. They preferred to speak to their coworkers or fellow nurses about workplace related stress, as they found much more empathy and understanding. Conversely, nurses in studies from Turkey and Israel ranked family support above peer support, preferring the support from their family in regard to workplace stress during COVID-19 (Kılınç & Çelik, 2021; Marey-Sarwan et al., 2022). In either case, pre-COVID-19 studies of nurses in the United States and United Kingdom, as well as foundational literature on burnout, emphasize the importance of social supports in general, for sustaining resilience and preventing burnout in nurses (Chana et al., 2015; Schaufeli et al., 1993; Wei et al., 2019). While the nurses in this study tended to prefer the support of coworkers over their family, they were still benefitting from the effects of social supports.

Self-care and coping behaviours were the last individual factor that impacted rural nurses' experiences described in this study. Nurses in this study felt that they experienced a great deal more fatigue and personal loss during the pandemic when compared to their pre-pandemic state. This caused self-care and personal health practices to fall by the wayside for some of these nurses. However, the nurses in this study also emphasized how important it was to exercise self-care in order to have the energy and baseline level of health needed to care for their patients. This included having a healthy lifestyle and

engaging in hobbies. They also described the benefits of going outside and being in nature, explaining the healing effects that nature could have on one's mental state. Literature from before and during the pandemic also reported similar effects. For example, in qualitative studies of Canadian nurses in urban settings, Mathura and colleagues (2022) and Rana and colleagues (2023) both noted pandemic-associated fatigue. They noted that the heavy workloads of the pandemic led to lasting fatigue that followed nurses home from work (Mathura et al., 2022; Rana et al., 2023). Overall, extant literature from before and during the pandemic emphasize the importance of healthy self-care behaviours in maintaining nurses' health and well-being (Huang et al., 2021; Jahner et al., 2023; Rana et al., 2023). Chinese acute care nurses in the study by Huang and colleagues (2021) worked in a COVID-19 specific facility and described using exercise and relaxation techniques such as music to help them to maintain a positive outlook, similar to the nurses in this study. Canadian studies of both urban and rural nurses found similar results, with music, creative hobbies, eating well, and exercise being cited as beneficial self-care practices to help reduce stress and increase resilience (Jahner et al., 2023; Rana et al., 2023). These studies also noted being outside in nature as a beneficial self-care practice (Jahner et al., 2023; Rana et al., 2023). The literature also described how some nurses used religion as a part of their self-care as it helped them to deal with stress and moral upset (Kandemir et al., 2022; Robinson & Stinson, 2021), however that was not found in this study.

Alcohol and cannabis use were highlighted by some nurses in this study as a coping strategy for dealing with pandemic-related stress. Nurses noted that their

consumption of these substances either started again after a period of sobriety or increased as a results of the stressors of the pandemic. Increases in the use of alcohol among healthcare workers during COVID-19 has been reported by others, specifically in Canada and Australia (Mongeau-Pérusse et al., 2021; Searby et al., 2022). While substance use may be a coping method some use, it is important to keep moderation in mind and know why and how one is using them to avoid misuse. Overall, there was alignment between the findings of this study and the literature on individual factors.

Category 2: Workplace Factors

Workplace factors were seen to have a major effect on nurses' experiences during COVID-19. Both the physical environment, including the supply availability and infrastructure of the workplace, the staffing resources, the policies and procedures, the management, and the culture of the workplace, and the interpersonal interactions influenced nurses' ability to endure during these stressful times. Nurses in this study specifically detailed the difficulties they had in accessing the appropriate equipment necessary to complete care, with rations and shortages of PPE prompting some nurses to create personal stashes of PPE as a method for preventing stress in the future. Previous studies (e.g., Boone et al., 2023; Havaei et al., 2022; Robinson & Stinson, 2021) found that nurses studied also experienced supply rationing and shortages, with Boone and colleagues (2023) specifically reporting rationing of PPE. These shortages placed an additional burden on nurses professionally as it made care more difficult to accomplish, and emotionally as supply shortages and rations increased nurse stress levels, induced anxiety, and could also create moral distress as they feared COVID-19 transmission

(Boone et al., 2023; Havaei et al., 2022; Robinson & Stinson, 2021). Other studies also found that reduced access to necessary equipment was a source of stress for nurses (Easler et al., 2022; Marey-Sarwan et al., 2022; Witt et al., 2023), similar to what nurses reported in this study. Nurses in the study by Marey-Sarwan and colleagues (2022) described that a lack of appropriate equipment was a burden during nursing care. A systematic review of nursing resilience by Witt and colleagues (2023) described that nurses needed access to appropriate equipment to support their resilience in the workplace during pandemics. Easler and colleagues (2022) conducted a study on urban ER nurses in the United States and also found that equipment access impacted acute care nurses' resilience. Furthermore, rural nurses were already known to have issues accessing appropriate equipment and supplies prior to the pandemic (Dekeseredy et al., 2019; Jahner et al., 2020) which potentially worsened during the pandemic due to the increased strain on resources. The creation of personal supply stashes seemed to be an occurrence unique to the nurses in this study. This phenomenon was not noted in any of the studies found during the literature search.

Supply issues were not the only stressor related to infrastructure that nurses described in this study. All nurses interviewed described issues arising from the physical structures of the working environment. They described that their workplace was too small to accommodate the changes in patient status and the need for social distancing that were brought about by COVID-19. Examples of this included a lack of isolation rooms, ward style ERs, and break rooms that were too small to social distance in. Nurses in this study also noted that changes made to the layout of their workspaces to accommodate isolation

measures resulted in confusion and a loss of certain designated spaces. Additionally, the geographic isolation of rural hospitals could create problems with the timeliness of patient care, as seen with the experiences of the one participant whose hospital was a great distance from COVID-19 testing labs, leading to a delay in getting results back. These infrastructural issues described by the nurses in this study, such as workplaces being too small to accommodate patient isolations and the repurposing of specialty rooms, were not described as major issues arising during COVID-19 in the literature. However, studies did not specifically address a rural setting and further exploration of rural nurses' experiences during COVID-19 may prove this to be an issue that is more common in rural hospitals than urban ones. Additionally, while geographic isolation was a not a noted issue in current literature on nurses' experiences during COVID-19, it has been a known issue in rural nursing prior to COVID-19 (Jahner et al., 2020; Whiteing et al., 2022) and, as reported by one participant in this study, made the care of COVID-19 positive patients even more difficult.

In this study, all participants described how a lack of appropriate staffing levels was an important factor that led to increased stress. Nurses in this study reported that they could seldom take breaks during COVID-19 as they lacked the staffing to provide relief. A few nurses specifically outlined the difficulties their workplace had in recruiting and maintaining nursing staff, describing how their workplace could not financially incentivise nurses to work there and may have been less appealing due to its small size and rural location. Due to staffing difficulties, nurses in rural hospitals were unable to take vacation days or time off to relax, as they were needed to staff their workplace

throughout the pandemic. A lack of staff retention in other departments, such as housekeeping, also created stress and strain for the nurses in this study as the work of other departments slowed down. This study found that bringing in PSWs or agency nurses helped alleviate some of the strain caused by a lack of staff, however participants described that permanent staff were preferred. A lack of staffing seemed to be an issue in nursing regardless of rural or urban setting during the pandemic (Kandemir et al., 2022; Lorente et al., 2021; Park et al., 2023; Phillips et al., 2023). Phillips and colleagues (2023) conducted a phenomenological study of urban, acute care nurses in the United States and found that they experienced a high degree of turnover during the pandemic, while Park and colleagues (2023) described that there was an urgent need for better staffing of nurses in South Korean ERs after conducting a cross sectional study. Kandemir and colleagues (2022) and Lorente and colleagues (2021) conducted studies on nurses in Turkey and Spain respectively, during COVID-19 and both noted that nurses experienced increasing workloads without adequate support during the pandemic. Nurses being unable to take breaks or time-off during the pandemic due to staffing shortages was also not a stressor unique to this study, as Blanco-Daza and colleagues (2022), Conolly and colleagues (2022), and Fredericks and colleagues (2022) all reported similar issues. Conolly and colleagues (2022) noted that a lack of break time and rest between shifts decreased the resilience of nurses in the United Kingdom during COVID-19, while Blanco-Daza and colleagues (2022) and Fredericks and colleagues (2022) found that having time to rest and take breaks was positively associated with better mental health. Staffing was already an issue in rural hospitals prior to COVID-19, as these settings have

