Mobile Work & Family Well-Being

A Background Literature Review Report

2025

Contents

Acknowledgements

List of Acronyms

Two-spirit, lesbian, gay, bisexual, transgender, queer, questioning, intersex, asexual, and other people who use additional terminologies to identify as part of sexual and gender diverse communities (**2SLGBTQQIA+**)
British Columbia (**BC**)
Bus-in, bus-out (**BIBO**)
Drive-in, drive-out (**DIDO**)
Environmental health officer (**EHO**)
Environmental impact assessment (**EIA**)
First Nations Health Authority (**FNHA**)
Fly-in, fly-out (**FIFO**)
In-vitro fertilization (**IVF**)
Liquified natural gas (**LNG**)
Long distance commuting (**LDC**)
Mining Industry Human Resources Council (**MIHRC**)
Murdered and Missing Indigenous Women and Girls (**MMIWG**)
Northern Health Authority (**NHA**)
Recreational vehicle (**RV**)
Temporary foreign workers (**TFW**)

Executive Summary

Over the past few decades, provincial policies and industrial workforce strategies have transformed labour practices, resulting in an increased use of mobile work and remote accommodations to support work in British Columbia's resource-based regions. Mobile work requires tremendous personal and family sacrifices as people leave their home communities for extended periods of time. This can result in several risks and stresses for each family member as the family dynamics are disrupted through routine transition periods as mobile workers prepare to leave for work or return to reintegrate into family routines, and as family members constantly adjust roles and responsibilities to cope with the absence of the mobile worker. There can be reduced time and capacity to support family relationships. Over time, sustained stress can lead to conflict and violence in these families with detrimental effects on the development of children and youth in rural and remote communities.

In 2024, the Camp Work and Family Well-Being Project was spearheaded by the Transform the Family Justice System Collaborative (see: https://transformfamilyjusticebc.ca) and the Northern Development Initiative Trust, with advisory support from the Office of Health and Resource Development at Northern Health and UNBC's Community Development Institute. This multi-phased project seeks to develop a prototype of services and tools that can be offered to families engaged in mobile work across northern BC to better support their capacity to reduce household stress and nurture the development of more resilient, healthier children. Recognizing the complexity of issues that shape the well-being of these families engaged in mobile work, this project seeks to engage with families, communities, Indigenous communities, industry, and service agencies. This background report draws upon the lessons learned from international studies and reports to inform community engagement in northern BC.

The literature makes strong linkages between mobile work and family dysfunction. Family dynamics are routinely disrupted as mobile workers prepare to leave for extended shift rotations in remote sites and as they return home for intense periods. These disruptions impact consistent parenting, relationship intimacy, household roles and responsibilities, and family routines for children. Without adequate information and supports to help families plan for, and cope with, these mobile lifestyles, sustained stress can lead to conflict and violence. Such conflict can affect the development of children, making it essential to ensure preventative and comprehensive supports are in place for these families. Unfortunately, service agencies in rural regions have not been equipped with adequate resources to provide appropriate supports for families impacted by this lifestyle.

In this context, the literature also provides a comprehensive understanding about the challenges experienced by these families as they seek access to supports in rural regions. Such barriers include a more limited range of general and specialized services, inconvenient program scheduling, limited outreach supports, ineffective intake and referral processes, and poor coordination of supports across agencies. People may also have limited access to transportation, poor digital literacy skills, and concerns about anonymity and confidentiality

when pursuing supports. From this review of international literature and reports, there were a series of potential actions and solutions identified to inform strategic planning and next steps in the development of a prototype of supports.

Information and Planning Resources

❖ Provincial and federal levels of government should work collaboratively together to standardize a mobile work resource guide that families may use to guide their decisions for engaging in, and coping with, mobile work.

❖ Community service organizations may develop workshops or programs to help mobile families to prepare a strategic plan to cope with the stressful impacts of mobile work (i.e. defining roles and responsibilities, planning for quality family time, addressing conflict, financial goals, determining an exit strategy, etc.).

❖ Provide parents with an orientation program that they may review with their children (i.e. the benefits of mobile work for the family, the location of the camp, the length of rotation, and roles for family members, reviewing the transition periods, etc.).

❖ Provide mobile workers and their families with financial literacy and planning supports to plan for retirement, exit strategies, or a sudden end to high-paying precarious work.

❖ Communities should prepare an inventory of targeted resources and supports to help families engaged in mobile work.

❖ Organize work-based social activities to provide families with an orientation to remote work and camp settings.

Family Communication

❖ Ensure there is a communication plan in place to allow children to remain routinely connected with the mobile worker and to enable couples to discuss household issues during the shift rotation.

❖ Provide technology workshops in camps and communities to equip mobile workers, family members, and grandparents with technology literacy skills to use digital platforms for communication.

❖ Ensure plans are in place to support routine family meetings in the home environment to allow everyone to discuss their concerns.

❖ Small camps equipped with shared accommodations should ensure there is access to a private room that may be booked to support private family conservations.

- ❖ Senior levels of government should develop standards for communication infrastructure available within camps for mobile workers.

- ❖ Industries may hire a family liaison worker to provide advice or function as an emergency contact for families engaged in mobile work.

Building Family Resilience

- ❖ Community service organizations may work with spouses to strengthen their capacity and resiliency to cope with uncertainty and change as rotations or contracts can change at any time.

- ❖ Offer more drop-in programs for spouses and children of mobile workers.

- ❖ Offer playgroups that will allow spouses to rest or complete errands.

- ❖ Connect families engaged with mobile work with affordable childcare and youth services that dovetail with the workforce schedules of spouses.

- ❖ Develop flexible visiting services to connect with spouses impacted by mobile work.

- ❖ Ensure employment training programs for women are more visible and accessible in rural regions to strengthen the resiliency of these spouses.

- ❖ Encourage the provision of an orientation or workshops to encourage mobile workers to adopt healthy habits during their rotation (i.e. exercise, healthy nutrition habits, and strategies to manage fatigue and rest).

Children and Youth

- ❖ Schools should ensure there are additional, dedicated counselling and tutoring supports in place for families impacted by mobile work.

- ❖ Schools may ensure male role models are in place for after-school programs.

- ❖ Establish leadership and respite camps for grandchildren raised by grandparents to help grandchildren cope with past trauma experiences and develop skills to be more resilient.

Parenting Programs

- ❖ Develop parenting programs tailored to the needs of families engaged in mobile work (i.e. to cope with consistent parenting, consistent disciplinary approaches, managing transition periods).

❖ Offer more on-line parenting support programs.

Supports for Grandparents

❖ Community service organizations may create grandparent programs and support groups to help them cope with the pressures of family conflict and demands for grandparent supports related to mobile work.

❖ Schools should support groups for grandparents to learn more about school operations and administrative processes.

Social Networks and Supports

❖ Identify a provincial or national organization to develop a social networking site to encourage emotional support between families engaged in mobile work, the exchange of tips for coping with a mobile lifestyle, and connect families with professional supports.

❖ Organize local social gatherings for families engaged in mobile work.

Mental Health

❖ Develop mental health supports targeted towards the needs of spouses to cope with the stress of supporting mobile work arrangements.

❖ Ensure there are more mental health first aid programs in place to encourage advice and mutual support across co-workers.

❖ Ensure counselling programs are accessible through videoconferencing technologies.

❖ Ensure camps are equipped with on-site or on-line counselling resources.

Domestic and Family Violence

❖ Victims of domestic and family violence need more adequate information to understand referral processes and related protocols for services.

❖ Develop tip sheets for frontline workers to address the unique challenges of family and domestic violence due to mobile work.

❖ Establish a Justice Navigator role to connect families with professionals trained in brain science and trauma informed care.

- ❖ Ensure family service agencies have the capacity and resources to provide trauma informed and culturally appropriate supports for spouses or children impacted by domestic or family violence.

- ❖ Need greater awareness about the use of digital technologies in domestic violence.

- ❖ Need to develop legal expertise and trained technicians to address the use of digital platforms and technologies with coercion and domestic violence.

Culturally Appropriate Supports

- ❖ Strengthen trauma informed and culturally appropriate services in Indigenous communities to address family violence.

- ❖ Strengthen the awareness and availability of cultural sensitivity training for both industry and community organizations that provide support to Indigenous people.

- ❖ Schools should ensure there are family liaison workers fluent in the local Indigenous language to support communication with Indigenous families.

- ❖ Provide more culturally appropriate supports for immigrant families engaged in mobile work.

- ❖ Strengthen awareness and connections to programs that help Indigenous people and immigrant spouses build networks and seek greater employment opportunities.

- ❖ Municipal governments may develop a welcome package and welcome program to strengthen the integration of immigrants into their communities.

- ❖ Strengthen access to translators in rural regions to support the integration of immigrant families and connect them with supports to cope with mobile work.

Building Resilience Within Municipalities

- ❖ Municipalities may assess the number of liquor outlets per capita compared to other municipalities of similar size.

- ❖ Municipalities can work with service agencies to organize local leadership tours of areas that pose safety concerns for women in order to support the safe planning of communities.

Training for Service Providers and Industry

- ❖ Support more joint training initiatives to equip family service agencies, justice system professionals, health care professionals, and other agencies in brain science and trauma informed care for children impacted by domestic or family violence.

- ❖ Ensure service professionals are trained to understand how mobile work and extended shift rotations may produce stress on family relationships and resources that shape family dynamics.

- ❖ Deliver more training for supervisors, camp staff, and mobile workers to recognize the warning signs of physical and mental stress associated with mobile work.

Building Capacity of Service Agencies

- ❖ Ensure interagency groups are in place to support planning, new protocols, and coordinated responses for families impacted by mobile work.

- ❖ Encourage service agencies to document the type, scale, and frequency of needs for families impacted by mobile work in order to strengthen a prototype model of services.

- ❖ Establish advocacy centres for families engaged in mobile work to connect them with counselling, parenting programs, support groups, and other resources.

- ❖ Service agencies should proactively visit camp sites to promote resources and supports available to mobile workers and their families.

- ❖ Work with rural service agencies to develop apps to extend their reach and capacity to service families in rural and remote regions.

- ❖ Strengthen social infrastructure to co-locate service agencies and streamline key entry points where families may seek assistance.

Moving forward, a better understanding will be needed about the scale and scope of these pressures that are impacting families engaged in mobile work. This can help to strengthen broader public, industry, and government support for these issues as strategic investments are made in these communities. A thorough review of policies, standards, and programs across different provincial and federal government agencies is needed to map out how dialogue and coordination is unfolding between different levels of government and Indigenous and non-Indigenous communities as they seek to mobilize a better prototype of supports to address the needs of camp families. This should be complemented by efforts to identify appropriate indicators or data that can be monitored to better understand the impacts of mobile work on family dynamics. Such information will be critical to support broader reforms of outdated policies and strategies.

However, there are several other key issues and gaps that need to be addressed to better position families to engage in mobile work. Much of the literature remains focused on larger camps given the potential of these camps to have more substantial impacts on nearby communities. There is a need to better understand how the conditions, amenities, infrastructure, and mobile work arrangements across different sizes of camps and across different resource sectors shape family experiences with mobile work. For example, the quality of accommodations, amenities, and nutrition can vary across different types of camps, but will ultimately shape the physical and mental well-being of mobile workers as they return to their families. Different camps and different resource sectors may provide varied access to informal and formal workplace supports as families strive to maintain routine communication, cope with conflict, drug and alcohol addictions, or access extended health benefits.

While the impacts of long-distance labour commuting on mobile workers and family dynamics are well documented, nuances across different types of families and marginalized communities are poorly understood. For example, as Indigenous communities continue to be disproportionately impacted by resource development within their traditional territories, research examining the pressures and experiences of Indigenous families engaged in mobile work remains limited. In the short-term, responses to these pressures may be complex as Indigenous Nations pursue jurisdiction over child and family services, and as they are engaged in complex negotiations to secure the resources needed to be successful in delivering these supports. Limited research has explored the challenges of co-parenting by separated parents who are impacted by extended roster rotations. Furthermore, the literature is only starting to unpack the distinct roles of maternal and paternal grandparents as a source of support for families engaged in mobile work, particularly as family dynamics may change under duress and conflict. There is also a lack of research that focuses on the impacts of mobile work on racialized immigrant families in rural regions across Canada.

Lastly, we also need to better understand emerging technology issues that will impact families engaged in mobile work. The shift towards digital technologies has potential to change the nature and location of resource sector jobs in rural British Columbia. However, it is unclear how extensive the impacts will be for various resource sectors and resource-based communities. Any job losses for displaced workers have the potential to trigger family stress, conflict, and violence. This will require careful monitoring and attention to establish targeted family and childcare resources to support a just transition. Moreover, we need a better understanding of the emerging pressures digital technologies pose to perpetuate family conflict and domestic violence. In particular, we need to know more about the capacity of legal supports and trained technicians to provide effective guidance and supports to address digital coercion in rural regions. As community leaders and senior government stakeholders move forward, the Collaborative Advisory Leadership Group hopes that the background report will stimulate important reflection and debates within northern BC's Indigenous and non-Indigenous communities about how mobile workers and their families are impacted by the unique stresses and challenges associated with mobile work in order to inform the development of a new prototype of services tailored to the needs and interests of these households.

Mobile Work and Family Well-Being: A Background Literature Review

1.0 Introduction

Camp work is a primary employment model in northern communities, including industries such as oil and gas extraction, pipelines, dams, forestry, and major construction projects. It impacts both positively and negatively on workers, families and communities. On the positive side, it provides resources and opportunities. On the negative side, the long rotational schedules away from a home environment disrupt family routines, reduce the time and capacity to tend to critical relationship building, and create stress for family members, whether they are working out or remaining in the home. Brain science research over the past few decades has also highlighted the immediate, long-term and intergenerational negative impacts of toxic levels of stress on the health and well-being of children, youth and families. Research also reveals ways to promote well-being and mitigate the risks of stress by encouraging resilience in children, youth, families and communities. This background report explores international literature about how to engage families, communities and industry, in transforming the camp work experience so that it promotes rather than undermines the health and well-being of workers, families, and communities.

Recognizing that camp issues are complex and touch on many sectors and actors, this initiative is a multi-phased project that seeks to engage with families, communities, Indigenous families and communities, industry, and service and support agencies. This is the first phase of the project focused on families to develop a better understanding about the scope of the issues related to camp work from their perspective. This focus was selected in part because communities can draw on sets of resources and capacities, and workers generally have some access to supports through workplace health and safety services. Families, however, are not only the focal point for burdens, but are often alone and unsupported in navigating their responses. There is a clear need for a transformative redesign to better support families and help them build capacity to reduce and manage the stresses and challenges that come with mobile work. Industry and communities have a key role to play in setting the conditions for transforming the camp work experience for families so that it promotes rather than undermines family well-being. As such, this project seeks to develop a prototype of services and tools that can be offered to camp families across northern BC.

This background report is designed to inform community engagement sessions and future stages of this initiative. By drawing upon international studies and reports, our team explored several issues that shape the well-being of families impacted by mobile work. Key topics include: the impact of mobile work on families, the coping mechanisms used by various family members, and the barriers typically encountered as families seek support. It also includes a discussion of the challenges that service providers face to deliver effective supports for camp families in rural regions. In this report, we explore the key issues and gaps that need to be addressed in order to better position communities to support families engaged in mobile work.

2.0 The Shift Towards Mobile Workforces

In northern BC, renewed investments in large-scale industrial projects have increased the use of mobile labour forces (Ryser et al. 2017). As mobile work can have important implications for the well-being of workers and their families, it is important for community leaders, service agencies, industries, and provincial policy-makers to understand these impacts to inform strategic decisions to better support these households. However, mobile work is not new. In this section, we explore the shift towards mobile workforces and how this shift has shaped the composition of households and the types of communities that support mobile work. This background discussion will provide an important context to guide the remainder of this report.

Camps have a long history in resource frontier development, ranging from camps to support highway construction to the labour camps used in World War One and World War Two to develop Canada's national parks (Waiser 1995). Labour camps were also used in many developed countries to build resource development facilities and dams in the post-World War Two period (Brand 2014; Sims 2017). As Canada became urbanized, it became more difficult to recruit workers to rural regions. Labour camps were replaced with an era of planning resource towns to support industry's goal of attracting and retaining residents during the development of the resource frontier (Ryser et al. 2017).

Since the 1980s, there has been a shift away from building new resource towns as senior levels of government sought to reduce their costs and role in town development (Storey 2018). Reflecting on the shift towards long distance commuting (LDC), McKenzie (2020, p. 8) argues,

> The biggest beneficiary of LDC has been government. The flexible cost-effective arrangements of LDC and worker mobility, underwritten by companies, outweigh the expensive infrastructure development required for residential workforces. Instead, government avoided underwriting large-scale residential development for resource employees and their families, instead shifting the onus to the corporate and private sectors. It is argued that the labour demands imposed by the boom conditions were largely met by the private sector through [fly-in, fly-out] FIFO arrangements.

Improvements in transportation and communication made it more cost effective for industry to access a larger supply of high skilled labour through mobile work. These new labour arrangements have used mobile workforces to address construction and fluctuating market conditions through direct hired labour and a greater use of contractors and subcontractors (McKenzie et al. 2014; Northern Health 2013; Oil Sands Community Alliance 2018; Storey 2001). These trends have been reinforced through a renewed era of large-scale industrial projects for new pipelines, liquefied natural gas facilities, dams, and mining developments since the 2000s (Environmental Assessment Office 2014; Northern Health 2012). In this new era of large-scale industrial development, projects can put intense pressures on housing and community infrastructure (McKenzie et al. 2014; Oil Sands Community Alliance 2018). At the same time, resource towns are finding it increasingly difficult to compete with larger cities to encourage mobile workers and their families to relocate to rural and remote regions (McKenzie et al.

2014). These relocations are impractical for the construction of pipeline projects where the location of work is constantly changing (Ryser et al. 2015).

2.1 What does mobile work mean?

Labour mobility may involve a spectrum of commuting patterns. This may consist of a short daily commute to work that allows people to return home each day. The distance and duration of commuting can also be extended to what is commonly referred to as long distance labour commuting (LDLC). This focuses on situations where mobile workers travel at least 200 kilometers away from their home community, and they typically spend the night away from their home community in a labour camp, motel, or leased house in a host community (Meredith et al. 2014).

2.1.1 Mobile work rotations

Mobile shift rotation schedules range considerably across different resource sectors. In the forestry and mining sectors, for example, shift rotation schedules are typically four days on and four days off or seven days on and seven days off. While in construction and oil and gas, the shift rotations are longer and can range from 21 days on and 7 days off to up to 70 days on and 14 days off (McDonagh 2010; Peetz et al. 2012; Ryser et al. 2019) (Table 1). These longer shift rotations are especially challenging as they leave less time for family and child care (Ryser et al. 2019; Shandro et al. 2011). Workers may switch from day shifts to night shifts (Ryser et al. 2014). In fact, some women prefer night shifts to avoid gender-based harassment; although, this creates additional communication challenges to stay in touch with their families (Kelly et al. 2022). People may commute to the work site in a number of different ways, including by fly-in / fly-out (FIFO), bus-in / bus-out (BIBO), or driving-in / driving-out with a personal vehicle (DIDO) (Ryser et al. 2015).

Table 1: Workforce Rotation Schedules

Shorter Rotation		Longer Rotation	
7 on 10 off	4 on 7 off	63 on 21 off	20 on 10 off
7 on 3 off	4 on 5 off	60 on 5 off	20 on 8 off
7 on 7 off	4 on 4 off	42 on 21 off	15 on 15 off
6 on 7 off	4 on 3 off	42 on 14 off	15 on 6 off
6 on 6 off	4 on 2 off	35 on 21 off	15 on 5 off
6 on 2 off	3 on 4 off	28 on 28 off	14 on 14 off
6 on 1 off	3 on 3 off	28 on 14 off	14 on 7 off
5 on 5 off	2 on 7 off	28 on 9 off	14 on 4 off
5 on 4 off	2 on 5 off	28 on 7 off	14 on 2 off
5 on 2 off	2 on 3 off	24 on 4 off	10 on 4 off
		21 on 21 off	10 on 3 off
		21 on 12 off	9 on 5 off
		21 on 7 off	8 on 6 off
		21 on 3 off	

Adapted from Ryser et al. 2015.

Source: Australia Pacific LNG 2012b; Barclay et al. 2013; Beach et al. 2003; McDonagh 2010; Northern Health 2012; Paech et al. 2010; Ryser et al. 2012; Storey 2010.

There have been increasing concerns about the impact of extended roster schedules on family relationships and conflict (Watts 2004). Roster schedules are defined by the designated number of days that workers spend on the work site in which food and accommodation may be provided nearby, followed by a designated number of roster days in their home community (Storey 2010). Mobile workers and unions have advocated for longer shifts to acquire more days off throughout the year. Research suggests that workers with longer shift rotation schedules have had a more positive experience coping with family life because they had reduced commuting time and costs, improved sleep patterns, and more time at home (Hanoa et al. 2011; Morris 2012). It also provides mobile workers with greater flexibility for recreation and vacation time with family (Baker et al. 2003; Di Milia & Bowden 2007; Haslam Mckenzie 2013). However, longer high compression rotations that provide limited time off (i.e. 3 week on and 1 week off) are more likely to intensify stress and deteriorated well-being for mobile workers and their families (Cooke et al. 2019).

Other research advocates for family-friendly rotations where there is equal time at home and work (8 days on, 6 days off) to better support a continuity of parent-child relationships and to enable mobile workers to be more engaged with their community (Lester et al. 2015; McKenzie et al. 2014; Sibbel 2010). For one large-scale industrial construction project in BC, mobile workers appreciated changes to the shift rotation schedule from 3 weeks on and 1 week off to 2 weeks on and 1 week off to support a more balanced work-family lifestyle (Ryser et al. 2018). Shorter work rotations have been associated with less fatigue and lower turnover rates (Beach et al. 2003). Shorter shift rotations, however, can increase commuting time and travel costs, as well as limit the ability of workers to engage in family, household, and community activities (Parkins & Angell 2011).

Despite these shift design preferences, industries continue to design shift rotations to reduce industry costs and improve the efficiency of complex construction schedules and operations (Ryser et al. 2018, 2019). Limited flexibility is provided to support leave, the ability to work remotely during a family crisis, or to be responsive to workforce demands for shorter roster arrangements (Meredith et al. 2014). There are emerging concerns that mounting pressures endured by FIFO families is creating resentment against resource extraction industries due to their disruption on families (House of Representatives 2013). Such tensions between mobile work and family well-being may prompt the costly turnover of workers (Langdon et al. 2016; Sibbel 2010), and discourage the next generation of workers from pursuing careers in resource-based sectors (House of Representatives 2013). There can be a noticeable decline in the number of years that mobile workers are willing to engage in mobile lifestyles. As one industry report noted, "while nearly 60% of rotational workers have worked at least 5 years, this quickly drops off as roughly 26% have remained for more than 10 years in the Oil Sands" (Oil Sands Community Alliance 2018, p.2). Studies also suggest that mobile work pressures can exacerbate mental health pressures that can cost a mine between $300,000 and $400,000 each year (Macgroarty & Pfaender n.d.). This has led to rising compensation claims that highlight the legal

responsibility for industry to address mental health issues through occupational health and safety standards (Parker et al. 2018).

2.1.2 Types of workforce accommodations

Throughout this report, we will explore how the design, policies, and quality of workforce accommodations may not only shape worker behaviours, but also how they may impact the physical and mental well-being of the worker to cope with the stresses of work and family lifestyles. Many different forms of workforce accommodations have been used to support mobile work, including leased hotels, apartment buildings, RV campgrounds, cabins, floatels, and modular work camps (Haslam McKenzie & Rowley 2013; Province of Alberta 2006; URS Australia 2012; Wanjek 2013). Even within work camps, there can be tremendous variation in accommodations, services, and amenities depending on whether the camp is put in place to support the exploration, construction, or operations of resource development (Access Consulting Group 2008). It can also be shaped by the commodity prices of different resource sectors, the competition for labour, and regulatory frameworks that guide the use of camps in different resource sectors (Province of Alberta 2011; Province of Nova Scotia 2004; Province of Quebec 2014; Western Australia 2013). Mobile workforce camps can range from tree planting camps that have 25-125 people (Sweeney 2005) to large construction camps for LNG projects that can accommodate up to 5,000 people (Beamish Consulting Ltd. and Heartwood Solutions Consulting 2013). The duration of camps can also vary from as little as two weeks to several years (Province of British Columbia 2012; Province of Québec 2014).

As researchers explore the impacts of mobile work on families and communities, most studies have focused on large camps. This is because they are most likely to have an impact on nearby communities; thereby, prompting researchers to track important issues such as changes to their operations (i.e. security, zero tolerance drug and alcohol policies, access to health care, access to recreational amenities, etc.), the pressures that their proximity impose on nearby community services and infrastructure, and best practices guiding industry, camp, and community relationships (Ryser et al. 2015). Fewer researchers have focused on issues related to small camps that may be used for exploration, silviculture, fire-fighting, drilling wells, and other resource activities (Sweeney 2005). As this initiative to understand mobile work and family well-being moves forward, it will be important to understand how the policies, communication infrastructure, accommodations, and amenities of different types of camps shape the well-being of workers and potential impacts on family life.

2.2 Types of communities to support mobile work

These long-distance commuting patterns have created distinct types of communities that support mobile work. These include home, hub, and host communities. In this section, however, we also recognize the unique circumstances unfolding in Indigenous communities. Many communities across northern BC, such as Dawson Creek and Terrace, exhibit characteristics of home, hub, and host communities as they function as sources of mobile workers for other

regions, support the transportation of mobile workers through their regional airports, and experience an influx of mobile workers for nearby industrial projects.

2.2.1 Home communities

Home communities are places where mobile workers live with their families. The nature of extended shift rotations creates functional lone parent households as the spouse who remains in the home community becomes responsible for managing all of the household and family needs as the other household member is away for extended periods of time. When household members pursue mobile work, it results in regularly scheduled losses of volunteer capacity for many social service and recreational organizations in the home community (Butters et al. 2019). For example, mobile workers are not longer available to volunteers for emergency supports such as fire fighting and search and rescue (Ryser et al. 2014). Mobile workers and their spouses also have less time to support coaching, after school programs, and other general volunteer activities (Markey et al. 2015). Local organizations also experience a loss of board members to support leadership roles. For those who remain volunteering in the community, the risk of burnout becomes more pronounced as the demand for support intensifies (Butters et al. 2019). Mobile work also prompts a loss, and ageing, of membership that can lead to fewer donations, registration fees, membership fees, and hall rentals to support the stability and viability of service clubs and community organizations (Markey et al. 2015).

A further challenge for workers and their families is that while labour is mobile, services are rooted in these communities. Mobile workers find it difficult to arrange appointments with doctors, physiotherapists, specialists, financial institutions, etcetera in the limited amount of time that they have between their shift rotations and the limited period of time they have back in their home community. Standard business hours do not work. There are efforts to encourage more flexible service provision by having earlier or extended hours of operation. Some companies are also making an effort to identify and understand their needs by connecting workers with supports on site in order to help mobile workers cope with the stress, anxiety, and mental health pressures that come with being away from their family and home communities for an extended period of time.

2.2.2 Hub communities

Hub communities are defined as those transitory locations that are close to the workers home community but through which workers move through on a routine basis as a part of their work rotations to reach their work location (Butters et al. 2019). In BC, these typically include places with regional airports such as Prince George, Vancouver, Kelowna, Kamloops, Nanaimo, and Terrace. These regional centers have sufficient airport infrastructure facilities to function as staging areas to draw in workers from around the region. Specific investments have been made in these airport facilities to serve large mobile workforces, including longer runways, separate waiting rooms, more security processing areas, and expanded parking lots (Ryser et al. 2018; Storey 2018).

2.2.3 Host communities

The host community or site is the location where workers commute to work. These communities can experience many pressures and additional costs related to the influx of mobile workers. When resource-based projects are based outside of municipal boundaries in the surrounding rural regions, host communities will not obtain the property tax revenues needed to address service and infrastructure pressures, despite the influx of mobile workers and contractors during the exploration, construction, and operational stages of resource development (Ryser et al. 2019).

Host communities may not have the financial resources to accommodate the scale of infrastructure investments needed to address housing and community amenities for an influx of mobile workers (McKenzie 2020). During the early stages of industrial projects, camps may not be put in place. Mobile workers may stay in housing leased by industry or use living out allowances to seek rental accommodations in the host community (Ryser & Halseth 2017). Housing quickly becomes unaffordable and there are many rent evictions as landlords seek to rent their properties out to workers earning higher wages (Stienstra et al. 2017; The Indigenous Caucus of the Indigenous Advisory and Monitoring Committee 2022). Community services, such as those in healthcare, emergency, education, employment, and social services, can become quickly overwhelmed.

In host communities, the rapid growth associated with large-scale industrial projects and mobile workforces can lead to transience, income disparity and social inequality, and fragmented social networks (Parkins & Angell 2011). Studies have documented negative activities associated with an influx of temporary, largely male mobile workers, including more incidents of sexual harassment, violence against women, and an increased demand for sex work and sex trafficking (Stienstra et al. 2017; The Indigenous Caucus of the Indigenous Advisory and Monitoring Committee 2022). There may also be rising rates of crime, higher per capita liquor sales, and an increase in drug abuse (FNHA and Northern Health 2015; Parkins & Angell 2011). For example, in Hinton, Alberta, "the percentage of Child & Family Services interventions that were related to methamphetamine use increased from 4% in 2000 to 38% in 2005" (Parkins & Angell 2011, p.44-45).

Host communities may also experience two important challenges to seize workforce benefits. First, research suggests that labour mobility can exacerbate the uneven distribution, and leakage, of salary benefits in rural regions as mobile workers choose to live in larger urban centres (McKenzie 2020). Unfortunately, local governments may not always develop strategic plans and collaborative efforts to attract mobile workers and their families to move to the host community (Ryser et al. 2019). This would help to reduce the stress of families being apart and would strengthen the economic benefits for host communities that are located near large-scale industrial development projects. At the same time, local businesses and service providers may struggle to compete with resource-based industries for labour (McKenzie 2020). This can

undermine the ability to the community to diversify its services and economy to support the long-term stability and resiliency of the community.

2.2.4 Indigenous communities

Many Indigenous communities are situated in rural and remote regions where considerable resource extraction activities are unfolding within their traditional territories. Unfortunately, research examining the pressures and experiences of families in Indigenous communities is very limited. First Nations engaged in environmental assessment processes for large-scale industrial projects, however, may feel they have limited power and influence over the decisions and requirements imposed on resource-based projects. Instead, environmental impact assessment (EIA) hearings resemble other forms of power imposed on these communities, such as through residential schools and the Indian Act, and may limited the participation of Indigenous people (Tordimah 2021). Large-scale industrial projects may also impact landscapes that remove land for traditional uses and activities (FNHA and Northern Health 2015). Where possible, we highlight the unique challenges that are encountered by Indigenous families as we explore the pressures of camp families impacted by mobile work.

2.3 Camp family composition

Studies have portrayed many types of households impacted by mobile work and camps across rural and remote regions. Historically, work camps attracted younger, single workers who had no children or who had older children (Ryser et al. 2015). Today, mobile workers are mostly older, married males, with more than half indicating the presence of children in their household (Dorow & Jean 2022; Markey et al. 2015; Oil Sands Community Alliance 2018). Most of these families are supported by dual incomes in two parent households; although, there are rising rates of single-parent FIFO families (Langdon et al. 2016; Sibbel 2001). While the ethnic composition of the workforce is rarely specified, Indigenous people identifying as First Nation, Métis, or Inuit can make up more than 10% of the mobile workforce of resource extraction projects in Canada (Oil Sands Community Alliance 2018).

2.4 What is motivating families to engage in mobile work?

Mobile workers may engage in long distance labour commuting both out of necessity and to seek better opportunities for their families (Hughes & Silver 2020). For those who pursue mobile work out of necessity, their families may be hesitant to move to resource-based communities equipped with fewer cultural and recreational amenities, a more limited range of educational and social services, more limited access to family networks, and fewer career prospects for spouses (McKenzie 2020; Oil Sands Community Alliance 2018; Ryser et al. 2018; Sibbel 2010). There may be concerns about high housing costs and limited family housing options in rapidly growing resource-based regions (Storey & Hall 2018; Watts 2004). On the other hand, industry's coverage of accommodation and transportation costs may make it easier for workers to choose this lifestyle (Storey & Hall 2018).