challenges with recruiting and maintaining staff numbers (Dekeseredy et al., 2019). This lack of appropriate staffing in rural hospitals reported in this study led to the closure of ERs and a lack of available ICU beds. This continues to be an ongoing issue in Ontario, with staff shortage linked to temporary closures of ERs across the province (Zandbergen, 2023). In 2022 alone, it is estimated that 158 temporary ER closures occurred in Ontario hospitals, primarily in the rural hospitals targeted in this study (Toronto Star Editorial Board, 2023; Wallace, 2023). Nursing staffing shortages have caused one rural Ontario hospital in Minden to permanently close its ER as of June of 2023, redirecting its community to seek services further abroad (Toronto Star Editorial Board, 2023). This is not just an issue in Ontario, however, as Health Canada (2023) reports that nursing staff shortages are occurring across the country. Appropriate staffing is of great importance in the healthcare setting as multiple studies have found that better staffing and patient ratios are seen to increase nurse resilience and prevent burnout and should therefore be prioritised across all settings (Chana et al., 2015; Cooper et al., 2021; Edward & Hercelinskyj, 2007; McHugh & Ma, 2014; Rees et al., 2019).

Another change that came with COVID-19 was the development and implementation of new policies and standard practices. Nurses in the current study highlighted how certain policies that were created without their input were either difficult to implement, not applicable given their setting, or they deemed them to be dangerous to patients. They would often subvert, ignore, or find loopholes in policies that they deemed unsafe or unethical as a result. As well, the nurses reported inconsistent or unclear communication, and a similar sentiment was reported by nurses in other studies (Jo et al.,

2021; Park & Song, 2023). A cross-sectional study by Jo and colleagues (2021) specifically noted that frequent changes to the goals and demands set about by leadership was associated with decreased resilience and reduced ability to maintain resilience in nurses during the pandemic. The same study, as well as several other studies, emphasize the importance of including nurses in the policy and guideline development process as they offer unique perspectives that may be overlooked, and such engagement increases nurses' job satisfaction and resilience (Aloweni et al., 2022; Jo et al., 2021; MacLeod et al., 2021; Rieckert et al., 2021). By including them in policy development, nurses would have been able to ensure policies were understandable, comprehensive, and applicable to their setting.

The unknowns surrounding the transmission and treatment of COVID-19 at the beginning of the pandemic was a major source of stress for the nurses in this study. Nurses described how they lacked crucial information and that it was difficult to find accurate sources of information. They explained how they received different, and sometimes contradictory information on a daily basis, and that they tended to have poor access to the newly emerging details surrounding COVID-19. Nurses who had access to high quality communications about COVID-19 and focused education on topics such as infection control and protected code blue procedures during the pandemic found them to be of great benefit. All participants in this study found that their stress decreased with the release of COVID-19 vaccines as they acted as a protective measure for staff and patients. Similar to this study, other studies have reported that a lack of understanding on how to treat and prevent the transmission of COVID-19 created a great deal of stress for

nurses (Boone et al., 2023; Easler et al., 2022; Fredericks et al., 2022; Huang et al., 2021; Jo et al., 2021; Park & Song, 2023). An integrative review about nurse well-being during COVID-19 by Boone and colleagues (2023) found that nurses experienced a loss of ability to care for patients when they did not understand the care needs present during COVID-19, resulting in a loss of hope and professional pride. Consequently, Easler and colleagues (2022) found that nurses benefitted from having established and easy to understand guidelines during COVID-19, and that this acted to maintain their resilience in the face of pandemic-related challenges. Multiple studies, as with the current study, found that nurses benefited from having access to high quality communications and focused education on pertinent topics during the pandemic (Blanco-Daza et al., 2022; Huang et al., 2021; Rieckert et al., 2021). Additionally, a study of Canadian nurses in an urban setting by Mathura and colleagues (2022) found that stress surrounding a lack of knowledge decreased with experience and the release of vaccines, similarly to the nurses in the present study.

Patient death was another source of stress for the nurses in this study. They described how the rates of patient death increased in their workplaces, and the mental toll that these deaths took on them. This distress was worsened when policies were implemented that banned all visitors, as patients would die alone. One participant also described her upset when she was advised not to spend any more time than necessary with her patients, as she worried for her patients' mental health if they were to be left alone most of the day. The increase in patient mortality described by the nurses in this study was a very appreciable phenomenon with Statistics Canada (2022) noting a 7.7%

increase in mortality in the Canadian population between 2019 and 2020 and a significant drop in life expectancy due to the pandemic. Robinson and Stinson (2021) described the toll that patient death took on acute care nurses, specifically when patients died alone. The nurses in this phenomenological study by Robinson and Stinson (2021) expressed concern for these patients, becoming upset as they discussed patients dying without loved ones by their side. Literature on the impacts that COVID-19 deaths had on nurses found that nurses who witnessed COVID-19 related deaths experienced trauma, feelings of helplessness, guilt, and a two-times increased risk of developing post-traumatic stress syndrome compared to their peers (Alwesmi et al., 2022; Mosheva et al., 2021). While the studies by Alwesmi and colleagues (2022) and Mosheva and colleagues (2021) studied urban nurses from Saudi Arabia and Israel respectively and therefore their results may not be completely transferable to nurses in rural Ontario, it appears that across settings, nurses' mental health was negatively impacted by patient death caused by COVID-19. Lastly, one pre-COVID-19 study found that nurses' mental health was worsened when they were prevented from having enough direct contact with their patients (Chana et al., 2015), as was experienced by one nurse in this study.

Management could also be a source of support or stress for nurses. Nurses in this study who reported that they experienced effective management during COVID-19 described their managers to be accessible, knowledgeable, and emotionally present. These nurses described how the actions of their management helped to reduce their stress and support them during difficult situations. In contrast, those who described their management as ineffective reported that managers were inaccessible, poorly acquainted

with the unit, lacked direction, and/or were replaced frequently. Participants found that ineffective management increased their stress and frustration in the workplace. Effective management and managerial support are reported in the literature to help reduce nursing burnout and stress and are associated with higher quality care and better patient outcomes (Aloweni et al., 2022; Lorente et al., 2021; Maslach & Leiter, 2016; Maunder et al., 2021). Literature reviews surrounding nurses' well-being during the pandemic by Boone and colleagues (2023) and Witt and colleagues (2023) both noted that the presence of supportive, emotionally present, and accessible management increased nurse resilience and well-being during pandemic conditions. Single studies and other reviews conducted both during and prior to the pandemic support these findings (Chana et al., 2015; Cooper et al., 2021; Fitzpatrick et al., 2022; Wei et al., 2019). Studies also noted that nurses, especially during COVID-19, needed to feel as though their efforts were being appreciated by management (Kandemir et al., 2022; Marey-Sarwan et al., 2022; Phillips et al., 2023). Consequently, unsupportive and non-visible leadership has been associated with lower nurse well-being and resilience during COVID-19 as per the reviews by Boone and colleagues (2023) and Witt and colleagues (2023). Aloweni and colleagues (2022) specifically found that nurses in Singapore experienced an 8.84 times increased likelihood of developing burnout if they felt that their management never appreciated their efforts during the pandemic. Pre-COVID-19, unsupportive leadership was also associated with higher rates of burnout in nurses (Edward & Hercelinskyj, 2007; Rees et al., 2019) and higher rates of staff turnover in rural hospitals (Lenthall et al., 2009; Penz et al., 2019), which likely continues to be an issue in rural settings. Overall, the findings

of this study aligned with the literature, illustrating how the actions of present, supportive, and communicative management helped to reduce nurses' stress and increase their resilience during COVID-19.

The nurses in this study also highlighted the importance of informal leaders in rural nursing units. Several participants described the importance and influence informal leaders had on overall team morale. These leaders could be physicians, managers from other units, or staff nurses who provided support to the nursing team. This support was emotional, educational, or framed in advocacy for nurses' working conditions. All participants who described these informal leaders felt that they were a positive presence in their setting. The presence of and importance of informal leadership in maintaining team morale was not addressed in other studies. This may be due to the close-knit small-town dynamics of the rural workplace, however more research comparing urban and rural workplaces and workplace dynamics would be needed to confirm this.