As families reflected on the opportunities presented through long distance labour commuting, they may be drawn to several financial benefits. Families may see the opportunity to acquire long-term financial security by quickly accumulating financial savings (Dorow & Jean 2022). They may seize the opportunity to pay off mortgages, purchase vehicles, start a business, provide children with post-secondary education, and take family vacations (Dorow & Jean 2022; Ryser et al. 2018; Sibbel 2010). Some mobile workers argued that extended shift rotation schedules provided them with more quality time with family once they returned home (Hanoa et al. 2011; Ryser et al. 2018). It has also enabled households to access higher quality healthcare and active lifestyles (Markey et al. 2015; Torkington et al. 2011). Mobile work may also provide the financial resources needed to escape abusive relationships (Shepard 2020).

In terms of demographics, the decision to engage in mobile work may also be linked to the stage of a worker's life and related family demands, with some people choosing to leave FIFO work before starting a family (Hoath & Haslam McKenzie 2013). Others may choose to engage in FIFO work once children enter their teenage years (House of Representatives 2013).

2.5 Digitalization as an emerging workforce transformation

Despite the shift towards mobile workforces, another significant transformation is unfolding through the adoption of digitalization in resource-based sectors, often referred to as the 4th Industrial Revolution (Schwab 2017). On the one hand, this trend has the potential to reduce the need for mobile workers. However, it also has the potential to produce enormous stress for families impacted by this change. Digitalization refers to the use of digital assets and data through artificial intelligence, machine learning, the Internet of Things, autonomous vehicles or drones, blockchain, and other technologies to reduce costs and improve business productivity throughout the supply chain (Verhoef et al. 2021). For resource-based industries, digitalization provides an opportunity to address resource and production issues, market conditions, safety, labour supply shortages, and environmental concerns (Storey 2023). These new workforce trends are being supported by provincial and federal levels of government. For example, the federal government has established an economic strategy table to encourage the adoption of digitalization (Hemmadi 2021). Provincial governments, such as Ontario and British Columbia, have been investing in new centres of excellence or digital ecosystems to encourage resource sector digitalization (CBC News 2016; Clark 2018; Government of Canada 2021).

The shift towards digital technologies will have enormous potential to change the nature and location of resource sector jobs in rural British Columbia. As an increasing share of resource jobs can be performed through Remote Operating Centres (ROCs), these jobs will no longer require workers to reside in, or engage in long-distance labour commuting to, resource towns or sites (Storey 2023). It is anticipated that new digital technologies will render numerous labour jobs and equipment operator roles obsolete (Gardner 2021; WEF 2017). Mines are now looking for computer programmers, IT workers, AI developers, automation specialists, statisticians, machine learning specialists, and data scientists. For example, one mining company in the Kootenay region of BC partnered with Google Cloud and Pythian to use machine learning

algorithms to autonomize their truck fleet operations in Elkview, BC (Lopez-Pacheco 2018). When this company launched its 5G private network, they hired more than 300 new employees, all with non-traditional skills (i.e. data scientists, application developers, etc.) (Parizot 2020; Rolfe 2022). Autonomous vehicles are also being used at mines in the Thompson-Nicola region (Bergen 2018). In the Northwest region of BC, mining companies are using remote vehicles and drones to support their operations (Clark 2017; Kirby 2015).

Job losses can trigger stress as families renegotiate the restructuring of the labour force with reduced budgets and expenditures, resulting in the potential for conflict and family violence as displaced workers spend more time at home (Bhalotra et al. 2021). Even as communities may experience workforce restructuring processes, it will be essential to ensure that the social, health, and employment supports are not hollowed out by industry layoffs (Labour Education Centre & ACW 2022). These pressures will increase the demand for more counselling services, social workers, and supports for victims of domestic and family violence. It will also require more childcare resources to empower a just transition for workers as they seek new training and employment (Labour Education Centre & ACW 2022). However, digitalization is in the early stages of development and adoption across various resource sectors. It is unclear how extensive the impacts will be for various resource sectors and resource-based communities. To date, digitalization technologies have largely been adopted by large-scale industries engaged in extracting large volumes of resources, such as iron ore and coal (Storey 2023).

2.6 Why is change needed?

Despite the shift towards mobile labour in many sectors, the impact of mobile work on family dynamics has received limited attention within policies and programs (Hughes & Silver 2020). The conflicts and stresses that can result from mobile work arrangements can have profound and long-term impacts on the well-being of children as they are exposed to trauma and as families work through child protection, criminal cases, and the family law system (Jerke 2023). Rather than engaging with a system of supports that is designed to help families cope during the early stages of mobile work, they are often unsupported until conflict leads them to engage with a system that perpetuates adversity rather than constructive processes to manage the pressures of change. As family conflicts have led many to become engaged in the justice system, leaders within the justice system are now advocating for families to be connected with a holistic system of supports outside of that justice system (Langdon et al. 2016).

This shift in how we design wrap-around supports for camp families will require an understanding of how mobile work and camp culture may shape behaviours and family conflict. Lederach (1995) suggests that behaviours and conflict are socially constructed as people attach meaning to specific actions or events that create a sense of identity. As we explore the international literature, we will address this notion by exploring how camps may become focal points for stress and destructive behaviours that impact family life. Lederach (1995) also argues that people have different knowledge, power, resources, and skills for handling conflict as they engage in conversations to address the stresses unfolding in their lives. Conflict, however, is not necessarily a negative thing. Conflict can provide an important cue that someone within the

family is seeking to restore something that they have lost through mobile work. For Lederach (1995), the key to supporting positive outcomes for these families is to nurture an understanding of each individual's needs, while placing an emphasis on developing skills to support mutually beneficial changes through long-term constructive processes. These processes also build upon existing local resources and assets in order to support long-term self-sufficiency and resiliency. By emphasizing local engagement, people become more aware of their context in order to reflect and take action.

3.0 Impact of Mobile Work on Families

Camp families may be positively and negatively impacted by camp work. In this section, we enumerate the range of stresses and challenges they experience. This understanding will provide a foundation to identify ways to mitigate the stresses experienced by children, adolescents, and families, while integrating camp families and their communities.

3.1 Changing family dynamics

Mobile work produces regular disruptions to family routines that can have profound impacts on family dynamics. Families find it difficult to negotiate roles and responsibilities, such as childcare and child activities, household duties, and managing transition periods (Butters et al. 2019; Hoath & Haslam McKenzie 2013). As families struggle to manage transition periods (Voysey 2012), it can result in intense periods of anxiety and mood swings for both the children and the parents (Storey et al. 1989). Family routines can be disrupted by intense 'honeymoon' periods once mobile workers return from extended shift rotations (Ryser et al. 2014; Snow & Fong 2022). There may be confusion and inconsistency with parenting and disciplinary approaches both on and off rotation (Dittman et al. 2016; Fresle 2010). In these situations, mobile workers are generally found to be less strict with their parenting style when they return home (Lester et al. 2015).

Mobile workers may struggle to re-adjust to the pace of domestic duties and activities while recovering from fatigue from commuting and working extended rotations (Gardner et al. 2018). It may take time to become familiar with new routines, changes unfolding within family relationships, and issues unfolding for family members that can create conflict and confusion (Wright 2022). Some mobile workers may feel increasingly disconnected from the family unit, resulting in a sense that they are living two separate lives (McTernan et al. 2016). While mobile workers may be eager to make the most of family activities and experiences while they are home, this can regularly disrupt routines that are essential to the stability of child development (Gilbert 2019). This may be particularly problematic in situations where the mobile worker becomes overly involved with family members in an attempt to make up for lost time (Kaczmarek & Sibbel 2008). Families engaged with mobile work for less than two years, with younger, newly married spouses and pre-school and primary school-aged children found it most difficult to adapt to these disruptions (Sibbel 2010; Voysey 2012).

Both parents may be concerned about the constantly changing family dynamics and impacts of prolonged absences of mobile workers on the wellbeing and development of children (Gardner et al. 2018). Young children lose quality parenting experiences that are difficult to regain during short stints when the worker returns home (Wrights 2022). Children may also be impacted by open conflicts and disagreements over parenting and domestic responsibilities, with one study indicating "56.8% of FIFO parents reported inter-parental conflict in the clinical range" (Parker et al. 2018, p.60). Witnessing parent conflicts and experiencing dysfunctional family environments may eventually lead to aggression and other conduct problems in these children (Greer 2011).

Greater domestic roles may also be placed on children in their adolescent years; at times, before they are developmentally prepared for these roles (Lester et al. 2015).

The early years of mobile work produce the greatest risks for couple relationships as both parties learn to adjust and cope with the stresses of mobile work arrangements (Sandow 2014). Cumulative fatigue by both mobile workers and their partners can negatively impact intimate relationships and the capacity for both individuals to provide emotional support (Hoath & Haslam McKenzie 2013; Voysey 2012). These stresses for both partners can lead to depression, ongoing alcohol and substance abuse, and deterioration of overall health (Watts 2004). For mobile workers, ongoing work-related stresses can lead to limited patience and irritability to cope with family pressures (Sibbel 2010). Cumulative fatigue, however, is generally deemed to have a greater impact on spouses who remain in the home community as they shoulder the bulk of responsibilities for parenting and household duties while maintaining employment (Taylor & Simmonds 2009; Wright 2022; Voysey 2012). Spouses can experience considerable stress as they struggle to have the time and energy to address the conflicting, and at times incompatible, demands of employment and domestic duties for the family (Sibbel 2010).

Changes in roles and power that alter family dynamics can also lead to conflict. In some cases, the independence of spouses through greater engagement in the labour force or through greater authority over domestic roles can lead to distrust and conflict (Bloomfield 2017; Shepard 2020; Taylor & Simmonds 2009). There can be different expectations about order and quietness in the home to allow the mobile worker to recover from the extended shift rotation (Hoath & Haslam McKenzie 2013). This can be accompanied by frustration and conflict if mobile workers are reluctant to assume more domestic roles while they are at home (Gardner et al. 2018); instead, perhaps choosing to spend time with friends (Storey et al. 1989).

Tensions in family dynamics are also likely to be exacerbated when mobile work is based in an area that offers limited affordable housing, limited services, and limited employment opportunities for spouses; thereby, making it difficult for families to relocate closer to work sites (Newhook 2011). These challenges are exacerbated by limited or inconsistent communication between mobile workers and their families due to the limited ability to have private conversations while mobile workers are in camp or due to the limited technology capacity offered on-site in remote work locations (Wright 2022). Long distance commutes to work sites in different time zones can further complicate these issues (Lester et al. 2015).

Tensions within family dynamics may be mitigated by the presence of supportive friendship networks, personal growth in managing domestic responsibilities, maintaining routines, establishing a common understanding of boundaries, and acceptance of the mobile work arrangements (Parker et al. 2018). The ability to develop and maintain social support networks, however, can be impacted by conventional weekend routines of other households that do not easily dovetail into mobile work arrangements (Mayes 2020). In Indigenous communities, some families have also been denied participation in subsistence activities due to the absence of mobile workers (O'Faircheallaigh 1995). This can lead to an increasing disconnection between camp families and the rhythms of community life (Mayes 2020). If these household stresses are

unresolved, however, the stress of spousal and family conflict can lead to separation and divorce (Construction Sector Council 2005; Houghton 1993; Kinnear et al. 2013; Kuyek & Coumans 2003; Sandow 2014).

3.1.1 Coping strategies used by families

The coping strategies that are used by FIFO family members will be vital to the long-term stability within these households. The success of these coping mechanisms may be influenced by the roster length, previous experience with mobile work, previous experience with cyclical boom and bust resource-based economies, awareness of resources offered by employers and community organizations, stage of life and family development, and the employment status of spouses (Ryser et al. 2018; Shepard 2020; Taylor & Simmonds 2009). Furthermore, families with higher incomes found it easier to cope with mobile work arrangements as they had more financial resources to access needed supports (Cooke et al. 2019; McTernan et al., 2016; Shepard 2020; Sibbel 2010). However, as personal resources are consumed to address the initial stress associated with mobile work arrangements, it leaves fewer resources and energy to respond to successive stressors that can lead to a downward spiral of well-being (McTernan et al. 2016).

Families proactively used strategic planning to prepare for the potential stressful impacts of mobile work. This included conversations between both spouses about the suitability of the roster length for family commitments, family roles and responsibilities, planning for quality family time, financial goals, and an exit strategy (Gilbert 2019). Both partners may develop a firm understanding about what is critical for their family's relationships and adopt boundaries to preserve what is important (Snow & Fong 2022). Some couples moved to ensure the spouse at home would retain all decision-making responsibilities regardless of whether the mobile worker was at home or away on rotation (Dittman & Rathbone 2023).

Coping strategies adopted by families also varied depending on whether the mobile worker was home or away on their rotation. When mobile workers were home, families strived to have consistent routines to make transitions easier for children and mobile workers (Fresle 2010; Lester et al. 2015). Both spouses would support each other to address household needs and provide needed time for respite and rest (Parker et al. 2018). To maintain a strong sense of family cohesion, there were efforts to ensure the mobile worker remained engaged in family activities (Fresle 2010). They may also engage in social gatherings for FIFO / DIDO families (McKenzie et al. 2014).

When mobile workers were away, FIFO families routinely communicated about children and household issues in order to strengthen their cohesion and cope with the stresses of mobile work (Fresle 2010; Gardner et al. 2018; Langdon et al. 2016; Taylor & Simmonds 2009). Special attention was invested to be flexible with children's needs (Parker et al. 2018). Effective communication was also supported through empathetic listening and sharing clear messages between family members (Taylor & Simmonds 2009). It was equally important, however, for both spouses to learn to be comfortable with uncertainty and develop resilient skills to adjust to

change as rotations and contracts could be extended or changed at any time (Snow & Fong 2022). Both mobile workers and spouses found informal networks of community support to be instrumental with coping with household stress (Parker et al. 2018).

Families also increasingly turned to technology to help them cope with the stresses associated with mobile work. Technology may not only connect families with advice and information, but may also function as mechanisms to strengthen the connectivity, continuity, and cohesion of the family unit (Taylor & Simmonds 2009; The Community Vitality Advisory Group and Research Team of the University of Guelph 2018). Telecommunications technologies, such as telephone calls and texting, were used to increase communications while mobile workers were away (Snow & Fong 2022). Some families, however, experienced financial barriers to communicating with mobile workers due to the high costs associated with satellite phone technologies that may be brief and susceptible to end without warning due to poor reliability (Pini & Mayes 2012; Storey et al. 1989). There were requests for industry to ensure phone stations are available for mobile workers who do not have smart phones (Ryser et al. 2018). Messages and family photos may also be exchanged through e-mail (Lester et al. 2015).

Video conferencing technologies, such as Facetime, Skype, What's App, and Zoom, were also used to strengthen routine conversations between mobile workers, their spouses, and their children (Hughes & Silver 2020; Lester et al. 2016; Pini & Mayes 2012); although, there is a need to provide technology workshops in camps and communities to equip mobile workers, family members, and grandparents with the technology literacy skills to use these applications (Ryser et al. 2018; Snow & Fong 2022). In some cases, remote camp sites, particularly those supporting the exploration stage of resource development projects, continue to lack adequate broadband and communications infrastructure, resulting in limited access to digital applications (Adams et al. 2011). Mobile workers have expressed the need for improved range and evening access to broadband and cell phone communications to support scheduled family conversations (Ryser et al. 2018). Even though industries may install cell phone towers and have desktop computers and laptops available for workers to use, access may be restricted to daytime shift rotation hours of operation (Ryser et al. 2018). The Internet infrastructure should also have the capacity to support family networking through video-based applications during peak hours of demand (Snow & Fong 2022). Some mobile workers felt that the quality of remote camp accommodations was impacted by their inability to have phone and video-based conversations with family in private due to shared accommodations (Wright 2022). Limited access to private communication technologies was found to aggravate family relationship problems for FIFO families (Taylor & Simmonds, 2009; Watts 2004).

Emotional support and advice were also pursued through online forums, blogs, and social media groups, such as FIFO Families, Mining Family Matters, Mining Wives and Girlfriends, and Oil Wives Clubs (Atkinson & Hargreaves 2014; Mayes 2020; Ryser et al. 2018). Massie and Jackson (2020), however, caution that Facebook groups, such as Canada's Energy Citizens and Oil Sands Strong portray an idealized image of the resource-based economy that places men's role as the high wage earner in an idyllic position within gender, family, and work constructs that can mask underlying pressures within these families. In some cases, mobile workers

established blogs to communicate with their children (Lester et al. 2016); although, social media may also be used to monitor children's activities as a basis to reinforce boundaries and expectations (Lester et al. 2015).

Unfortunately, some families do not have the resources or capacity to cope with the stresses of mobile work arrangements as they move from one crisis to the next (Taylor & Simmonds 2009). Formal services and programs, such as relationship counselling, were needed to cope with stress between couples (Langdon et al. 2016).

3.2 Stress of camp work on mobile workers

Mobile workers may endure several sources of stress associated with extended roster schedules. Below, we discuss the emotional, financial, health, social, and relationship impacts of extended roster schedules on mobile workers. It is important to note that these impacts can vary across workers who have varying skills, bargaining power, and control over their mobility (Hughes & Silver 2020).

3.2.1 Emotional impacts

Mobile workers may experience a sense of loneliness on the work site, within camp, or at home (Watts 2004). Feelings of loneliness can be exacerbated by missing out on family events and limited opportunities to communicate with family (Kaczmarek & Sibbel 2008; Markey, et al. 2015; Scott 2023). Loneliness and isolation can be particularly profound for First Nations workers who are separated from their families and communities for extended periods of time (Mills & St. Amand 2016). There may be a reluctance of families to visit workers in resource-based regions, in part due to costly travel across regional routes. Some research, however, suggests that routine connections with family can also compound feelings of isolation and loneliness (Dorow & Mandizadza 2018). This can lead to anxiety, depression, mood swings, guilt, fear, suicidal thoughts, higher rates of alcohol consumption, and violence (Cooke et al. 2019; Gardner et al. 2018; Massie & Jackson 2020; Northern Health 2012; Watts 2004). Mobile workers who endure work-place and family conflicts may also struggle to control their emotions as exhaustion takes hold and they struggle to regain control over these facets of their lives (Wright 2022).

3.2.2 Financial impacts

There can be hidden financial costs associated with mobile work. Industries may not always cover housing costs for mobile workers (Morgan et al. 2021). These financial pressures are exacerbated by the precariousness and insecurity of mobile work arrangements (May 2019). There are constant concerns about industry's shift towards casual or contracted labour, downsizing, less compensation, and greater unpredictability with extended roster schedules (The Community Vitality Advisory Group and Research Team of the University of Guelph 2018). For Indigenous people, short-term extended shift work may provide more income and affluent

lifestyles for a short period of time; however, they may find it difficult to make economic adjustments once the work ends (The Community Vitality Advisory Group and Research Team of the University of Guelph 2018).

In some cases, mobile workers may feel trapped by the high wages obtained through mobile work. This may particularly be the case when workers are forced to pursue mobile work opportunities due to economic downturns and closures in their home communities (Dorow & Jean 2022; Ryser et al. 2016; Wright 2022). They may also feel trapped due to the high wages that allow them to provide a better lifestyle for their family and meet financial commitments (Bloomfield 2017; Gilbert 2019). Some workers may feel pressure to acquire the financial resources needed to provide spousal and child support (Dorow & Mandizadza 2018). For women engaged in mobile work, they may feel trapped by pressures to earn enough to cover legal fees due to custody battles (Kelly et al. 2022).

3.2.3 Health impacts

Extended shift rotations can impact the health of mobile workers in many ways. Compounding fatigue and sleep deprivation is well documented (Asare et al. 2024; Northern Health 2012). While workers are encouraged to obtain at least eight hours of sleep between shifts, these pressures are complicated by travel; the duration of shift rotation schedules; the need to attend to family issues during off-hours; and limited rest at home as they attend to family duties, household maintenance, and repairs (Markey et al. 2015; Ryser et al. 2018). A daily commute generally adds at least 3 hours onto a 12-hour shift, resulting in fatigue management and safety concerns (Oil Sands Community Alliance 2018). The time to recuperate from fatigue and health issues is generally deemed to take longer as the mobile worker ages (Grzetic 2022). They may have limited time for physical activity, resulting in obesity, diabetes, heart disease, stroke, COPD, and other illnesses (Northern Health 2012). They may be prone to diarrhea, constipation, chest and back pain, poor digestion problems, and headaches (Asare et al. 2024). Unfortunately, workers may not express their health concerns due to fears it may diminish their value within the workplace, making it more likely that workers will continue to focus on production at the expense of their health or family relationships (Wright 2022).

Mobile work can be associated with higher rates of smoking, alcohol use, drug use, and sexually transmitted diseases (Brisbois et al. 2019; Morgan et al. 2021; Tordimah 2021). This reflects pressures around work-family tensions, long hours, high wages, and a drinking culture associated with FIFO work (Gilbert 2019). Research has well documented connections between the rapid rise in disposable income, social isolation, limited access to structured recreation, easy access to bars, and higher rates and drug and alcohol abuse (Carrington et al. 2011; Stienstra et al. 2019).

Giesbrecht and MacDonald (1982), for example, documented several contextual factors in small, rural, and remote communities across Canada that contribute to high rates of alcohol consumption amongst highly paid industry workers. For example, isolation or long distances to liquor stores may encourage workers to purchase alcohol in larger quantities. The type of

alcohol consumption is distinctive in booming resource-based economies as the proportion of spirits consumed is greater. In these settings, drinking is a common mechanism to socialize when other structured entertainment or recreational activities are limited. Even in remote, small tree planting camps, the consumption of alcohol and marijuana around the camp and work sites may not be discouraged; in fact, it is often used as a coping mechanism for this physically and mentally demanding work (Sweeney 2005). Shift rotations associated with mobile work also result in long periods of time off that provide more opportunities for extended drinking. The development of large-scale industrial projects will also be accompanied by improved transportation infrastructure that will also make it easier to ship liquor to smaller, remote areas. At the same time, bars and restaurants may welcome the influx of money. In addition to licensed alcohol establishments in large wet camps, there may be 24-hour licensed liquor establishments in nearby towns (Carrington et al. 2010). In some cases, research has warned about the danger that 12-hour block shift rotations may pose as they transfer the risk of drug and alcohol abuse from work or camp sites to nearby communities when shuttles transport mobile workers to nearby bars and restaurants after their shift in a routine that exacerbates drug and alcohol abuse through routine consumption (Carrington et al. 2011). In British Columbia and Alberta, substance abuse issues amongst workers in resource-based sectors have also fuelled concerns about a shadow economy driven by increased organized crime and gang activity with detrimental impacts and pressures for the health care and criminal justice system (EHN Canada 2019; The Canadian Press 2024).

In this context, industry and municipal policies have an important role to play in guiding liquor sales and consumption in camps and nearby resource-based towns (Giesbrecht & McKenzie 2009). It is important to note, however, that when commodity prices decline, resource-based companies often renegotiate their agreements with camps to cancel camp bars and shuttle services into nearby towns (Dorow & Jean 2022). Even as resource-based industries move towards designated dry camps, there are particular concerns that heavy consumption of alcohol and narcotics around industrial camps can fuel violent behaviours, racism, sexual abuse, and other forms of gender-based violence (Mayer & Hazboun 2019; Northern Health 2012; The Indigenous Caucus of the Indigenous Advisory and Monitoring Committee 2022; Tordimah 2021). Unfortunately, local governments may have few controls on heavy drinking or the services in place to address these addictions (Giesbrecht & MacDonald 1982). There may be a need to consider referendums or bylaws that restrict the opening or closure of liquor stores or licensed establishments. There may be a need to assess the number of liquor outlets per capita compared to other communities of similar size, as well as the hours of operation in which people may access alcohol.

3.2.4 Social impacts

With extended time away from their home communities, mobile workers may become more distant and isolated from extended family, friend, and community networks (Langdon et al. 2016; Markey et al. 2015; Mayes 2020; Ryser et al. 2018; Hughes & Silver 2020). They may have less time to engage in organized sports, recreation, and community activities in their home communities (Kinnear et al. 2013; Torkington et al. 2011). Connections within community,

however, provide vital linkages between health, identity, and attachment to place and shape the networks of support to help people cope with mobile work (Newhook 2011). Some mobile workers, however, may find it difficult to form and maintain new relationships (Bloomfield 2017). This was particularly the case where camps offered few recreational or social amenities, resulting in further isolation and boredom (House of Representatives 2013).

3.2.5 Relationship and family impacts

Long hours associated with shift rotations and long-distance commuting can have negative effects on family relationships (Sibbel 2010). Mobile workers may struggle with parenting (Cooke et al. 2019). Pablo and Davison (2021, 2817), for example, found that "fathers who experience either or both economic-related mental health problems and marital conflict may exhibit poorer parenting since they tend to be more hostile, less nurturant, and even abusive with their children". Fathers may also be concerned about their ability to parent during the developmental stage of their child due to more limited accessibility and engagement with their children (Bloomfield 2017; Greer 2011). These fears tend to ease as children become older. On the other hand, mothers engaged in mobile work can face social stigma that can undermine their relationship with their child (Kelly et al. 2022).

Mobile workers may be more likely to be concerned about their partners' and children's well-being (Dittman et al. 2016). This may stem from a sense of helplessness by being absent to assist with daily family needs, household maintenance and repairs, emergencies, or crises (Dorow & Jean 2022; Gardner et al. 2018). These pressures can be exacerbated by significant natural disasters, such as wildfire or flooding events that prompt the evacuation of families while mobile workers are in camp (Ryser et al. 2018). Work-family stresses may also spill over due to a more limited ability to provide social and care support for aging parents (Newhook 2011).

Over time, mobile workers can feel disconnected from their children and partners (Gardner et al. 2018; Scott 2023). They may feel their partners and family members underappreciate their sacrifices through extended shift rotations (Gardner et al. 2018; Wright 2022). Family stresses were most notable for mobile workers engaged with mobile work for less than five years, resulting in higher separation rates (Sandow 2014). However, mobile workers who developed problem-solving skills through mobile work were less likely to experience work-family conflict (Wright 2022). Furthermore, research suggests that female mobile workers may experience improvements in their relationships as they gain greater independence through the income provided by mobile work. This allows women to have more even power within their family relationships (Newhook et al. 2011).

3.2.6 Coping strategies used by mobile workers

Mobile workers found it difficult to cope with the stress of being away from their families for extended periods of time. Many allocated time within tight schedules across different time

zones to connect with family (Dorow & Jean 2022). They obtained advice from their co-workers through work-based buddy systems and mental health first aid programs (Northern Health 2012; Storey, et al. 1989). In some cases, mobile workers requested a leave of absence from work to spend time with family during difficult periods of stress (Mills & St-Amand 2016).

However, some workers did not seek support. As concerns grew about the erosion of personal relationships, they kept busy with work to reduce the time spent thinking about being away from family and friends (Dorow & Jean 2022; Wright 2022). Some may avoid connecting with family as routine interaction may increase loneliness and heartache (Ryser et al. 2018). Without constructive support (Parker et al. 2018), mobile workers may turn to negative behaviours, such as violence and consuming alcohol, to mediate family and workplace related stress (Wright 2022).

Mobile workers also developed coping strategies to adjust to the stress of commuting to work and engaging in long roster rotations. They relied on the support of their spouses / partners, extended family members, friends, and co-workers to commute to staging areas and maintain their mental well-being (Cooke et al. 2019; McTernan et al. 2016; Ryser et al. 2018). They also maintained their physical and mental health by taking regular breaks, focusing on healthy exercise and nutrition habits, engaging in healthy wind down activities for the day, and managing fatigue and rest (Parker et al. 2018).

Furthermore, strategies may be used to help mobile workers recover from cumulative fatigue when they return home. Mobile workers may prefer to pay private contractors to address home maintenance issues so that they may recover from fatigue and prioritize spending time with family (Gilbert 2019). Others may form reciprocal networks of support by providing assistance with maintenance and home repairs to each other's families when mobile workers are out-of-town (Dorow & Mandizadza 2018).

3.3 Stress of camp work on partners or spouses

Spouses or partners of mobile workers experience several sources of stress due to long roster schedules of mobile workers. In this section, we explore the pressures faced by these spouses or partners due to changes in household responsibilities, stress with parenting, social impacts, emotional stress, reproductive stress, and health impacts.

3.3.1 Household responsibilities

Spouses assumed a greater role for household responsibilities, such as banking, paying bills, cooking, cleaning, and caring for children and aging parents (Cooke et al. 2019; Dorow & Mandizadza 2018; Gardner et al. 2018; Grzetic 2022; Massie & Jackson 2020; Peetz et al. 2012; Storey et al. 1989; Torkington et al. 2011). These responsibilities may be extended even after the mobile worker returns home in order to allow them to catch up on sleep and reintegrate into family routines slowly in order to avoid conflict (Dorow & Mandizadza 2018; Mayes 2020;

Pini & Mayes 2012). This can result in fatigue that is compounded for spouses who maintain work outside of the home (Massie & Jackson 2020).

3.3.2 Impacts on parenting

Spouses may endure stress from additional caregiving duties in the absence of a mobile worker (Asare et al. 2024; Cooke et al. 2019; Power 2022). As some found it difficult to find employment with flexible hours (Meredith et al. 2014), they reduced their work hours or quit their careers to assume full-time care-giving responsibilities for their family (Neil 2019). This can lead to uneven employment opportunities for spouses (Stienstra et al. 2017). As the sole-care giver for children during extended shift rotations, spouses who remain in the home community become functional lone-parent households (House of Representatives 2013). They may struggle to manage children's anxieties during departures, problematic behaviours with children during extended rotations, or cope with extra parenting responsibilities during an illness (Fresle 2010; Sibbel 2001; Storey et al. 1989). Some spouses use more strict disciplinary approaches compared to other community households (Dittman et al. 2016). Parenting pressures may be more profound for teenage mothers immersed in a 'work and party' culture associated with FIFO work (Hoath & Haslam McKenzie 2013). However, spouses who had children less than one year old were less likely to experience stress compared to partners who had no children (Asare et al. 2024; Voysey 2012). This was attributed to children playing an important role to keep spouses occupied and to overcome feelings of loneliness.

3.3.3 Reproductive stress

Spouses or partners of mobile workers are also more likely to shoulder the burden of reproductive stress. As Hoath & Haslam McKenzie (2013) argue, mobile work aggravated reproductive issues, such as achieving conception and participating in in-vitro fertilization (IVF) programs, all while having limited support from their mobile partner during antenatal care, birth, and post-natal care. The absence of the mobile worker, regardless of whether they were in senior management, trades, or labour, was found to result in additional risks to the well-being of pregnant spouses (Cooke et al. 2019).

3.3.4 Social impacts

The literature portrays two diverging perspectives about the social impacts endured by partners of mobile workers. On the one hand, spouses or partners socialized less as they focused more on household responsibilities (Storey et al. 1989). This social isolation impeded the development of reciprocal social networks of support that are especially critical for pregnant spouses (Cooke et al. 2019). These impacts are particularly stressful for spouses who have no family supports nearby or have a greater dependency on the mobile worker's networks for social interaction (Sibbel 2010; Storey et al. 1989). This created resentment when mobile workers were perceived to enjoy social engagements (Fresle 2010). As spouses aged, they lost important sources of social support through the out-migration of their adult children (Newhook

2011). They also had less time to engage in voluntary activities (Markey et al. 2015). However, other research describes the increasing role of women to address broader social, care, and recreational needs in their communities in the absence of the mobile worker (Grzetic 2022).

3.3.5 Emotional stress

Some research suggests that mobile work can provide partners with the opportunity to be more confident and independent by developing coping skills and personal capacity (Taylor & Simmonds 2009). Extended shift rosters, however, create lengthy periods of time when the partner or spouse remains alone in their home community. This can result in loneliness, uncertainty, anxiety, depression, and stress as they strive to adapt to these new routines without the support and companionship of their partner (Dittman et al. 2016; Fresle 2010). These stressors may be compounded by fears of infidelity (Pini & Mayes 2012). Emotional stress may also result from continuous adjustments to the absence and return of mobile workers and the related impacts on the changing roles and routines for the household (Asare et al. 2024). Some research suggests that partners of mobile workers may experience less stress as they are less exposed to the mobile worker's work-related anger after each shift (Cooke et al. 2019). In other circumstances, however, the reluctance of mobile workers to seek professional support to cope with work-related pressures, gambling, or drug and alcohol addictions became a source of stress for their partners (Cooke et al. 2019; Snow & Fong 2022). Unfortunately, anger and other emotional stressors experienced by husbands may be more linked to violent tendencies than underlying stressors related to loneliness, abandonment, powerlessness, or loss (Saposnek & Rose 2024).