Strong organizational support has been noted in the literature to be important for the maintenance of nurses' mental health as it can help to reduce stress (Aloweni et al., 2022; Blanco-Daza et al., 2022; Jo et al., 2021; Kandemir et al., 2022; Rushton et al., 2022). A science brief published in Ontario at the beginning of COVID-19 stated that organizational interventions, including increased on-site education and emotional support, were of vital importance for preventing healthcare provider burnout throughout the pandemic (Maunder et al., 2021). Despite this, organizational support appeared to be lacking for the nurses in this study. A few nurses in this study mentioned the availability of mental health support, but also described how they would never have had time to

access them given their working hours. Other types of organizational support, such as being provided specific education about COVID-19, were only available to some nurses in this study. Additionally, nurses in this study reported a lack of orientation for new staff and no participants described receiving formal professional development opportunities. Previous research on rural nurses in Canada and Australia noted that rural nurses are less likely to feel that they receive support from their organization (Jahner et al., 2023; 2020), and are less likely to get proper orientation or professional development opportunities when compared to their urban counterparts due to the professional isolation rural hospitals face (Whiteing et al., 2022). Based on the reports from the nurses in this study, this appears to be an ongoing issue impacting rural nurses' resilience and well-being.

Another factor that acted as either a major source of stress or support for rural nurses in this study was workplace culture. Workplace culture is created and sustained by the actions and policies of organizations, their leadership, managers, and by the staff themselves (Abd-EL Aliem & Abou Hashish, 2021; Bayot et al., 2023; Wei et al., 2019). The nurses in this study generally reported that they found that there was an increase in teamwork and collaborative practice during the pandemic, with nurses being willing to help and support their coworkers. Nurses relied on the support of their coworkers, both professional and emotional, to help them deal with the stresses of the pandemic. This friendliness between coworkers was frequently described as a major source of workplace stress relief, with many describing the importance of being understood and having others who could empathize with one's experiences. Nurses in this study also described how they would frequently use informal debrief processes with their coworkers when

something particularly stressful occurred. Humour was also valued amongst nursing teams as a way to reduce the day-to-day stress present during the pandemic. However, a few nurses in this study explained how friction amongst the team could occur with the stress of COVID-19. This occurred as stress and fear of COVID-19 made some team members more agitated and resulted in reduced team cohesion. These results do not appear to be unique to this study. Urban nurses in the United States who cared for COVID-19 patients also saw an increase in teamwork during the pandemic, and highlighted how important it was to have a strong team during these difficult times (Robinson & Stinson, 2021). Research on nurses conducted prior to COVID-19 has shown that when working environments have a more supportive culture they encourage communication between staff, support psychological safety, and facilitate self-efficacy in nurses (Lowe et al., 2020; Udod et al., 2021; Wei et al., 2019; Yilmaz, 2017). Pre-pandemic studies of Canadian rural nurses also support the finding that a supportive workplace culture is of great importance to nurses' resilience (Jahner et al., 2023; 2020). These studies of rural nurses also emphasize the importance of coworkers as sources of emotional support and note that peer support often helped rural nurses cope with traumatic workplace situations (Jahner et al., 2023; 2020). Additionally, a pre-pandemic study of urban hospital nurses in Singapore by Ang and colleagues (2019) found that closeness between coworkers helps to boost resilience, which was frequently observed within this study. Consequently, Aloweni and colleagues (2022) found in their study in Singapore that nurses who perceived that their team was not working well together were 3.3 times more likely to develop burnout during the pandemic. Overall, team

collaboration was very important to nurses' ability to complete their work and to their well-being. While the majority of the nurses in this study reported either strong or moderately collaborative teams, this experience was not universal and may be an area for improvement in rural nursing settings.

Nurses' relationships with other professionals could also impact their experiences during COVID-19. The nurses in this study described how they would frequently assist with or pick up duties from other professions that were not their responsibility prior to the pandemic, adding to their already increased workload. They would take on other professionals' patient facing duties that had a higher risk of COVID-19 exposure in order to protect the other professionals. This left nurses feeling overworked and underappreciated, as they felt other professions were receiving a great deal more protection and that they were left exposed, increasing their risk for infection. However, relations with other professionals, especially physicians, were appreciated when healthcare teams worked together to advocate for better working conditions, supply availability, information, and better care practices. One other study by Kandemir and colleagues (2022) also noted that nurses took on the roles of other professionals. This study of Turkish ER nurses found that nurses were taking on parts of the physician's responsibilities in addition to their own so that physicians could limit patient exposure (Kandemir et al., 2022), which was exactly what was described by nurses in this study. No other studies have reported this phenomenon, but it may be more common than is currently reported. So far as advocacy, one other study of Canadian nurses during COVID-19 also reported that the nurses they spoke to described seeing increased

advocacy within the healthcare team (Fredericks et al., 2022). Like the nurses in the current study, these nurses advocated for increased supports and resources in order to help them care for patients (Fredericks et al., 2022). Overall, the workplace and its changing conditions could be a major source of stress for nurses, but they were better able to cope with this stress with the support of their organization, management, and coworkers.

Category 3: Community Factors

Nurses in this study described feeling a moral obligation to keep working through COVID-19 even to the detriment of their own health and well-being. This was seen in Canadian urban nurses as well during the pandemic, as they too felt as though they needed to keep working to protect their community (Mathura et al., 2022). This phenomenon was also seen in Canadian rural nurses prior to COVID-19, where nurses felt that they needed to be committed to the health of their community (Jahner et al., 2023; MacLeod et al., 2021). As a result of this moral obligation to their community, rural nurses oftentimes lack work-life boundaries (Lenthall et al., 2009; Penz et al., 2019). This resulted in poor health and increased social isolation for the nurses in this study.

Nurses in this study found that the supportive behaviours and actions of the community helped to reduce their stress and increase their feelings of support during COVID-19. They appreciated gifts from the community, or even just displays of support with no monetary value attached. Some nurse participants also received personal support

from members of their community such as assistance from neighbours when they were sick and found the small-town sense of community to be motivational. Nurses also benefited from community members being understanding of and complying with mandates and new hospital policies. Nurses in other settings also found that community support benefitted their mental health during the pandemic (Jo et al., 2021; Kılınç & Çelik, 2021; Phillips et al., 2023). Jo and colleagues (2022) studied the resilience of nurses in four different countries and theorized that the differences in resilience between nurses from different countries were likely due to the level of public support they were receiving. This hypothesis was supported by Kılınç and Çelik, (2021), whose study of Turkish nurses also found that nurses received increased social support during the pandemic and that this increase in support was associated with higher resilience. As with the support of friends, managers, and coworkers, rural nurses appeared to benefit from the increased support of their community during the pandemic.

However, nurses also found that the community could be a source of stress. Misinformation spread amongst patients and the community was noted to be a major source of stress for nurses in this study, as misinformed patients and families were more likely to fight against hospital policy, refuse treatment, and require additional health teaching. Nurses described having to conduct health teaching with increased frequency and intensity during COVID-19, which led to frustration and exhaustion. Nurses also described how admitting or allowing misinformed people into the hospital induced additional stress as they feared that these patients would spread COVID-19 to sicker patients by disregarding isolation rules, putting other patients' health at risk. While

misinformation spread was not a highlighted issue for nurses in the literature, Kandemir and colleagues (2022) did note that nurses needed to teach patients and families about more topics due to COVID-19, such as PPE use. Misinformation in patients and the difficulties it caused seemed to be a common issue amongst the nurses of this study, so it is curious that it has not been reported elsewhere in the literature. This may be a topic that requires further study to be better understood.

Lastly, rural nurses described fielding calls for information from the community during their off hours. This has been a reported phenomenon amongst rural nurses pre-pandemic (Dekeseredy et al., 2019) and may increase feelings of stress and make nurses feel as though they are working during their off-hours (Rieckert et al., 2021). Overall, the community was a positive source of support for nurses during the pandemic, however certain mindsets within the public can lead to increased stress and difficulties in the workplace.