3.3.6 Health impacts

Finally, in terms of health implications, spouses generally experienced a lack of sleep while mobile workers were away for extended periods (Asare et al. 2024). Some research suggests that spouse's health was shaped by the consumption of high levels of alcohol while mobile workers were away (Asare et al. 2024). Spouses of FIFO workers may also have higher rates of sexually transmitted diseases and domestic abuse compared to other community households (Morgan et al. 2021). Poor health conditions were less likely to be observed amongst spouses whose partners were engaged in mobile work for three or more years compared to households that are new to the FIFO lifestyle (Asare et al. 2024).

3.3.7 Coping strategies used by spouses

Spouses relied heavily on informal networks of support provided by grandparents, other family members, and friends to care for their children, assist with household duties, and provide emotional support (Gardner et al. 2018). In particular, spouses may form reciprocal networks of support to swap child care (Fresle 2010). Community programs provided venues for new residents to meet other spouses and broaden those informal support networks (Bloomfield 2017). They may join cultural and recreational groups or participate in weekend activities to

address isolation and loneliness (Fresle 2010). Formal supports were also pursued through pregnancy outreach programs, daycare, live-in caregiving, community playgroups, and parenting education programs (Dorow & Mandizadza 2018; Markey et al. 2015).

Spouses, however, often bare a greater responsibility to cope for the household overall. They may assume the responsibility to plan and prepare the transition periods for the mobile worker's return home in order to ensure the worker obtains the necessary rest (Dittman & Rathbone 2023). This may include rescheduling appointments, activities, or various commitments with family and friends. These actions required effective time management as spouses continued to assume the bulk of household responsibilities as a coping mechanism to reduce stress, conflict, and violence when the mobile worker is at home (Bloomfield 2017). Spouses may also pursue part-time employment that is flexible to the mobile worker's shift rotation (Ryser et al. 2018).

If spouses struggle to cope with the mounting stress associated with these arrangements, they may adopt negative behaviours, such as smoking (Asare et al. 2024). However, women felt that limiting their alcohol consumption helped to improve their well-being and ability to manage stress (Pini & Mayes 2012). Others who may not have coping mechanisms may remind themselves of the benefits associated with mobile work for their families (Sibbel 2010). Where conflict with the mobile worker persists, spouses may resort to resistance by refusing to do tasks, ignoring negative behaviours, disengaging from their partners, engaging in verbal conflict, or developing safety plans to eventually leave the relationship (Chung et al. 2015; Parker et al. 2018).

3.4 Stress of camp work on children and youth

There is an emerging, yet at times, conflicting body of research that has explored the impact of mobile work on children (House of Representatives 2013; Ryser et al. 2018). Studies suggest that most children generally adjust well to mobile work arrangements, with no significant behavioural issues compared to other families in their community (Dittman et al. 2016; Kaczmarek & Sibbel 2008). However, studies also highlight many issues associated with mobile work that impact children and adolescents.

3.4.1 Transition periods

Children may find it difficult to adjust to the transition periods as mobile workers return home and as mobile workers continuously prepare to leave for extended rotations (Newhook 2011). At the same time, children may have limited communication with the mobile worker during their rotation (House of Representatives 2013). When the mobile worker returns home, they may be met with an initial period of excitement by their children, tensions as mobile workers reintegrate into household rhythms and routines, and anxieties as mobile workers depart (Greer 2011). They may not cope well with interruptions to family norms as it pertains to more

restricted access to transportation or extra-curricular activities (Markey et al. 2015). Children may become upset when their parents seek time alone (Greer 2011).

3.4.2 The impacts of family conflict

Brain science has drawn important connections between parental conflict and the neuro and cognitive development of children. These connections may be exhibited through abuse, neglect, and dysfunctional family dynamics (Jerke 2023). In FIFO family home environments, children's well-being can be impacted by witnessing family conflicts, depression by a parent, substance abuse, and domestic violence. They may be sensitive to observing the emotional and physical pressures that mobile work arrangements can pose for their parents, particularly for mothers who remain at home (Greer 2011). Studies also suggest that parent separation can impact the child's relationship with the mobile worker, often with children becoming more disconnected and disinterested in this relationship (Dittman & Rathbone 2023).

3.4.3 Stress with parent separation and divorce

Limited research has explored the challenges of co-parenting by separated parents who may also be impacted by extended roster rotations. In single-parent households, it can be difficult for young children to understand why they are left in the care of an extended family member in lieu of another parent during a custody battle as the parent leaves for extended shift rotations (Kelly et al. 2022). As children age into their teenage years, they may be left home alone when a single-parent is away for extended periods of time (Hoath & Haslam McKenzie 2013).

3.4.4 Health impacts

In response to witnessing or experiencing family conflict, children may struggle to cope with constantly changing family dynamics, leading to serious health concerns (Dittman & Rathbone 2023). They may be prone to riskier health behaviours such as sexual promiscuity, aggressive or violent behaviours, and drug and alcohol consumption (Lester et al. 2015; Parkins & Angell 2011). As Stienstra et al. (2019, 227) argue, a "lack of close parental supervision due to employment in resource industries has increased rates of alcohol and drug use among youth in many Northern communities". They may experience deteriorating health through chronic conditions such as heart disease or diabetes, as well as depression that can lead to suicide attempts (Jerke 2023). Children and youth from mobile work households may also be more likely to express concerns about their body image (Meredith et al. 2014).

3.4.5 Impacts on education and learning

Schools are also observing behavioural and academic changes in students impacted by mobile work arrangements (Ryser et al. 2018). The prolonged absence of a parent can impact the preparedness and performance of children in school (Markey et al. 2015; Newhook 2011). As parents prepare to leave for their next rotation, teachers observe greater levels of stress and

anxiety amongst children from these homes (Ryser et al. 2018). Children from FIFO or DIDO families may also be more likely to experience online and onsite bullying at school (Meredith et al. 2014). These children may have irregular school attendance as they spend more time with the mobile worker when they return home and as the family departs during early hours of the day to drive the mobile workers to and from the staging point (Hoath & Haslam McKenzie 2013). One government inquiry suggests that children from FIFO families may miss between six and eight weeks of school (House of Representatives 2013). Irregular school attendance may also be due to poor discipline while the mobile worker is away (Hoath & Haslam McKenzie 2013).

3.4.6 Emotional impacts

Research examining in the impacts of FIFO practices generally found higher levels of anxiety amongst school-aged children from these households compared to conventional non-FIFO families (Dittman & Rathbone 2023; Sibbel 2001). In addition to missing the absent parent, they may upset when the mobile worker misses special events or worry about the parent's safety at remote job sites (Greer 2011). Children may demonstrate these anxieties through loneliness, irritability, anger, tantrums, crying, clinginess, and sleep problems (Dittman & Rathbone 2023). Younger children may exhibit a lapse in toileting or changes in eating habits (Scott 2023). These emotional and behavioural changes are more likely to be exhibited amongst children whose parent is away from home for more than 4 weeks (Meredith et al. 2014). Despite these observations, research suggests that younger children who are born into these arrangements cope better compared to children who are introduced to mobile work at a later age (Sibbel 2001).

By comparison, adolescents found benefits associated with mobile work arrangements as family roles and routines became more relaxed compared to the round-the-clock presence and involvement of the mobile worker at home (Greer 2011). These adolescents may also ask for more money, clothes, and technology that is often provided in the absence of more structured time with their parents (Parkins & Angell 2011). However, adolescents of mobile work families were also found to have greater depression and behavioural problems due to inconsistent parenting, less time with their parents, and dysfunctional family environments (Lester et al. 2015). This may be linked to their greater awareness of the departures and prolonged absences of mobile workers (Dittman et al. 2016). In Australia, research suggests that one-third of teens and two-thirds and young adults between 20-24 years of age will experience physical or alcohol related abuse (Carrington et al. 2010). While adolescents may have a closer relationship with their mothers at home, adolescents from mobile work families are more likely to experience conflict and strict disciplinary actions by these spouses, such as shouting and slapping, compared to conventional families (Dittman et al. 2016). Unfortunately, these strict disciplinary practices have been strongly linked to the development of aggressive behaviour, low self-esteem, and mental health conditions for these children (Dittman et al. 2016). As children age into their teenage years, however, research suggests that adolescents build an awareness and acceptance of the mobile worker's schedule and absence (Dittman & Rathbone 2023).

When research examined the impacts of mobile work on the gender of children, male children were generally found to be more impacted by the absence of their father and male role model that was accompanied by fewer opportunities to play sports or enjoy outdoor activities (Bloomfield 2017). Boys were also found to be more impacted by conflict between their parents and exhibit greater levels and anxiety and aggression as a response (Newhook 2011). When mobile workers retained their disciplinary role, boys also generally exhibited more fear with the delayed punishment and developed a strained relationship with that parent. Some research, however, suggests that adolescent girls are more likely to have conflict with their fathers (Greer 2011).

3.4.7 Coping strategies for children and youth

Parents adopted several strategies to help children cope with the challenges of mobile work. They may provide their children with an orientation to what mobile work means for the family, including discussions about the location of the camp, tracking the roster's schedule on the calendar, and the benefits for the family (Bloomfield 2017; Scott 2023). Routines are also put in place to help prepare children for the transition periods when a mobile worker leaves and when they return (Dittman & Rathbone 2023). This includes the use of consistent rules and expectations that provide children with clear boundaries. A communication plan may be put in place to allow children to regularly stay connected with the mobile worker while they are away (Bloomfield 2017). These stronger connections support stronger mental well-being for children and adolescents and can mitigate antisocial behaviours (Lester et al. 2016). In situations when communication may not be possible, audio and video recordings will be shared between mobile workers and their children (Scott 2023).

When mobile workers were away, parents stressed the importance of providing routine structure and consistency through planned social and recreational activities to help children cope (Lester et al., 2016; Scott 2023). FIFO spouses may encourage routine contact with family and friends through social gatherings in their home by providing a space for children to enjoy activities, watch movies together, or enjoy sleepovers (Lester et al. 2016; Snow & Fong 2022). Parents may also reach out to school teachers to inform them about the mobile work arrangement to seek additional support for their children (Scott 2023). This has prompted some schools to ensure male role models are in place for after school programs (Ryser et al. 2018). If children and adolescents are struggling with the absence of a mobile worker, parents may hold family meetings upon their return to work through difficult emotions and changes that may be needed to help them cope (Watts 2004).

3.5 Impacts of camp work on grandparents

Grandparents provide an important source of social and care support for families engaged in mobile work (Bloomfield 2017). They do so by supporting domestic tasks, preparing dinner, visiting, driving their grandchildren to extracurricular or after-school activities or assisting with bedtime needs (Murray et al. 2022; Purcal et al. 2014; Royal 2022). In some cases, grandparents

may step in to provide care to avoid the placement of grandchildren in the provincial foster care system as both parents engage in mobile work (Murray et al. 2022). Grandparents have played an increasing role for care in Indigenous communities through the stability of housing, the absence of drinking or conflict, and the provision of clothing and food (Davison 2007). Indigenous Elders may also able to teach their traditional language to grandchildren to improve the resiliency of their culture and Indigenous communities (Stienstra et al. 2017). Collectively, these types of grandparent supports have been instrumental to enable spouses to pursue more full-time employment or engage in mobile work opportunities themselves (Grzetic 2022). These care responsibilities have also allowed grandparents to develop closer relationships with their grandchildren (Murray et al. 2022).

3.5.1 The role of maternal vs. paternal grandparents

However, limited attention has been paid to the impacts of mobile work arrangements on grandparents (Butters et al. 2019). In particular, maternal grandmothers tend to be more engaged in the care of grandchildren compared to paternal grandparents (Daly & Perry 2017). This may be shaped by genetic factors. Maternal grandmothers, for example, may feel a strong connection and commitment to their daughters and her children (Daly & Perry 2021). Grandmothers may also feel obligated to support the care of their grandchildren and reduce the workload of spouses while mobile workers are away (Murray et al. 2022). Paternal grandparents, however, may feel that the daughter-in-law is replaceable (Daly & Perry 2021). Relationships for grandchildren placed within paternal grandparent care were more likely to break down (Daly & Perry 2017). The exception stems from paternal grandparent support for grandchildren in agricultural communities.

3.5.2 Pressures at different stages of retirement

Purcal et al. (2014) distinguish the pressures endured by grandparents caring for grandchildren at different stages of their retirement years (i.e. under 55 years, 55-64 years, and 65 years and older). For example, younger grandmothers may still be engaged in the labour force. As a result, they are also balancing work and family care that may limit their availability for a number of care tasks (Goodfellow & Laverty 2003). Some may choose to reduce their work hours or retire in order to care for their grandchildren (Goodfellow & Laverty 2003). Younger grandparents may also have higher housing costs due to ongoing mortgage costs (Purcal et al. 2014).

3.5.3 The impact of grandparent care on family conflict

Overtime, grandparents may endure considerable stress and fatigue as these families become increasingly dependent upon them for support. Some resented unplanned requests or expectations that they would automatically take up babysitting roles for their grandchildren, leaving them to feel taken for granted by their adult children (Goodfellow & Laverty 2003). This also created tension with their own family members as they were able to spend less time with other grandchildren (Murray et al. 2022).

3.5.4 Impact on retirement plans and experiences

Care responsibilities may alter retirement plans and experiences. Mobile work, for example, can make it difficult for grandparents to enjoy their retirement as they miss opportunities to spend time with friends, attend community events, pursue extracurricular activities, or take trips on their own (Ryser et al. 2018). Retirement savings may deteriorate as grandparents use these resources to support the care of their grandchildren (Avery & Novoa 2022; Purcal et al. 2014). They may need to leave seniors' housing to seek housing for themselves and their grandchildren (Avery & Novoa 2022). They may also need to use limited fiscal resources to furnish or renovate space for caring for the grandchildren (Purcal et al. 2014).

3.5.5 Health impacts

Grandparents may experience deteriorating health due to raising their grandchildren. These pressures were exacerbated by existing chronic illnesses such as back problems, arthritis, diabetes, heart disease, etc. (Purcal et al. 2014). As they respond to the care demand for families engaged in mobile work, they may structure their own medical appointments to address these illnesses around the needs of FIFO family households (Murray et al. 2022).

3.5.6 Emotional impacts

However, grandparents may not be emotionally prepared for unexpected or sudden caregiving roles (Baker & Mutchler 2010) or the complex legal issues or intrafamily conflict that may unfold (Avery & Novoa 2022; Dare et al. 2020; Lee & Blitz 2014). Grandparents who assume care for their grandchildren will need to be aware of how their removal from their biological parents can increase their risk for physical, social, and developmental issues after being exposed to adversity in their family environments (Dare et al. 2020). Grandparents raising grandchildren in smaller, more isolated communities may struggle to manage conflict as kids struggle to remain engaged and occupied (Avery & Novoa 2022). They may also find it difficult to raise teenagers (Grzetic 2022). Most notably, generational gaps can make it difficult for grandparents and grandchildren to communicate and to relate to issues of contemporary Indigenous and non-Indigenous youth (Davison 2007; Davison & Hawe 2012). Grandparents may also struggle to manage mental health and drug addictions endured by their grandchildren who may return from resource-based regions where such negative behaviours were more common (Avery & Novoa 2022; Neil & Neis 2020). With limited fixed income resources, they may struggle to manage behavioural and emotional problems that stem from the grandchildren's past experience with conflict and family dysfunction (Baker & Mutchler 2010). As a result, grandparents may experience an increase in depression due to the demands of their caregiving (Lee & Blitz 2014). They may worry about what will happen to their grandchildren if they suddenly pass or are unable to care for them (Lee & Blitz 2014). If grandparents are suddenly unable to provide care for their grandchildren, there are fears they will be removed from child protection services (Avery & Novoa 2022).

3.5.7 Limited access to supports

Overtime, grandparents may become increasingly socially isolated given their limited access to respite supports and limited use of support from family and friends (Dare et al. 2020; Lee & Blitz 2014). There tends to be a lack of pooling of resources and support between grandparents (Baker & Mutchler 2010). Grandparents may be reluctant to access respite and other community supports due to fears it may be perceived that they cannot cope, due to fears about the well-being of their grandchildren in respite, or due to concerns about grandchildren feeling abandoned due to past trauma (Dare et al. 2020). They may also feel shame about potential mental health and drug addictions of their adult children that may have led to their need to care for these grandchildren (Avery & Novoa 2022).