Overlap Between Categories

As addressed in the results, there was a great deal of overlap between the categories of personal, workplace, and community factors for nurses in the rural setting. These overlaps were seen when nurses described their coworkers as their friends outside the workplace and when nurses had personal connections to patients. It was also seen when community members turned towards nurses for health advice outside of the workplace. This connection, and the ‘small-town mentality’ could be a great source of support for nurses but could also be a unique source of stress for rural nurses. As

described above, a strong connection with the community could result in increased and more personalized support from the community. However, this strong community connection also meant that one was more known in the community as a nurse, which could influence one's relationships with others. The connection between nurses' personal, work, and community lives is an established and studied dynamic, with previous research on rural nurses, such as that completed by Dekeseredy and colleagues (2019) and Jahner and colleagues (2020; 2023) emphasizing the closeness and tight-knit nature of rural communities.

Strengths and Limitations

Strengths

This study had both strengths and limitations. The use of a qualitative descriptive method was a strength of this study as not much is known about rural nurses' experiences, especially during COVID-19. As the analytic processes for qualitative description stays close to the original data, it allowed for the nurses' stories and experiences to be the focal point of the study, rather than letting pre-existing research and theory dominate the work (Doyle et al., 2020; Hart & Mareno, 2014). Another strength of this study was that participants were able to contribute rich and detailed data (Lincoln & Guba, 1985; Milne & Oberle, 2005). Most interviews lasted an hour, and participants spoke to many experiences in detailed ways. Semi-structured interviews were used to allow participants' experiences to drive the data collection. This allowed participants to express what they found to be most important in their experiences and focus their

interview on these areas (Sandelowski, 2000). The *Society-to-Cells Resilience Theory* was used as a framework to guide the creation of the interview guide. As this theory addresses a broad range of factors that impact individual resilience (Szanton & Gill, 2010), its use helped to ensure all aspects of an individual's life were addressed during interviews. This study was also able to capture experiences from nurses from six different regions across Ontario. While it would have been ideal to interview more participants from more settings, all participants were from different hospitals and healthcare systems, allowing for perspectives to be gathered from nurses representing diverse settings. As the key researcher and interviewer is a nurse who worked in an acute care setting during COVID-19, there was an emic perspective which participants enjoyed. They found it helpful to speak briefly about the interviewer's own experiences, as the interviewer's descriptions could remind them of topic areas that they wished to discuss. Transcripts were double checked for accuracy (Milne & Oberle, 2005).

Content analysis was used to drive both coding, factor, and category development rather than the pre-existing framework. This enhanced study authenticity and credibility (Lincoln & Guba, 1985; Sandelowski, 2000). Coding of the first interview was completed independently by two researchers, checked against each other for accuracy, and used to develop a coding dictionary to establish dependability (Lincoln & Guba, 1985). The second interview was also double checked for coding, but not independently, to ensure the coding dictionary was being used consistently and to maintain dependability. Reflexivity was used throughout to reflect on how the primary researcher's experiences influenced data analysis and collection (Milne & Oberle, 2005). This was done with a

reflexive writing exercise and conversations with the committee and supervisor throughout the data collection and analysis process. Lastly, an audit trail was made throughout the study process to ensure dependability (Lincoln & Guba, 1985).

Limitations

While there were a number of strengths to this study, there were some limitations. Within the analysis of the results, constant comparative analysis was attempted to strengthen the development of the categories and factors of the study (Milne & Oberle, 2005). However, upon reflection and completion of analysis, the analysis completed after each interview could have been done in a more detailed way with a focus on content and thematic analysis, rather than the basic coding that was performed. This would have allowed the researcher to add questions to subsequent interviews to check emerging factors with new participants. Additionally, a peer review process could have been done during the analysis phase with fellow graduate students to ensure accuracy of interpretation (Lincoln & Guba, 1985).

The other major limitation of this study was its small sample size. The initial proposal of this study called for 10 to 30 participants; however, extensive recruitment strategies yielded only six participants. With such limited numbers of participants (n=6), data saturation was not reached, and therefore some data surrounding rural nurses' experiences may have been missed. Additionally, the demographics of the six participants were limited by age, family structure, and position. The majority of participants were older, without dependents, who worked in the ICU or ER. Therefore, some diverse

viewpoints may have been missed (Kannappan & Veigas, 2021; Sandelowski, 2000). There are a couple of reasons why this may have occurred. Generally, older nurses are seen to be more resilient than their younger counterparts, either due to age or experience (Beier et al., 2023; Chana et al., 2015; Cooper et al., 2021; Kılınç & Çelik, 2021; Park et al., 2023; Roberts et al., 2021). However, this is not agreed upon across all studies (Rieckert et al., 2021). If this is true though, it may be a factor in why the majority of participants in this study were older nurses. If they were more resilient and in a better mental state than their younger peers, they may have felt more inclined to participate in the study. This tendency towards resilience may have also skewed results, as less resilient nurses may have had different experiences and may have not wanted to talk about them. Additionally, rural work settings tend to have a greater proportion of older nurses than urban ones (MacLeod et al., 2021) which may have contributed to the demographic composition.

In order to capture more demographics and ensure the rural experience was captured in its entirety, it would have been ideal to include several other demographics. It would have been beneficial to hear from new graduate nurses within their first few years of employment, especially ones where this was their first nursing job as they may have offered a unique perspective on stress and stress management. It may have also been beneficial to include those with young children/dependents as they would have different sources of stress in their personal lives. Additionally, it may have been beneficial to include more medical/surgical nurses. One participant was a medical/surgical nurse; however, this is a very common type of unit and may have presented with some unique

challenges. The racial and ethnic identities of participants were not captured in data collection, but it is possible that people of different racial or cultural background may have had different experiences. It is uncertain how different the experiences of rural nurses across these demographics would have been, however having these voices would have been of benefit to the data. By including a more diverse sample, there would have been an opportunity to potentially confirm the generalizability of the results to a larger population. In future studies on this population, it may be of benefit to include an incentive for participation to encourage higher recruitment numbers. Of the recruitment methods attempted, direct mailing potential participants produced the greatest response. Working with eligible hospitals and unit managers may also have boosted recruitment. However, if this method is to be used, researchers must also consider how manager involvement may influence results (i.e., favouring potential participants who would speak favourably of the organization).

Implications

Implications for Individual Nurses

While the majority of issues presented by participants were caused by sources outside of their control, practicing nurses can engage in certain behaviours to help reduce their stress and endure through challenges, both during times of struggle, such as during pandemics, but also during regular practice. One of the more basic behaviours nurses can engage in is to regularly practice self-care behaviours inside and outside of the workplace (Jahner et al., 2023; Rana et al., 2023). This includes getting regular sleep, eating

regularly, exercising routinely, participating in hobbies, and getting outside and exploring nature if one's work and home life allow for these measures (Jahner et al., 2023). Rural nurses should also try to discourage work-related calls when outside of working hours, including calls for information from the community (Rieckert et al., 2021).

Another important behaviour nurses can engage in is that of advocacy. Ideally, nurses would work together as a team to advocate for their labour rights in the workplace. It is important that nurses know what their rights are as an employee, including the breaks and work hours they are entitled to. It may be difficult to accomplish this, especially at times where self-advocacy is impeded, however the nurses in this study found that a strong team culture allowed for a greater degree of advocacy, which may help nurses in similar situations in the future. Nurses should work closely with their unions to advocate for themselves and the well-being of their patients. The health of patients should not come at the expense of nurses and other healthcare workers. If this is occurring there is a flaw in the management of the setting, not in the individual employees.

Implications for Management and Healthcare Organizations

Several practice recommendations for management, administrative staff, and nursing organizations can be derived from the results of this study and the pre-existing literature. While these recommendations originated from nurses experiencing pandemic conditions, many could be and are intended to be implemented during regular, non-pandemic or endemic, conditions. This is to ensure that these recommendations are already in place prior to pandemic conditions so that staff and systems have a better

ability to endure the difficult conditions that arise during pandemics. As we now enter a non-emergency pandemic state, managers and organizations may wish to consider the implementation of some of these recommendations as they are able to.

Staffing was frequently cited as a source of stress, so management and professional nursing organizations should explore opportunities to strengthen their advocacy efforts for governmental legislation that increases funding for staffing and explore ways to incentivize staffing in rural hospitals. This could include financial or housing-based incentives. Orientation periods for new staff can be standardized and upheld in all settings to ensure new staff are prepared for the work they will face. These orientation periods could also be implemented for staff facing redeployment during emergency circumstances such as COVID-19, as these nurses are often unprepared and unfamiliar with the patient care needs of their new area (Kennedy et al., 2022). Managers should also prioritize nurses' mental health and well-being by protecting nurses' rights to breaks and time off.

There are also opportunities for organizations to support nurses' social and mental health needs. Nurses frequently cited coworkers as a source of support, so management should consider role-modelling team bonding and positive communicative behaviours such as transparent and ethical decision-making, clear and confident communication, and high visibility and availability (Maunder et al., 2021; Rieckert et al., 2021). Nurses in this study described how they benefited from non-work-related bonding activities such as day trips or dinners, and how they missed them during COVID-19. Therefore, organizations may see some benefit in terms of workplace culture if they arrange bonding activities that

occur outside of the workplace. During times of quarantine, this may involve virtual events. Organizations can also ensure that organizational supports are provided for staff, as this is a noted issue in rural hospitals (Jahner et al., 2020; 2023). This includes making counselling available, including staff in decision making and policy development, ensuring nurses have adequate resources to complete their work, and by providing educational resources and opportunities for staff development (Jahner et al., 2020). Managers can also find opportunities to show appreciation for the work nurses do to help them stay strong, especially during times of high stress like those seen during the pandemic. It is important for management to remember that if nurses are unwell, burnt out, or fatigued they will not be able to provide high quality care to their patients (Jun et al., 2021).

Nurses complained of the unclear and frequently changing nature of the policies and practices used during the beginning of the pandemic, including those surrounding PPE. Therefore, it may be advisable that organizations review their current pandemic policies and plans and make some necessary changes based on any issues that arose during the beginning of the pandemic. These plans should account for the unique situation present in each location and consider the issues present in each workplace. For example, if a certain location was severely lacking in supplies during the pandemic, this should be accounted for in the new pandemic plan. The development of new pandemic plans should account for the emergence of pandemics brought about by new and poorly understood pathogens. Understanding of COVID-19 was poor at the beginning of the pandemic, leading to a great deal of fear and confusion about transmission. These

experiences can be taken and used to create more comprehensive guides about preventing infection when transmission is unknown, such as the creation of standard isolation procedures to be used during these scenarios that protect against most, if not all, routes of transmission. Nurses and staff could also be offered additional training on isolation procedures at the start of these events, as many nurses complained of other staff not knowing how to don and doff PPE and found that they needed to take time out of their day to teach them. Furthermore, standard practice documents for each department could be developed prior to emergencies. Many nurses complained of having to assume the roles of other departments without receiving adequate assistance, leaving them to scramble to fulfill both their nursing duties and the duties of other departments. Management needs to find ways to define the roles and standard duties of all staff members during normal working conditions. Then, during emergency or pandemic conditions those standard duties and roles can be maintained to avoid placing too much responsibility on one department or profession.

Lastly, all levels of healthcare management could be trained in relational and transformative management styles. Both styles of management focus on managers building relationships with and between their employees to create a positive and teamwork-oriented workplace culture (Cummings et al., 2021; Giltinane, 2013). Transformational style leaders also focus on building organizational growth and change at the level of their employees, rather than at the administrative level, empowering them to bring about changes to improve their workflow and working conditions (Boamah et al., 2018; Leclerc et al., 2022). These styles of management have been seen to improve

nursing outcomes, lower turnover rates, and increase teamwork amongst nurses (Cummings et al., 2021). Transformational leadership was seen to be especially beneficial during COVID-19 as it supports communication, trust, and creative problem solving (Fowler & Robbins, 2022). Administration can incentivise relational style management and try to recruit managers with pre-existing experience and expertise in relational style management. Administration can also standardize relational management style practices such as open-door policies and frequent staff meetings. As recruitment is a known issue in rural hospitals (Dekeseredy et al., 2019), it may be advisable to implement professional development for training existing managers in relational style management techniques to avoid having to hire new staff. Informal leadership practices can be encouraged in staff, as nurses in this study derived support from both formal and informal leaders. Informal leadership can be developed through mentorship programs, informal coaching, or through training programs specifically tailored for certain settings (Cummings et al., 2021). Additionally, managers need to ensure that their communications are understood and accessible to all staff, so it may be advisable to experiment with new methods of communication and get feedback on what works best in a specific setting.

Implications for Community Leaders and Local Governments

Local communities and governments can also take actions to support the well-being of nurses in their community. Local service organizations and groups such as the Lions Club or the Rotary Club can support hospital fundraising efforts and encourage members of their community to make donations to hospitals in order to support their funding and help them to purchase equipment and resources. Local governments can also

use their authority and voice to encourage both provincial and federal governments to increase funding for hospital staffing, including the staffing of nurses. Local governments and groups can also participate in addressing misinformation, and support the dissemination of quality, evidence-informed information through methods specific and accessible to their community. Lastly, local governments and groups can participate in activities that formally and publicly acknowledge, appreciate, and value the important work of nurses.

Implications for Nursing Education

While this study did not focus on nursing education, there is potential for nursing educational institutions to use this research to develop their students' understanding of the nature of rural nursing. Doing so may better prepare future nurses for work in this setting and may encourage some to consider rural nursing when deciding on a future path. Additionally, as this research highlights challenges in the rural setting, educators may use this information to better prepare students for working within the unique context of the rural setting.

Areas for Future Research

While this study adds to the domain of research on rural nurses' experiences, there is still further research that can be explored. This study provides a basic overview of the experiences of rural nurses' in Ontario during COVID-19. However, this topic could also be explored among rural nurses across different provinces in Canada. As described in the methods, the data was minimally interpreted and investigated the factors that supported

or challenged rural nurses during COVID-19. Future research could look deeper into rural nurses' resilience and identify the resilience processes they used when experiencing challenges according to the *3 Rs* proposed by Szanton & Gills' (2010) *Society-to-Cells Resilience Model*. This thesis also presented a variation on Szanton & Gills' (2010) theory through its' model and results. While this was done to improve reader understanding and comprehension of the results and their overlap, it may be worthwhile to expand on this model to develop a theory of resilience specific to rural nurses in Ontario. This theory could be used by those in these settings to support nurse resilience and as a guiding theory for future research concerning rural nurses. Additionally, more research that directly compares urban and rural working conditions may be beneficial. Often, research either is general or focuses specifically on the rural setting, which can make comparison difficult. Only one study located during the literature search process for background information provided a direct comparison between urban and rural nurses from a similar geographic area and did note some differences in job satisfaction between the populations (Stewart et al., 2011). Therefore, research that compares urban and rural centers from the same regional area may provide additional insights about the unique challenges, differences, and similarities between these work settings. This research may focus on availability of resources, organizational supports, adequacy of staffing and education, burnout, resilience, mapping of worker age, and many other topic areas. There is also an opportunity to explore how generational differences might influence resilience among rural nurses. As this study was unable to capture any nurses below the age of 40 years, any generational differences in factors that supported or challenged nurses would

have been missed. In relation to this, it may be beneficial to investigate recruitment methodologies that target younger demographics of rural nurses, as this was a recruitment challenge experienced in this study. It may also be beneficial to study the long-term effects of COVID-19 on rural hospital staffing, as many participants described increased rates of turnover and an overall loss of staffing. Additionally, many studies that focus on interventions for increasing resilience and decreasing burnout used urban populations to test their efficacy both during and outside of pandemic circumstances. The efficacy and feasibility of these methods should also be tested in rural hospitals and implemented if advisable. Lastly, many nurses in this study described their poor working conditions and noted having worked excessive hours without breaks. Those in the field of labour studies and advocacy may wish to investigate the possibility of labour law violations that occurred in hospitals during COVID-19 and how the rural setting may have contextually influenced these, as this research could be used to advocate for better working conditions.