Unfortunately, grandparents face many challenges to access supports while providing temporary care or while raising grandchildren. For example, while parents have access to free legal advice and services, this is not available to grandparents (Avery & Novoa 2022). Legal fees from custody battles may force retired grandparents back into the workforce (Lee & Blitz 2014). There is also a need to strengthen the capacity of service agencies, schools, health care workers, and childcare centres to recognize and be responsive to the unique role and needs of grandparents raising grandchildren (Avery & Novoa 2022). Grandparents may feel unfamiliar with new innovative practices and technologies used in the school system (Lee & Blitz 2014). And while grandparents may have more limited physical or mental capacity to be actively engaged in volunteering at schools or parent advisory committees, schools will need to recognize that grandparents may participate differently (Lee & Blitz 2014). School groups may be facilitated to provide grandparents with access to administrators and learn more about how the school functions (Lee & Blitz 2014). However, some grandparents may have had difficult experiences from residential schools and thus limited experience with the current formal education system (Davison 2007; Davison & Hawe 2012). Their capacity to communicate with the school or provide support for homework may be limited (Davison 2007; Davison & Hawe 2012). Some have recommended structured programs for grandchildren to provide assistance with homework, emotional and social support, and positive academic activities (Lee & Blitz 2014). For Indigenous families and communities, access to a school representative who is fluent in the traditional Indigenous language can be helpful to communicate with Indigenous grandparents (Davison 2007).

3.5.8 Coping strategies for grandparents

Several strategies have been adopted to help grandparents cope with the pressures of providing temporary care for families engaged in mobile work or for providing more full-time care duties for grandchildren that have been impacted by mobile work and family conflict. In Prince Edward Island, one grandparent established the Central East Grandparents Initiative and the Building GRAND-Families Inc. to address the pressures and family disruptions managed by grandparents providing care support for grandchildren when their parents are engaged in mobile work (Avery

& Novoa 2022). Childcare can provide grandparents with more time to look after themselves (Lee & Blitz 2014).

In Australia, leadership and respite camps have been organized for grandchildren raised by grandparents to allow these children to share their experiences, to deal with traumatic memories, and develop resilience and self-esteem (Dare et al. 2020). These camps are equipped with counsellors and personnel to help grandchildren develop life skills, conflict resolution, and anger management skills (Dare et al. 2020). Grandparents generally observed emotional and developmental breakthroughs for their grandchildren engaged in these camps that allowed families to evolve in these difficult circumstances (Dare et al. 2020).

3.6 Impacts of camp work on immigrants

Immigrants have become an important source of skilled labour to address critical shortages in resource development projects. For example, the Alberta Oil Sands have experienced an influx of immigrants from countries that have strong or troubled oil and gas sectors such as Australia, Saudi Arabia, Nigeria and Venezuela (Dorow & O'Shaughnessy 2013; Major & Winters 2013). There has also been a strong influx of immigrant workers from the Philippines and China (Dorow & O'Shaughnessy 2013). For the MIHRC (2024, 5), newcomers are defined as "recent immigrants, including temporary foreign workers, who have been in Canada for less than 5 years". Immigration, Refugees, and Citizenship Canada provides several programs to attract skilled immigrants, including the Federal Skilled Trades Program, the Rural and Northern Immigration Pilot Program, and the Federal Skilled Worker Program, with express entries provided for those in STEM occupations, trades, and transportation (MIHRC 2024). The Provincial Nominee Program also facilitates the recruitment of skilled international workers to address labour needs (MIHRC 2024).

3.6.1 Initial separation from family

The dynamics of immigrant families and mobile work can be very unique. Immigrant workers and their families are often used to long shift rotations in unfamiliar geographic and social environments (Foster & Taylor 2013). In some cases, immigrants may work in rural resource-based regions for years before their families join them (Marriott 2023). However, there are also circumstances where immigrants may initially come to Canada as single-detached individuals. Immigrant workers may then travel back to their source country to marry someone selected by their family (McKernan 2013). In these cases, the relationship develops after the immigrant mobile worker has already made the decision alone to engage in this lifestyle.

3.6.2 Roles within immigrant families

Immigrant families are traditionally structured around the patriarch with clearly delineated domestic roles for women and decision-making roles for men. However, these traditional decision-making roles become altered when men are engaged in mobile work, transferring

those responsibilities to their spouse (McKernan 2013). However, immigrant women may no longer have family members nearby to help take care of children once they come to Canada, prompting some to become stay-at-home mothers (Marriott 2023). Furthermore, research suggests that some cultural protocols may inhibit matrilineal family supports as marriage customs emphasize the women's new commitment to the locality of her husband (Daly & Perry 2017). There may be limited interventions from the matrilineal family on the women's behalf after marriage.

3.6.3 Precariousness of employment for immigrant mobile workers

For immigrant families, men are generally expected take up mobile work in the resource sector while women pursue work in health care and other community services (Marriott 2023). Both mobile workers and their spouses, however, face precarious employment conditions in rural, resource-based regions. Precarious work for immigrants can be exacerbated by fluctuating prices for resource commodities that can put projects on hold (Major & Winters 2013). Immigrant and temporary foreign workers can also be subject to what Preston (2017) describes as racial extractivism as these workers are used as cheap or disposable labour to address labour needs to sustain resource-based economies. They are easy to layoff, deport, or perform undesirable, lower paid tasks. Furthermore, in the case of temporary foreign workers, despite their precarious employment in rural regions, they often retain the goal to obtain permanent residency and have their family join them in Canada (Foster & Taylor 2013). However, the need to leave families in distant sources communities around the world can intensify conflict, especially as uncertainties around potential permanent residency persist (Foster & Taylor 2013).

3.6.4 Precariousness of spousal employment

Spouses of immigrant workers experience difficulty to access local labour markets (Marriott 2023), particularly when their skills do not meet or have not been assessed for their suitability with local labour market needs in education, health care, and other sectors (Major & Winters 2013). The vulnerability of immigrants is exacerbated by their lower levels of participation in post-secondary education in Canada (Fahy & Steel 2008). In response, some programs, such as Women Building Futures, have been strategically designed to help immigrant women build networks and seek greater opportunities (Marriott 2023).

3.6.5 Challenges with integration

Immigrants engaged in mobile work often have limited opportunities to interact and integrate with their new communities (Foster & Taylor 2013). In part, this may be due to the immigrants' precarious and varied levels of support, depending on their position and level of skills (Dorow & O'Shaughnessy 2013). High skilled immigrant professionals (i.e. engineers) often have supports provided by the company to settle families, become integrated with schools and community services, and address social reproduction in their families (Major & Winters 2013). However, they may encounter challenges to connect with other immigrant families in schools to

strengthen networks of support. In a study examining the inclusion of immigrants in the energy transition dialogue in Alberta, immigrant Filipino parents talked about their struggles to place their children in schools where there was a larger Filipino population due to school board restrictions (Marriott 2023). Immigrant workers with young families may also have limited access to childcare and are more likely to rely on public transit (Neis et al. 2022). As a result, some immigrants do not choose to settle their families in remote resource-based communities; instead, choosing to settle their families in larger urban centres that are equipped with more amenities, employment opportunities, immigrant networks and supports, and lower costs of living (Foster & Taylor 2013). By comparison, unskilled immigrant or temporary foreign workers engaged in camp work as housekeepers and kitchen staff or low-skilled tradespeople working for contract firms have limited security and access to supports (Cassiano et al. 2022; Dorow & O'Shaughnessy 2013). Major & Winters (2013), for example, document stories of Somali immigrants staying at homeless shelters in Fort McMurray before finding housing with other Somali immigrants in the community.

3.6.6 Community and cultural conflict

As more immigrants and their families seek to establish themselves in resource-based regions in Canada, they may experience conflict between the evolving urban, multi-cultural landscape and the regionalism that has evolved from white colonialism (Thorne 2024). This can intensify household pressures associated with the choices to engage in mobile work. However, conflicts within immigrant families can also intensify if there are contradictory identities between the source countries and host communities in Canada (Foster & Taylor 2013). Immigrants in resource-based communities are left to constantly negotiate pressures to create a sense of belonging in host communities in Canada, while sending money to family in distant source communities around the world (Cohen & Hjalmarson 2020; Foster & Taylor 2013; Thorne 2024).

3.6.7 Generational impacts on family culture and conflict

Family conflict can also unfold from integrating old and new cultural traditions and social practices from source and host countries (McKernan 2013). These conflicts can shift as new generations seek greater independence and are influenced by different socio-cultural influences and stronger connections in Canada (Marriott 2023; McKernan 2013). Adolescents, in particular, can struggle to manage two sets of values that exist between cultural traditions and those they encounter in Canadian society (McKernan 2013).

3.6.8 Limited access to information about the impact on family lifestyles

Immigrant families may have limited information to inform decisions about engaging in mobile work in Canada. Even though MIHRC (n.d.) has pulled together a document for new immigrants engaged in the mining sector, only the most basic information about FIFO and camp lifestyles are provided. This information focuses on what to expect while living in camp and the benefits of camp work. However, in reflecting on some disadvantages of mobile work, the guide only

notes the potential to 'miss your family' without any discussion or referral to additional information about the impacts that mobile work will have on family needs. The guide instead focuses on the evaluation of immigrant skills and credentials, and obtaining certification to be ready to engage in the mining sector.

3.6.9 Coping strategies for immigrant families

Immigrant families have adopted several strategies to cope with the stresses associated with mobile work. For example, they may strengthen family networks, develop close ties with different cultural communities, or connect with people from their source country through social media platforms (Major & Winters 2013; Marriott 2023; McKernan 2013). They may also cope with the stresses of isolation and disconnectedness through preparing and sharing traditional food (Marriott 2023). In some cases, language classes were offered by schools or organizations in order to improve the capacity of immigrant workers and spouses to advocate for themselves (Marriott 2023).

Local governments and community organizations will also be instrumental to assist immigrant families to cope with mobile work and integrating into the community (Dorow & O'Shaughnessy 2013). Some communities are eligible for the Rural and Northern Immigration Pilot Program that was launched in 2022 to support the permanent residency of skilled foreign workers (Pikal 2024). Municipal governments may provide a toolkit to encourage inclusivity and the welcoming of immigrants into their community (MIHRC 2024). There are also Local Immigration Partnerships to strengthen the integration and provision of education, healthcare, employment, legal services, and other community services for new immigrants (MIHRC 2024).

3.7 The relationship between mobile work and domestic violence

Domestic violence can have many terms and meanings for communities, families, and policy-makers. Domestic violence refers to "acts of violence that occur between people who have, or have had, an intimate relationship. It includes physical and sexual assault, and other forms of domination such as psychological, social, and financial abuse. A central element is coercive control, which is an ongoing pattern of violent and threatening behaviours by one person aimed at controlling their partner through fear. In most cases, the violent behaviour is to exercise power and control over women and their children" (Chung et al. 2015, p.v).

Studies suggest that mundane and stressful conditions found in remote work and camp settings may nurture riskier behaviours of drug and alcohol abuse and impact family relationships leading to domestic violence (Carrington et al. 2010; Edwards 2019a, 2019b; Mayer & Hazboun 2019; Ryser et al. 2014; Wright 2022). In particular, men's consumption of cannabis was deemed to be a high-risk factor for physical abuse (Chung et al. 2015). Others, however, suggest that the relationship between remote resource-based work and camp sites with higher rates of domestic violence is independent of alcohol sales and establishments (Gilmore et al. 2016). Instead, research suggests that isolated mine and oil and gas settings can be sites of hyper masculine

culture as male workers focus on their power in relationships and convey their power and control through violence (Edwards 2019a; Gilmore et al. 2016; Wright 2022). Mobile work may exacerbate emotional or physical abuse that is already present in relationships (Government of Western Australia 2013).

3.7.1 Domestic violence in home communities

Women in remote communities endure more frequent and severe forms of domestic and family violence while struggling with more limited access to resources and supports (Chung et al. 2015). Some mobile workers may exert coercive control over their spouses or partners through financial dependency, control over transportation, and through communication by expecting their spouses to remain in the home in anticipation of their phone call (Storey et al. 1989). This makes it difficult for the spouse to access any forms of community support. Abusive partners may also relocate to more rural and remote areas in order to ensure their spouse remained secluded (Harris & Woodlock 2022). Children may be used as leverage in order to maintain control (Magnus & Donohue 2022). Spouses with disabilities are especially vulnerable to domestic violence due to their restricted mobility and financial dependency on the mobile worker that makes it difficult for them to leave these violent relationships (Tayton 2014). They may also be more susceptible to threats by their partner to withhold assistance or access to needed medicine or equipment (Chung et al. 2015). Pregnant spouses may also be vulnerable if they are financially dependent on their partner. Those who leave these precarious conditions with limited resources may be forced to sacrifice meals, leading to potential health issues for the pregnancy (Magnus & Donohue 2022).

However, police have observed changes in the types of domestic violence situations they are called to within communities that are impacted by mobile workforces. These cases are generally deemed to be more physical and aggressive (Archbold et al. 2014). There are also situations where domestic violence is occurring in households that are overcrowded with a mixture of people engaged in a drinking culture.

Domestic violence may not only exist between the two adult partners, but may also occur between older male adolescents who attempt to assume the dominant role of their fathers and mothers who remain at home (Government of Western Australia 2013). There are concerns that adolescents may adopt learned behaviours that may contribute to intergenerational forms of domestic violence, particularly in more rural and remote communities (Wrathall & Herron 2021).

3.7.2 Domestic violence in host communities

Research has also examined the relationship between an influx of mobile workers and domestic violence in host communities. Rates of gender-based violence are higher closer to mobile work camps (Morgan et al. 2021). The influx of transient mobile workers into a host community can socially disrupt a community through alcohol and substance use, aggressive masculine

behaviours, and physical and sexual violence (Edwards 2019b; Wright 2022). These social disruptions can be more profound during the early stages of an industrial project when work camps are not in place, prompting overcrowded housing conditions and negative behaviours in the host community (Tayton 2014). These communities may also experience increased rates of crime, prostitution, and the spread of sexually transmitted diseases (FNHA and Northern Health 2015; Mayer & Hazboun 2019; Stienstra et al. 2017).

3.7.3 Domestic violence in Indigenous communities

The 2019 National Inquiry into Murdered and Missing Indigenous Women and Girls (MMIWG) determined there were connections between work camps and violence against Indigenous women, girls, and 2SLGBTQQIA+ people (Garofalo 2022). Mobile camps can be sites that exploit Indigenous women through trafficking and sex work (Morgan et al. 2021). Mobile workers may use their personal vehicles to travel to nearby Indigenous communities to seek sex (The Firelight Group with Lake Babine Nation and Nak'azdli Whut'en 2017). The close proximity of mobile work camps to Indigenous communities may serve to perpetuate domestic violence against women due to more convenient access to drugs and alcohol. However, violence in Indigenous communities is extremely complex as Indigenous leaders and organizations place a greater emphasis on the term 'family violence', as opposed to domestic violence, to reflect a wider range of relationships that may exhibit abuse and impact the entire family (Government of Western Australia 2013). It also reflects the ongoing impacts of colonization and cultural fragmentation that has produced poverty, oppression, marginalized communities, and a breakdown of intergenerational kinship networks (The Firelight Group with Lake Babine Nation and Nak'azdli Whut'en 2017). This has left researchers to argue that the impacts of colonization continue to reverberate through 'colonial capital accumulation' of Indigenous traditional territory and 'corporate colonial violence' as industries have not responded to Indigenous leadership requests to close map camps near Indigenous communities (Morgan et al. 2021).

3.7.4 Impacts of technology on domestic violence

An emerging issue in the field of domestic violence is the use of technology to enact 'digital coercion' on spouses. 'Digital coercion' refers to "the use of technology to enact other forms of harm (like sexual abuse, psychological abuse, financial abuse or in-person stalking)" (Harris & Woodlock 2022, p. 137). These forms of digital abuse are more likely to be used against women (Williams et al. 2023). Mobile workers may emphasize their ability to use a wide range of technologies to constantly surveil their spouse in order to demonstrate their reach and control (Harris & Woodlock 2022; Williams et al. 2023). Others, however, may monitor their spouse undetected (Harris & Woodlock 2022). Mobile workers may use GPS to track spouses more easily through their smart phones in both urban and more remote areas (Williams et al. 2023). Following a separation or divorce, children may also be asked to use their own communication technology to send audiovisual details about the spouse's home and life (Harris & Woodlock 2022).