Conclusion

Rural nurses experienced many changes to their lives during the pandemic. They reported that their workplaces were poorly equipped for the patient load and acuity that COVID-19 brought. Some major issues in the workplace included a lack of staff across multiple departments as well as a lack of resources and equipment, including PPE. Rural nurses also noted changes in their private lives, with mandatory quarantining reducing their social lives and preventing them from seeing friends and family. Overall, rural nurses found that the working and social conditions during the pandemic were major sources of stress, but that this stress could be managed with strong social supports inside

and outside of the workplace, a capable and relational management style that included them in decision-making, a supportive community, and adequate resources such as PPE and staffing. It is advised that this research is used to improve working conditions and implement strategies to support nurse well-being in rural hospitals. This work can also be carried forward and used in other settings or expanded on to develop a clearer picture of the nature of rural nursing. Nurses worldwide were negatively impacted by the stresses of COVID-19, not just those in rural hospitals (Boone et al., 2023). While the results of this study may not apply to all settings, by establishing practices that support nurses during times of stress, organizations can reduce the risk of burnout amongst their nursing staff, thereby reducing negative practice outcomes associated with it, such as medical errors and poor-quality care (Andersen et al., 2021; Lorente et al., 2021; Maslach & Leiter, 2016; Maunder et al., 2021; Yilmaz, 2017).

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Appendix 1

Complete Search Strands

CINHAL

Strand 1

[[(MH "Stress, Occupational") OR (MH "Burnout, Professional")

OR

burnout or burn-out or burn out or occupational stress or compassionate fatigue]]

AND

[[(MH "Rural Health Nursing") OR (MH "Hospitals, Rural")

OR

Rural* OR agricultur* OR wilderness* OR frontier* OR (native AND reservation*) OR farmer OR farmers OR farming OR farm OR farms OR nonurban* OR “non-urban” OR remote* OR isolated OR “small town” OR “small towns” OR village* OR settlement* OR “Rural Population” OR “Rural Nursing” OR “Rural Health Services” OR “Rural Health” OR “Hospitals, Rural”]]

AND

[[(MH "Nurse Attitudes")

OR

nursing experience or perspective or view or attitude]]

Strand 2

[[(MH "Stress, Occupational") OR (MH "Burnout, Professional")

OR

burnout or burn-out or burn out or occupational stress or compassionate fatigue]]

AND

[[(MH "Nurse Attitudes")

OR

nursing experience or perspective or view or attitude]]

AND

[[(MH “Age factors”)

OR

[[(age group*)]]

Strand 3

[[(MH “Hardiness”)

OR

(resilience or resiliency or resilient)]]

AND

[[(MH "Nurse Attitudes")

OR

nursing experience or perspective or view or attitude]]

Strand 4

(MH "Acute Care") OR (MH "Emergency Care") OR "acute care setting or hospital"

OR

Acute care nurs*

AND

((MH "Stress, Occupational") OR (MH "Burnout, Professional")) OR (burnout or burn-out or burn out or occupational stress or compassionate fatigue)

AND

(MH "Nurse Attitudes") OR (nursing experience or perspective or view or attitude)

OVID Medline Epub Ahead of Print, In-Process & Other Non-Indexed Citations, Ovid MEDLINE(R) Daily and Ovid MEDLINE(R) 1946 to Present

Strand 1

Burnout, Psychological or burnout.mp. or burn-out.mp. or occupational stress.mp. or compassion fatigue.mp.

AND

Nursing Staff, Hospital/ or "Attitude of Health Personnel" or (nursing perspective or nursing view or nursing attitude).mp.

AND

Rural Health/ or Hospitals, Rural/ or Rural Population/ or Rural Health Services/

Strand 2

[resilience, psychological/ OR resilien*.mp. OR hardiness.mp.]

AND

[[nursing staff, hospital/ or “attitude of health personnel”/] OR nursing experience* or nursing attitude or nursing perspective or nursing view).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]

Strand 3

caregiver burnout/ or burnout/ or professional burnout/

AND

nursing/ or nurse/

AND

(acute care or acute care nurs* or care care setting).mp. OR emergency care/

OVID Emcare

Strand 1

Burnout or burnout.mp. or burn-out.mp. or occupational stress.mp. or compassion fatigue.mp.

AND

Nursing Staff, Hospital/ or "Attitude of Health Personnel" or (nursing perspective or nursing view or nursing attitude).mp.

AND

rural health/ or rural hospital/ or rural area/ or rural health nursing/ or rural health care/ or rural population/

Strand 2

(Burnout or burnout or burn-out or occupational stress or compassion fatigue).mp.

AND

Nurse/

AND

emergency care/ or acute care setting.mp. or (acute care or acute care nurs*).mp

OVID Embase

Strand 1

[resilience, psychological/ OR resilien*.mp. OR hardiness.mp.]

AND

Nursing Staff, Hospital/ or "Attitude of Health Personnel" or (nursing perspective or nursing view or nursing attitude).mp.

Strand 2

caregiver burnout/ or burnout/ or professional burnout/

AND

nursing/ or nurse/

AND

(acute care or acute care nurs* or care care setting).mp. OR emergency care/

Appendix 2

Tables i through iv: Quality Rating of Studies Included in the Literature Review

Table i: Cross sectional- Joanna Briggs Institute Checklist for Cross-Sectional Studies

(Moola et al., 2017)

	Checklist Item								
STUDY REFERENCE	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**Overall Quality**
Al Maqbali & Al Khadhuri, 2021	y	y	y	y	y	y	y	y	8/8 High
Aloweni et al., 2022	y	n	y	n	y	n	y	y	5/8 Moderate
Beier et al, 2023	y	y	y	y	y	y	y	Y	8/8 High
Benbenishty et al., 2021	n	n	y	y	y	y	y	y	6/8 High
Blanco-Daza et al., 2022	y	y	y	y	y	y	y	y	8/8 High
Fitzpatrick et al., 2022	y	y	y	y	y	y	y	y	8/8 High
Havaei et al., 2022	y	n	y	y	y	y	y	y	7/8 High
Karadas et al., 2023	Y	y	y	y	y	y	y	y	8/8 High
Labrague et al., 2021	y	n	y	y	y	n	y	y	6/8 High
Mousavi et al., 2023	y	y	y	n	y	y	y	y	7/8 High
Park & Song, 2023	y	y	y	Y	y	y	y	y	8/8 High
Rushton et al., 2022	y	n	y	y	y	y	y	y	7/8 High
Siami et al., 2023	y	y	y	y	y	n	y	y	7/8 High
Tsouvelas et al., 2022	n	n	y	y	y	y	y	y	6/8 High

Table ii: Systematic reviews- Critical Appraisal Skills Program tool

(Critical Appraisal Skills Programme, 2018b)

	Checklist Item										
STUDY REFERENCE	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**Overall Quality**
Boone et al., 2023	y	n	n	n	y	y	y	y	y	y	7/10 Moderate
Witt et al., 2023	y	n	n	n	y	y	y	y	y	y	7/10 Moderate

Table iii: Qualitative Studies- Critical Appraisal Skills Program Tool

(Critical Appraisal Skills Programme, 2018a)

	Checklist Item										
STUDY REFERENCE	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**Overall Quality**
Conolly et al., 2022	n	y	n	n	y	y	y	y	y	y	7/10 Moderate
Easler et al., 2022	n	y	y	n	y	n	n	y	y	y	6/10 Moderate
Jahner et al., 2023	y	y	y	y	y	n	y	y	y	y	9/10 High
Kandemir et al., 2022	y	y	y	n	y	y	y	y	y	y	9/10 High
Marey-Sarwan et al., 2021	y	y	n	n	y	n	y	y	y	y	7/10 Moderate
Mathura et al., 2023	y	y	n	y	y	n	n	y	y	y	7/10 Moderate
Phillips et al., 2023	y	y	y	n	y	y	y	y	y	y	9/10 High
Rana et al., 2023	y	y	n	y	y	n	n	y	y	y	7/10 Moderate

Robinson & Stinson, 2021	y	y	y	n	y	n	n	y	y	y	7/10 Moderate

Table iv: Mixed Methods Studies- Mixed Methods Critical Appraisal tool (MMAT)

(Hong et al., 2018)

STUDY REFERENCE	**CHECKLIST ITEM**							**OVERALL QUALITY**
Fredericks et al., 2022	S1- y	S2- y	1.1- n	1.2- n	1.3- y	1.4- y	1.5- y	8/17 Moderate
	2- n/a	3- n/a	4.1- n	4.2- n	4.3- y	4.4- n	4.5- y	
	5.1- n	5.2- n	5.3- n	5.4- y	5.5- n	5.2- n	5.3- n	

Appendix 3

List of Eligible Hospitals

Glengarry Memorial Hospital (Alexandria, LHIN 11), Stevenson Memorial Hospital (Alliston, LHIN 8), Almonte General Hospital (Almonte, LHIN 11), Arnprior and District Memorial Hospital (Arnprior, LHIN 11), Atikokan General Hospital (Atikokan, LHIN 14), St Francis Memorial Hospital (Barry's Bay, LHIN 11), Quinte Healthcare Corporation (North Hastings Hospital, Prince Edward County Memorial Hospital, Trenton Memorial Hospital) (Bancroft, LHIN 10), North Shore Health Network (Bling River Site, Richards Landing Site, Thessalon Site) (Blind River, LHIN 13) Campbellford Memorial Hospital (Campbellford, LHIN 9), Carleton Place and District Memorial Hospital (Carleton place, LHIN 11), Clinton Public Hospital (Clinton, LHIN 2), The Lady Minto Hospital (Cochrane, LHIN 13), Collingwood General and Marine Hospital (Collingwood, LHIN 12), Deep River and District Hospital (Deep River, LHIN 11), Dryden Regional Health Centre (Dryden, LHIN 14), Haldimand War Memorial Hospital (Dunnville, LHIN 4), St Joseph's General Hospital (Elliot Lake, LHIN 13), Espanola General Hospital (Espanola, LHIN 13), South Huron Hospital (Exeter, LHIN 2), Groves Memorial Community Hospital (Fergus, LHIN 3), Riverside Health Care Facilities Inc (La Verendrye Hospital, Emo Health Centre, Rainy River Health Centre) (Fort Frances, LHIN 14), Geraldton District Hospital (Geraldton, LHIN 13), Alexandra Marine and General Hospital (Goderich, LHIN 2), West Halimand General Hospital (Hagersville, LHIN 4), Haliburton Highlands Health Services Corporation (Haliburton Site, Minden Site) (Haliburton, LHIN 9), Hanover and District Hospital (Hanover, LHIN 2), Hawkesbury and District General Hospital (Hawkesbury, LHIN 11), Hôpital Notre Dame Hospital (Hearst, LHIN 13), Muskoka Algonquin Healthcare (Huntsville District Memorial Hospital, South Muskoka Memorial Hospital) (Huntsville, LHIN 12), Alexandra Hospital (Ingersoll, LHIN 2), Anson General Hospital (Iroquois Falls, LHIN 13), Sensenbrenner Hospital (Kapuskasing, LHIN 13), Kemptville District Hospital (Kemptville, LHIN 11), Lake-of-the-Woods District Hospital (Kenora, LHIN 14), Blanche River Health (Kirkland Lake Site, Englehart Site) (Kirkland Lake, LHIN 13),

South Bruce Grey Health Centre (Walkerton Site, Durham Site, Chesley Site, Kincardine Site) (Kincardine, LHIN 2), Erie Shores HealthCare (Leamington, LHIN 1), Listowel Memorial Hospital (Listowel, LHIN 2), Manitoulin Health Centre (Little Current Hospital, Mindemoya Hospital) (Little Current, LHIN 13), Santé Manitouwadge Health (Manitouwadge, LHIN 13), North of Superior Healthcare Group (Wilson Memorial General Hospital, McCausland Hospital) (Marathon, LHIN 14), Bingham Memorial hospital (Matheson, LHIN 13), Mattawa General Hospital (Mattawa, LHIN 11), Georgian Bay General Hospital (Midland Site) (Midland, LHIN 12), Weeneebayko Area General Health Authority (Weeneebayko General Hospital, Attawapinskat Hospital, Fort Albany Hospital) (Moose factory, LHIN 13), North Wellington Health Care Corporation (Louise Marshall Hospital, Palmerston and District Hospital) (Mount Forest, LHIN 3), Lennox and Addington County General Hospital (Napanee, LHIN 10), Temiskaming Hospital (New Liskeard, LHIN 13), Nipigon District Memorial Hospital (Nipigon, LHIN 14), The Willet Hospital (Paris, LHIN 4), West Parry Sound Health Centre (Parry Sound, LHIN 13), Charlotte Eleanor Englehart Hospital (Petrolia, LHIN 1), Grey Bruce Health Services (Wiarton Hospital, Markdale Hospital, Meaford Hospital, Southampton Hospital) (Owen Sound, LHIN 2), Red Lake Margaret Cochenour Memorial Hospital (Red Lake, LHIN 14), Renfrew Victoria Hospital (Renfrew, LHIN 11), Seaforth Community Hospital (Seaforth, LHIN 2), Sioux Lookout Meno-Ya-Win Health Centre (Sioux Lookout, LHIN 14), Perth And Smiths Falls District Hospital (Smith Falls Site, Great War Memorial Site) (Smith Falls, LHIN 10) Smooth Rock Falls Hospital (Smooth Rock Falls, LHIN 13), St Marys Memorial Hospital (St Mary's, LHIN 2), Strathroy Middlesex General Hospital (Strathroy, LHIN 2), Tillsonburg District Memorial Hospital (Tillsonburg, LHIN 2), Uxbridge Hospital (Uxbridge, LHIN 9), Chatham – Kent Health Alliance- Wallaceburg Site (Wallaceburg, LHIN 1), Lady Dunn Health Centre (Wawa, LHIN 13), Winchester District Memorial Hospital (Winchester, LHIN 11), Wingham and District Hospital (Wingham, LHIN 2)

Appendix 4

Sample Advertisements

Figure v: Large Sample Advertisement- Link leads to description of the study, online consent form, and screening survey