Social media may be used to track, defame or harass a spouse, or commit technology-based abuse by spreading sexual images without consent (Harris & Woodlock 2022). In fact, one report suggested that more than half of the domestic violence cases were preceded by the use of technology to stalk and harass the victim (Williams et al. 2023). This can be difficult for spouses to address if they have limited digital literacy (Williams et al. 2023). Abusers may use social media to build networks of allies amongst family and friends of not only themselves, but also their spouse (Harris & Woodlock 2022).

Unfortunately, spouses experiencing digital forms of coercion and domestic violence may struggle to obtain the support they need from police who may be reluctant to respond to digital abuse as it does not resemble physical violence (Harris & Woodlock 2022). This can be difficult for women who share custody of their children, but experience digital abuse as their partners use technology to breach court orders (Williams et al. 2023). They may struggle to cope with digital abuse due to the lack of legal supports equipped to address these issues. Furthermore, there may also be a lack of trained technicians with the expertise required to complete technology sweeps (Williams et al. 2023). These technology sweeps can also be costly and beyond the financial capacity of victims impacted by domestic violence.

4.0 Services and Infrastructure to Support Camp Families

Understanding the gaps in services and infrastructure will be critical to inform the design of any new model or prototype of services for camp families. This section briefly describes the increased demands for supports stemming from mobile work in both home and host communities. To explore gaps in supports for camp families, the barriers that families experience when pursuing supports are then explored to inform future decisions about the design and delivery of supports in ways that work for camp families. Given the well-documented pressures experienced by these households, there is an urgent need to better coordinate local and regional services to address the needs of these families (Hoath & Haslam McKenzie 2013). This will require important conversations about a more holistic and preventative approach to address the parenting, relationship, health, and socio-economic needs of these households before conflict requires legal intervention (Jerke 2023). As such, the final section will explore several reforms that have been proposed to produce a more holistic service model for camp families.

4.1 Increased demands for supports

Community service providers in both home and host communities experience increased demand for services from FIFO families and mobile workers (McKenzie et al. 2014). Unfortunately, both host and home communities are often unprepared to meet these demands that households require (Ryser et al. 2018). Communities, for example, may experience an increased demand for community services, such as couples and family counselling, supports for gambling addictions, unemployment services, English as a Second Language programs, immigrant settlement services, and women's resources (Bloomfield 2017). Demand for space in transition houses may increase as spouses seek to leave abusive relationships (Ryser & Halseth 2017).

Oke and Wilson (2024) describe several pressures on health care services as camps complicate planning and responses for immunizations and pandemic responses, and as mobile workers turn to emergency room services for health care. These emergency room pressures are exacerbated by requests to complete return to work forms. Their recent observations suggest that older workers engaged in mobile work are seeking treatment for chronic illnesses through emergency departments. Health care facilities are also experiencing increased demands for occupational therapy and physiotherapy, treatment for drug and alcohol addictions and sexually transmitted diseases, supports for unwanted pregnancies, and treatment for domestic violence (Newhook 2011). These pressures are exacerbated by the limited presence of general family physicians accepting new patients and the limited availability of walk-in clinics (Oke & Wilson 2024).

Police in both Indigenous and non-Indigenous communities respond to more calls for traffic accidents, illegal drug use and related crimes, and domestic violence (Archbold et al. 2014; Parkins & Angell 2011; Ryser et al. 2014; The Indigenous Caucus of the Indigenous Advisory and Monitoring Committee 2022). As demands for these supports have increased, families have

struggled to connect with needed services to address the pressures associated with mobile work.

4.2 Barriers to accessing supports

Families seeking formal supports to cope with the pressures of mobile work have a more limited range of general, and especially specialized, services (Gillespie et al. 2021). Formal services and multi-week programs are often inconvenient for FIFO families as they do not dovetail well with roster schedules (Dittman et al. 2016). Services tend to be highly visible in small communities, prompting fears about stigmatization due to the lack of anonymity and confidentiality when pursuing supports (Bloomfield 2017). Families may become frustrated by ineffective intake and referral processes that impede timely access to supports, particularly if there are poor relationships between service organizations (Tayton et al. 2014). They may also be unaware of services and community activities organized in their region, indicating a need for broader promotion (Watts 2004). Some family members may lack digital literacy skills or may not have access to computers, smartphones, or other technology to access on-line supports (Adams et al. 2011). In camp, mobile workers may not have access to outreach supports (Ryser et al. 2014). They may also be too fatigued to pursue supports in nearby host communities or only have access to unreliable communication or shuttle services that may make it inconvenient to access supports between shifts (Gilbert 2019; Ryser et al. 2018). However, there can also be unique challenges to access specific types of services. Below, we explore these issues to access specific supports and some of the solutions pursued by stakeholders to alleviate these problems for mobile workers and their families.

4.2.1 Communication services

Mobile workers need reliable communication through cell phone coverage and high-speed Internet in private rooms to support face-to-face video calls with family and friends in their home communities (Hoath & Haslam McKenzie 2013; Ryser et al. 2018). This will help workers to routinely talk with family members to address issues and conflicts within the household and alleviate stress (Parker et al. 2018). There have also been calls for state governments to play a larger role to develop benchmark standards for communication infrastructure available to mobile workforces (Watts 2004).

4.2.2 Family and parenting supports

Family and parenting supports are needed to maximize the benefits and experiences of families impacted by mobile work (Dittman & Rathbone 2023). In fact, one study found that over half of FIFO partners and over one-third of mobile workers were interested to attend a parenting program tailored to the needs of camp families, particularly if they addressed parent-child and couple relationships, consistent parenting, and disciplinary approaches during transition periods (Dittman et al. 2016). Group-based parenting programs were particularly successful to improve short-term parenting skills and the mental well-being of parents, with direct implications for

improving the psychological development of the child (Lester et al. 2015). Parenting resources may also focus on communication strategies to manage children's behaviours and sustain positive relationships (Meredith et al. 2014). This may be complemented with outreach supports, stigma support groups, and opportunities to network with other camp families to learn about other approaches used to adapt to mobile work arrangements (Dittman & Rathbone 2023). These resources may be introduced to spouses through Pregnancy Outreach Programs during the early stages of family development (Bloomfield 2017). Industries should also assume a greater role to offer on-line or community-based parenting support programs for mobile workers and their families as a strategy to support worker well-being and reduce labour turnover (Lester et al. 2015).

Family service agencies have strived to provide more flexible options for people to access needed supports. There may be more drop-in programs for camp spouses and their children to get together (Markey et al. 2015). Online parenting resources, through resource guides or parenting magazines, may equip families with the knowledge about co-parenting, managing emotions and behaviours, and adopting flexible approaches to parenting to work through family conflicts (Jerke 2023). However, there have also been calls for a broader, more purposeful approach to support the capacity of children and their families to adapt to these disruptive arrangements that is strategically designed and supported by senior levels of government. For military families, these support systems have been organized through national defence ministries (Kaczmarek & Sibbel 2008). Future conversations could explore complementary approaches for FIFO families through provincial ministries responsible for child and family development.

4.2.3 Childcare and child development programs

In rural regions, there is not only a lack of reliable and affordable childcare services, but the availability of those daycare services is restricted to business hours (Gillespie et al. 2021; Power 2022; Ryser et al. 2014). As such, most of the childcare provided to support mobile work is unpaid or underpaid and is performed by mothers or girls in small communities (Power 2022). In other cases, there may be disruptions to the use of live-in caregivers who may be temporary foreign workers (TFW) engaged in lengthy processes to renew work permits (Ryser et al. 2018). Other TFW caregivers may struggle to meet Canadian standards. The lack of childcare makes it challenging for lone-parent workers with night shifts or those seeking seasonal mobile work to access care for their children (Neil 2019; Stienstra et al. 2017). It also makes it difficult for women to pursue mobile work opportunities, particularly if childcare subsidies are cancelled if she moves in with family (The Community Vitality Advisory Group and Research Team of the University of Guelph 2018). These deficiencies are also reflected in other child development programs such as Strong Start (Bloomfield 2017).

Affordable childcare and youth services that dovetail with workforce schedules of spouses is an important gap that needs to be addressed (Neil 2019). Affordable childcare will also ensure domestic violence survivors may access advocacy, community, and legal supports (Magnus & Donohue 2022). In Australia, several communities have partnerships with Rio Tinto through the

Here for Childcare program to address childcare needs (The Community Vitality Advisory Group and Research Team of the University of Guelph 2018). Access to respite childcare or playgroups would also allow working spouses to rest and recover from their extended responsibilities (Fresle 2010; Voysey 2012).

In elementary and secondary schools, tailored supports for children of mobile workers should be put in place (Butters et al. 2019). These supports should be complemented with healthy relationship programs to help adolescents who may struggle with the absence of the mobile worker and disruptions to regular family routines (Gillespie et al. 2021).

4.2.4 Counselling

Small communities generally have limited access to family counselling services (Wrathall & Herron 2021). Where adequate supports exist, spouses may still be reluctant to access supports due to fears about being stigmatized for impacting or breaking up the family unit (Bloomfield 2017). While additional relationship and family counselling services are clearly needed to support camp families (Storey et al. 1989; Taylor & Simmonds 2009), some of these counselling supports could be accessible through videoconferencing technologies (Gillespie et al. 2021). Despite the stigma associated with counselling supports, family members can benefit from engaging with professionals who are not involved in the conflict (Gilbert 2019). These small places are also less likely to have specialized counselling supports and programs for male perpetrators of domestic violence (Chung et al. 2015). In these situations, men may fear they may have limited anonymity while pursuing such supports in rural regions.

Research also suggests access to work-based employee and family assistance programs that provide access to paid counselling varies considerably across large-scale industrial projects (Taylor & Simmonds 2009). Industries, however, are ideally situated to provide information about broader counselling supports and may also provide access to free support groups (The Firelight Group with Lake Babine Nation and Nak'azdli Whut'en 2017).

4.2.5 Culturally appropriate supports

More investments are needed in culturally appropriate supports for Indigenous people and immigrant families engaged in mobile work (Jerke 2023). Culturally sensitive supports can be effective to reach isolated cultural groups to address the complex cultural undertones of family conflict or domestic violence (Letourneau et al. 2023). Access to culturally appropriate services would also enable Indigenous women to remain in their Indigenous community (Tayton 2014). Culturally appropriate supports may draw upon traditional foods and activities, guidance from Elders, and access to supports through their traditional language to ensure all family members adopt a healthy approach to mobile work (The Firelight Group with Lake Babine Nation and Nak'azdli Whut'en 2017).

4.2.6 Education and training

Mobile workers and spouses have unique barriers that shape their access to education and training. For mobile workers, family commitments may prevent them from pursuing advanced education and training opportunities in other centres (May 2019). In contrast, women in volatile relationships may struggle to pursue education and digital literacy. This may reflect patriarchal cultures that undermine women's empowerment while reinforcing male roles as breadwinners for the household (Adams et al. 2011).

4.2.7 Employment services

Employment services can help to nurture equal opportunities for those within FIFO households, as well as to empower vulnerable household members within resource-based regions. Spouses in FIFO relationships may remain trapped in domestic and family violence situations due to their limited access to financial resources and limited employment opportunities in their community (Chung et al. 2015). These challenges are compounded for Indigenous women with a criminal record who will find it difficult to obtain employment, making them vulnerable to unhealthy, exploitive relationships and violence (The Indigenous Caucus of the Indigenous Advisory and Monitoring Committee 2022). Residents from Indigenous communities surrounding resource extraction sites may also be excluded from employment opportunities provided to mobile workers. This exclusion not only reinforces historic colonial policies, but reduces the chances that Indigenous women will seek formal services to address domestic and family violence. Moving forward, employment training programs for women need to be more visible and accessible in rural regions, particularly given their importance to support relationship or shelter exit strategies (Chung et al. 2015).

4.2.8 Domestic violence and justice supports

Victims of domestic violence endure several challenges to access formal supports for abuse. In rural regions, services to address domestic violence are fewer, inconsistent, and less accessible, often requiring victims to commute long distances to access supports (Gillespie et al. 2021; Wrathall & Herron 2021). This stems from slow response times for intimate partner violence, a high turnover of staff that undermines a continuity of support, and the absence of an integrated community response network to coordinate supports (Letourneau et al. 2023; Tayton 2014). Rural regions are also less likely to have services to support male victims and the rehabilitation of offenders (Wrathall & Herron 2021).

Victims may experience stigma associated with living in poverty, being part of a broken family, or blamed for the circumstances leading to domestic violence (Gillespie et al. 2021). In other cases, victims may be accused of being mentally unstable, resulting in a greater focus on perceived medical illnesses rather than domestic violence abuse (Wrathall & Herron 2021). Male victims may be embarrassed to talk about their experiences due to their perceived sense of masculinity (Magnus & Donohue 2022). In some cases, victims may experience a lack of

empathy from police that may affect the overall response to domestic violence (Carrington et al. 2020). As such, they may be reluctant to pursue formal supports due to concerns about limited anonymity or confidentiality in small communities that have few services and organizations (Harris & Woodlock 2022). Some may fear pursuing formal supports if the perpetrator is well-known or has a powerful influence within their community, leaving victims to carefully pursue a more limited range of support from organizations (Magnus & Donohue 2022).

Victims of domestic and family violence may misunderstand how to access services. There may be a general sense that victim services can only be accessed through the police, without understanding there are other processes to enable them to access specialized victim services (Hunt 2006). This often stems from a failure to provide victims with adequate information to understand the referral process or related protocols to access formal services (Carrington et al. 2020). As such, victims often obtain protections and supports on their own without legal support, a phenomenon that is unique to rural settings (Magnus & Donohue 2022).

Indigenous victims of domestic and family violence generally have limited access to culturally sensitive supports in remote communities (Tayton 2014). At the same time, legacies of colonialism, residential schools, and the 60s Scoop exacerbate many of the barriers that Indigenous people face to access formal supports for domestic and family violence (The Firelight Group with Lake Babine Nation and Nak'azdli Whut'en 2017). These victims may have limited trust and confidence in police and criminal justice services. They may fear having their children removed from the home (Chung et al. 2015). There have also been longstanding criticisms with how police investigations have unfolded for Indigenous people who experience violence, particularly for those who are missing or found murdered (The Indigenous Caucus of the Indigenous Advisory and Monitoring Committee 2022). Police may lack cultural sensitivity when interacting with Indigenous victims, including a limited understanding of intergenerational abuse and power struggles within the band (Hunt 2006). This may be particularly difficult for victims if the abuser holds a position of power (i.e. chief or clan leader). Victims may feel pressure to be loyal to familial and clan networks, reducing the likeliness of victims to report abuse. In some cases, victims may be forced to leave their Indigenous community to escape violence and obtain confidential access to supports in distant urban centres (Hunt 2006; Tayton 2014).

Chung et al. (2015) also explore several barriers that spouses from immigrant, disabled, and 2SLGBTQQIA+ backgrounds experience to access supports for domestic and family violence. Immigrant women who are culturally and linguistically diverse may experience racism in their communities, making them reluctant to pursue supports from community service agencies for family and domestic violence (Gillespie et al. 2021). For example, victims from multi-cultural backgrounds may not be easily believed by police or some community organizations. Immigrants may be blamed for high rates of domestic violence (Wrathall & Herron 2021). These difficulties may be exacerbated by language barriers, a limited awareness of the supports available, and a lack of awareness about their legal rights in Canada (Letourneau et al. 2023). These pressures may be exacerbated by the insecure immigration status of victims, their limited access to financial supports, and their isolation from family networks (Government of Western

Australia 2013). There also tends to be limited access to culturally appropriate services and translators in rural regions (Tayton 2014). Adding to these complex challenges, these women may experience cultural pressures to preserve their marriage and family reputations and may fear being isolated from their cultural community (Chung et al. 2015). They may fear deportation or the loss of work and study permits. Furthermore, due to fears and mistrust with police and criminal justice agencies, immigrant spouses may be more likely to seek support from within their own social and cultural networks (Tayton 2014). Some immigrant spouses may require additional financial and logistics supports for safety and exit strategies and to work through legal processes (Government of Western Australia 2013).

By contrast, women with disabilities may be socially and geographically isolated, making it difficult to report or pursue supports related to domestic violence. Those in same sex relationships may also feel socially and geographically isolated, especially in rural regions (Chung et al. 2015). If these relationships remain hidden, it can be even more challenging for services providers to reach out and connect victims with supports.