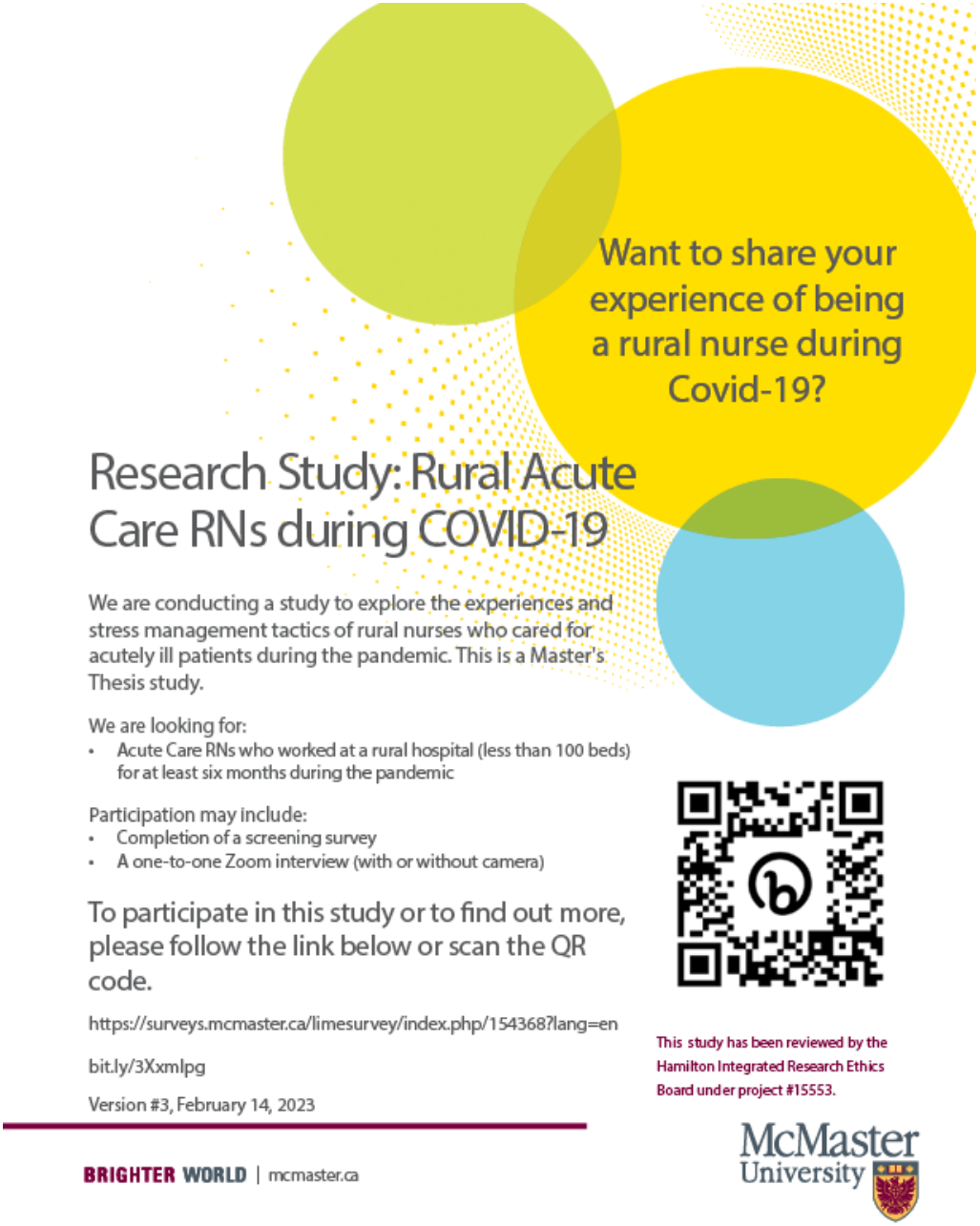

Figure vi: Small Sample Advertisement- Link leads to description of the study, online consent form, and screening survey

Sample Advertisement Text for Facebook and Instagram

Headline: Research Study: Rural Acute RNs during COVID

Primary text: Looking for participants! This study will explore the experiences of rural nurses who cared for acutely ill patients during COVID-19. This is a master's thesis study.

Description: We are looking for: Acute Care RNs who worked at a rural hospital (less than 100 beds) for at least six months during the pandemic

Participation may include: Completion of a screening survey, A one-to-one Zoom interview (with or without camera)

Sample Advertisement Text for LinkedIn

Ad name: Research Study: Rural Acute Care RNs experiences during COVID

Headline: Looking for Participants! Research on Rural Nurses' Experiences during COVID-19

Intro text: Looking for participants! This study will explore the experiences of rural registered nurses who cared for acutely ill patients during COVID. This is a master's thesis study.

Sample Advertisement Text for Emails from Organizations

We are looking for participants! We are looking for rural acute care nurses in Ontario to tell us about their experiences working during COVID-19. We seek to identify the factors in your work and personal lives that helped you to cope with the unique stressors present during the pandemic. We are recruiting acute care RNs who worked at a rural hospital (less than 100 beds) in Ontario for at least six months throughout the pandemic, and participation involves an hour to hour-and-a-half long interview.

We are conducting this research to learn more about how we as nurses can be supported to continue our important work while having our mental health supported as well. We feel that those of us in rural settings are often left underserved and forgotten by the scientific community, so we want to specifically address rural nursing in this study. We hope that this research can help inform policies and practices that will help maintain the mental health of our nurses should a similar situation arise again and highlight the unique working conditions that rural nurses face. This study is being conducted as part of a master's thesis and is being led by a master's student with experience working in a small, acute care setting during the pandemic.

This study is not associated with [organization] and your standing in [organization] is not influenced by participation in the study. Participation is anonymous, and therefore [organization] will have no information on your participation. [Organization] will not have access to any study data or have influence on the study's results.

In the case of recruitment through the McMaster School of Nursing graduate programs, the final paragraph will be changed to this; While this study is being conducted by a student in the School of Nursing, your standing in School of Nursing is not influenced by participation in the study. Participation is anonymous, and therefore McMaster University will have no information on your participation. Only researchers actively working on this study will have access to the raw data.

Sample Advertisement Text for Social Media Posts

Please tell us about your experiences! We are looking for participants for a study on Ontario rural nurses' experiences dealing with the stress of COVID-19. If you are interested in participating or just want to find out more, please visit bit.ly/3Xxmlpg . This

was posted on behalf of the research team. [large sample advertisement to be attached to any posts]

Appendix 5

Eligibility Screening Survey Questions

Multiple choice or free text described in *italics*

The purpose of this study is to better understand the experiences of rural nurses in Ontario, particularly their experiences in caring for patients and managing stress during COVID-19. We seek to understand what changes occurred in the workplace, and how these changes influenced work related stress. Additionally, we are looking to understand how nurses in these situations managed their stress, and what worked best to keep nurses motivated and resilient. The findings of this study will be used to inform policy development to create healthier workplaces and contribute to existing knowledge about rural nursing. This study is being completed as part of a master's thesis.

This survey will ask a few questions about your workplace, how long you've worked there, and few demographic questions (age, gender). These questions will be used to assess your eligibility for this study. The responses will not be published and are to be used for recruitment purposes only.

Survey questions

Are you a registered nurse (RN)? *y/n*

Since the start of COVID (March 2020) have you worked in an acute care setting for at least 6 months? *y/n*

What type of position was this? *Full time/Part time/Casual*

What hospital was this position located at? *Free text*

What type of unit was this position on? *Free text*

What was your age at the time of this employment (in years)? *Free text numerical*

Contact information

Eligible participants may be contacted for an interview. Contact information will be stored on a secure device and/or in a secure server. Contact details will only be accessible to the primary researcher.

Preferred name? This does not need to be your real name, it can be a nickname or pseudonym if desired. *Free text*

Preferred pronouns (he/him, she/her, they/them, ey/em, etc.)? *Free text*

Preferred Method of Contact? *Email/Phone calls/Text Messages*

Contact details (email and phone number) *Free text*

Thank you for your interest in this study! Those who are eligible to participate may receive a request to set up an interview time. Do you know anyone who might be interested in participating in this study? If so, please pass on the link below! [Insert link here]

Appendix 6

Individual Interview Guide

Interview script:

Thank you for agreeing to participate in this interview. The goal of this interview is to learn more about the experiences that rural nurses had caring for patients in acute care settings throughout the COVID-19 pandemic. The overall objective of this study is to better understand the experiences of rural nurses throughout the pandemic, learn about the factors that influenced their experiences, and to understand how rural nurse' workplace wellbeing can be better supported in the face of unprecedented changes. All responses that you provide are confidential and the results will be anonymous in reports developed. Only members of the research team will have access to the study data. The interview will be audio recorded to help analyze your answers and I will also be taking notes during the interview. There are no right or wrong answers; you are the expert as we are looking to learn from your experience. Your participation in this study is voluntary and you can withdraw from the research study at any time, or you can decline to answer any questions.

Do you have any questions before we begin the interview?

1. Can you give me an idea of what your work life has looked like since the start of the pandemic?

Probes

a) Please describe the main activities you were responsible for.
b) Describe an average day (if possible).
c) Have there been any major changes to your practice/your roles throughout the pandemic?

2. As you reflect on your nursing roles, how has the pandemic impacted you personally?

Probes

a) Any major life changes?
b) Any mental health changes?

3. What have been some of the challenges you have experienced when trying to fulfill your nursing roles? Trying to complete daily life tasks? Challenges to your mental health?

Probes

a) Socially (Prejudice, feelings of safety in the environment, available resources)
b) Community (Social supports from the local community, supports in the workplace, built environment)
c) Family (Familial conditions)
d) Individual (Your mental health, coping abilities)
e) Physiological (Your physical health, reactions to stress)

4. What has helped you to perform your nursing roles while under stress? Ability to perform your daily life tasks?

Probes

a) Socially (Available resources, feelings of safety in the environment, connection to the environment (natural world))
b) Community (Social supports from the local community, supports in the workplace, built environment)
c) Family (Familial conditions)
d) Individual (Your mental health, coping abilities, spirituality, self-care)
e) Physiological (Your physical health, reactions to stress, self-care)

5. What tactics or resources did you find best supported your mental health during stressful times?

Probes

a) What helped you manage your stress?
    a. Socially (Available resources, feelings of safety in the environment, connection to the environment (natural world))
    b. Community (Social supports from the local community, supports in the workplace/organizational supports, built environment)
    c. Family (Familial conditions)
    d. Individual (Your mental health, coping abilities, spirituality, self-care)
    e. Physiological (Your physical health, reactions to stress, self-care)
b) Was there anything that really supported your mental health in the workplace, or you found helped to reduce your work-related stress?

6. Is there anything else you would like to discuss that we have not yet touched upon?