As domestic violence rates remain high in rural and remote regions, limited access to advocacy supports, affordable legal counsel or legal aid, court proceedings, mediation, and rehabilitation programs allow social inequities for families in rural regions to persist (Gillespie et al. 2021; Wrathall & Herron 2021). For some, access to legal supports through lawyers, mediators, and other court services may be impeded by cost, fears of further threats of violence, long waiting periods for trails, or their limited awareness about the justice system and related court processes (Jerke 2023; Magnus & Donohue 2022). Vulnerable groups, such as Indigenous people or those with disabilities, may also have limited awareness about their legal rights (Tayton 2014). Advocacy centres for FIFO families may be established to provide counselling, referrals, and coordinate multiple service needs in order to reduce pressure on the legal system (Chung et al. 2015; Public Health Agency of Canada 2014).

Due to the lack of trained professionals in rural regions, researchers have called for a Northern Domestic Response Team consisting of counsellors, victim support workers, health professionals, police, safe house workers, and others to address domestic and family abuse experienced by youth and adults (Hunt 2006). This type of specialist team could be well equipped to coordinate and connect families with needed counselling, legal, financial, and housing supports (Chung et al. 2015). In cases where exit strategies are needed, partnerships may be developed with communication companies to allow victims of domestic violence to obtain donated mobile phones or purchase low-cost mobile phones by establishing a "Family Violence Flexible Support Package" (Williams et al. 2023). Some jurisdictions have established a Personal Safety Initiative to enable social workers to respond to technology-based domestic abuse by addressing the safety of a victim's device and documenting breaches of court orders (Williams et al. 2023).

However, research also recognizes that design and implementation of domestic violence responses need to be tailored to the diverse contexts that may be found in rural regions (Tayton 2014). This is particularly important as the location of each community will shape the

accessibility of urgently needed supports, and hence, the safety of families. Indigenous communities in particular will require family violence programs to provide trauma informed and culturally sensitive supports to spouses and children (The Firelight Group with Lake Babine Nation and Nak'azdli Whut'en 2017). This should be complimented by allocating adequate resources for police, counselling, and health staff to respond to sexual assault and domestic violence cases. This should include attention to several identified needs in Indigenous communities, such as rape kits, safe houses, counselling supports, and local and regional contact lists (The Firelight Group with Lake Babine Nation and Nak'azdli Whut'en 2017).

Finally, even though domestic violence rates are highest in rural and remote regions, access to justice supports continues to be limited in these places (Harris & Woodlock 2022). In terms of justice supports, limited access to advocacy supports, affordable legal counsel or legal aid, court proceedings, mediation, and rehabilitation programs allow social inequities for families in rural regions to persist (Gillespie et al. 2021; Wrathall & Herron 2021). The justice system in rural regions, however, also needs sufficient resources to monitor the effectiveness of any domestic or family violence prevention programs to inform future strategies (The Firelight Group with Lake Babine Nation and Nak'azdli Whut'en 2017).

4.2.9 Financial planning

Before families engage in mobile work lifestyles, they should have access to workshops to guide their financial planning and strategies (Gilbert 2019). Some households may pursue long distance labour commuting due to industry closures in their home community. These households may be under financial stress due to these economic restructuring pressures. Such pressures may be exacerbated if new industry employers do not cover all of the costs associated with mobile work arrangements. In home communities, this may require flexibility with loan, bill, or debt repayments to assist these households (Markey et al. 2015).

4.2.10 Health

The ability of families to cope with the stresses of mobile work was also impacted by the restricted range and availability of health care services in rural regions (Bloomfield 2017). This often requires families to commute long distances to access regionalized health care services (Harris & Woodlock 2022; Wrathall & Herron 2021). As such, key gaps in health care services focused on general family physicians and nurse practitioners as valuable supports for the physical and emotional well-being of spouses and children (Voysey 2012).

When domestic violence results in emergency situations, families have experienced slow response times by emergency response teams (The Firelight Group with Lake Babine Nation and Nak'azdli Whut'en 2017). Indigenous women may also have limited trust with health care services, particularly if they feel they have been mistreated or discriminated against during their care (The Community Vitality Advisory Group and Research Team of the University of Guelph 2018). This has generated important debates about the types of organizations that should be

selected to delivery primary care programs to Indigenous people (Tayton 2014). Family members may have a limited awareness of mental health stresses that require support (Cooke et al. 2019). Mental health supports could be targeted towards spouses to help them cope with the stress of supporting partners and constantly adjusting to the demands of extended shift rotations (Asare et al. 2024). They may also be unaware of the services and programs available through employers (Ryser & Halseth 2017).

Mobile workers generally had more limited access to health care services, such as physician care, within camps and host communities (Newhook 2011). Some felt that both employers and organizations only offered tokenistic support and felt stigmatized for seeking assistance (Gardner et al. 2018). There may be a lack of sympathy for mobile workers earning high incomes as employers prioritize production over the health of the workforce (Gardner et al. 2018; Voysey 2012). Even if industries provide support for physicians to be placed in camps, treatment may be more focused on returning the worker to the job site rather than preventative health care programs (Northern Health 2012). In addition to on-site physicians, however, access to public health nurses is needed to support outreach programs and public health talks as sexually transmitted disease rates increase (Tordimah 2021). Camps should also be equipped with counselling resources and rape kits to address sexual assault cases (The Firelight Group with Lake Babine Nation and Nak'azdli Whut'en 2017). Some of the health gaps also focus on the need for routine mental health and drug addiction awareness programs in rural regions that are grounded in strong partnerships with industries, unions, and camp sites (Watts 2004). These tend to focus on men's health forums. Some industries will offer support networks for recovering addicts and recovery supports on-site in order to better support family outcomes (Parker et al. 2018). Mobile workers, however, may not access addictions, mental health, or counselling supports due to fears about losing their job or due to stigma in the workplace (Cooke et al. 2019; Oke & Wilson 2024; Ryser & Halseth 2017; Storey et al. 1989).

Work-based mental health first aid programs are seeking to strengthen both informal support networks and stronger connections with formal wellness programs (Torkington et al. 2011). Web-based, self-help models are seeking to reach mobile workers who experience challenges to access mental health supports (Meredith et al. 2014). Information packages with tips on ways to maintain their physical and mental health are provided to mobile workers in camps (Northern Health 2012). Provincial health agencies have also been strengthening synergies with industry by developing health strategies for mobile workers. In Kitimat, the local government collaborated with Northern Health and the RCMP to produce a documentary that promotes men's health issues (Ryser & Halseth 2017).

Health care systems, however, are not structured to reflect the increasingly mobile nature of work across various provincial jurisdictions. Mobile workers are not permitted to obtain health care coverage across various provincial jurisdictions (Newhook 2011). Medicare plans and coverage may also vary across provinces. These complexities are rarely communicated to mobile workers when they are hired for large-scale industrial projects. Instead, they are left to maneuver inter-provincial health care systems for themselves and their families on their own. As Newhook (2011, p. 151) explains:

Alberta's regulations stipulate that if an individual's dependents remain in another province, health care coverage for both the individual and the family must be maintained in the other province not in Alberta. This means that inter-provincial migrant workers may not be eligible for the Alberta Health Care Insurance Plan if their dependents remain in the home province.

4.2.11 Housing

In host communities, the influx of mobile workforces has made it difficult for vulnerable populations, such as seniors, low-income residents, residents impacted by domestic violence, and Indigenous people, to compete with mobile workers to access affordable housing (The Community Vitality Advisory Group and Research Team of the University of Guelph, 2018). These vulnerable groups may experience renovictions or face discrimination as they seek to access available housing (FNHA and Northern Health 2015). Limited access to affordable housing and emergency shelters may also impede the ability of rural women to leave domestic and family violence relationships. When emergency shelters are full, women may be referred to stay in motels where they receive limited outreach supports (Chung et al. 2015). Some spouses may opt to return to their abusive relationships or become homeless, with detrimental implications for their health (Magnus & Donohue 2022). In response, women's resource centres may roll out flexible criteria to allow women leaving abusive relationships to access financial resources for moving, storage, and rental costs (Ryser & Halseth 2017). Higher housing costs may impact the ability of residents to address their food security or education and training needs (The Community Vitality Advisory Group and Research Team of the University of Guelph 2018).

More investments in safe housing for survivors and children of domestic violence is needed to provide the stability needed to navigate other supports (Magnus & Donohue 2022). This needs to be supported by investments in regional public transportation to ensure family members from remote areas can access emergency shelter supports (The Indigenous Caucus of the Indigenous Advisory and Monitoring Committee 2022). However, the amount of time available for family members at these shelters may be limited, prompting the need to quickly equip survivors with critical information and coordinate with broader services to support their transition (Magnus & Donohue 2022). There have also been calls to hire a greater diversity of shelter staff to address the needs of diverse cultural and Indigenous populations (Chung et al. 2015).

For families that remain in home communities, there is a need to invest in accommodations to support the ability of families to visit mobile workers during extended shift rotations. This may unfold through home exchange programs over holiday periods or through hotel discount rates for FIFO families during the low peak season for tourism to encourage families to become familiar with, and potentially move to, host communities (Watts 2004). In Canada and Australia, industries have explored the provision of family rooms for mobile workers within camps (House

of Representatives; Manitoba Hydro n.d.). Industry investments in rental housing to support family visits may also be explored.

Industry can demonstrate further leadership and commitment to their corporate social responsibility by providing housing and relocation resources that will keep families together. Such assistance may be offered through home purchase assistance or an annual location allowance for workers relocating near remote worksites with their families (Australia Pacific LNG 2012a). Industry may further support these relocation process by hiring a relocation coordinator to help families get connected with new schools and other community resources (Australia Pacific LNG 2012c).

In communities that struggle to recruit and retain professional staff due to high housing costs following an influx of mobile workforces, agreements have been reached with industry to provide housing subsidies. In Australia, for example, the LNG industry provided homes for police officers and their families by subsidizing 20-25% of the market rate for the duration of construction (Australia Pacific LNG 2012c). In Fort McMurray, Alberta, a partnership was developed between the Wood Buffalo Housing Development Corporation, the Northern Lights Regional Health Authority, and the Regional Municipality of Wood Buffalo to partially fund 18 affordable housing units for their employees (Province of Alberta 2006). These investments can help to recruit and retain the essential supports that are necessary to support families impacted by mobile work.

4.2.12 Information and orientation needs

Families need to be better prepared to cope with mobile work arrangements and the impacts on families through employee orientation sessions, community workshops, and resource guides (Butters et al. 2019). This will help families to have a better understanding of the resources and supports available in camps, the work site, and home community to cope with the pressures of these arrangements (Meredith et al. 2014). Such information is important to empower families to make informed decisions about pursuing mobile work (McKenzie et al. 2014; Storey et al. 1989). Senior levels of government should lead such efforts to standardize a mobile work resource guide that may be rolled out by industry, libraries, family resource centres, health care facilities, and other community service agencies (Sibbel 2010; Storey et al. 1989). In host sites, partnerships can be formed between industry, camps, and unions to develop orientation sessions and workshops (Butters et al. 2019; Storey et al. 1989). Industries may also be ideally situated to provide resource guides and orientation sessions to reduce family stress and workforce turnover (Taylor & Simmonds 2009). When parenting and family issues are addressed through orientation sessions, it can help to normalize the process for mobile workers to seek support (Dittman & Rathbone 2023).

In home communities, standardized resource guides may be supplemented with an inventory of resources and supports available for camp families (Meredith et al. 2014). Orientation sessions, courses, or workshops may also be delivered by community service agencies to introduce resource guides, with specific attention to communication and managing family relationships

across long distances (Watts 2004; Voysey 2012). This may include seminars featuring stories and experiences by others engaged in FIFO lifestyles (Gilbert 2019). Orientations and workshops should be offered on an annual or bi-annual basis to provide opportunities for families to increase their knowledge and networks of support to cope with these lifestyles (Watts 2004). These information resources and events may be coordinated and supported by national organizations. For example, both Mining Families Matter in South Australia and FIFO Families in Western Australia provide informative resources and coping strategies for spouses at home (House of Representatives 2013). A Tool Kit for Surviving Fly-in/Fly-out Relationships was developed by Watts (2004) to help families prevent and address conflict through better communication. This toolkit focuses on constructive communication, coping with the changing roles within the family, preventing isolation, and recognizing and addressing stress through healthy lifestyle routines. There may be stories from FIFO families about best practices to cope with FIFO lifestyles, including how to better understand and manage transitions between mobile work rotations and time at home (Parker et al. 2018). Tips may be shared about how to manage stress experienced by children while the mobile worker is away for important family experiences. Resource guides should include tailored information for mobile workers, spouses, and children of different ages (Storey et al. 1989). For example, Support for Mum When Dad Works Away was a booklet developed to address the needs of mothers with young children (Greer 2011).

Such toolkits or resource guides may also tackle important issues such as managing family relationships and conflict, maintaining community engagement and social networks, budgeting and financial literacy to align spending with real costs associated with mobile work, career planning, developing exit strategies, and retirement planning (Butters et al. 2019). Advice should discourage families from overcommitting to significant financial commitments given the precariousness of mobile work. Resource guides should also recognize the essential roles of spouses and extended family and friend networks to support mobile labour arrangements (Hoath & Haslam McKenzie 2013).

Aside from standardized information provided in resource guides, industries should provide specific information about the remote work site, fatigue management training, and information about the facilities and supports offered within camps (Bloomfield 2017). This may include details about medical and mental health plans, extended health care benefits, contact information for employee assistance programs, helplines, and on-line resources (Parker et al. 2018). Furthermore, by highlighting the implications of domestic and family violence for mobile workforces, industries may strengthen synergies between these resource guides with their corporate social responsibilities (Government of Western Australia 2013; Tordimah 2021). In addition to provide orientation packages or resource guide, however, employers should also carefully assess the capacity of potential mobile workers to be successful in this lifestyle during the interview process (Meredith et al. 2014). This may include arranging site visits to provide additional perspective before applicants accept remote work.

Businesses and service agencies should also pursue more effective strategies to promote themselves to mobile workers that go beyond pamphlets or websites that may be missed by

mobile workers and their families (Ryser et al. 2019). If services are going to be successful in connecting with camp families, they will need a more proactive and purposeful approach by visiting camp sites, organizing on-site barbeques for workers, or inviting workers and their families to special events (Ryser et al. 2019). Community agencies may coordinate investments in surveys of mobile workers and their families to better understand their needs and interests (Ryser et al. 2019). This information can also better inform tailored adjustments to local resource guides to support orientation programs (Ryser et al. 2015).

4.2.13 Online resources and supports for camp families

Online platforms through websites, social media, and digital technologies are increasingly being used to address information and support needs of families impacted by mobile work. In Australia and New Zealand, websites, such as FIFO Families, the FIFO Family Project, the FIFO Wife, and Mining Family Matters, provide families with access to online chat forums and information about programs and activities (Atkinson and Hargreaves 2014; McKenzie et al. 2014; Pini & Mayes, 2012; The FIFO Wife 2024; Voysey 2012). Some of these websites, such as FIFO Families and Mining Family Matters, are sponsored by industry and are equipped with the capacity to connect families with professionals such as psychologists, employment and career counsellors, health care workers, social workers, and shopping concierge supports (Meredith et al. 2014; Pini & Mayes 2012). Social media sites, such as FIFO Connections, FIFO Families, and Australian Mining Partners on Facebook, are a well-used tool by FIFO families to connect with counselling and other professional supports (Gardner et al. 2018; Mayes 2020; The FIFO Wife 2024; Voysey 2012). These on-line resources need to be equipped with adequate administrative supports to ensure families can effectively use these on-line mechanisms. At times, families have submitted requests for advice and supports without obtaining a response to their inquiries (Pini & Mayes 2012).

Mobile workers and their families are increasingly engaging with service agencies remotely using telephone and videoconferencing technology (Chung et al. 2015). Online parenting interventions that address parenting roles, styles, and conflict have been found to have positive outcomes to improve parent-child relationships and child behaviour problems (Lester et al. 2015). Videoconferencing can also be used to remotely connect rural victims of domestic violence with specialized police and special court events (Harris & Woodlock 2022).

Mobile apps are also increasingly being mobilized to support women's safety by providing information about safe routes, emergency alerts, and access to police reports (Adams et al. 2011). Some digital applications are used to document sexual abuse and domestic violence by geotagging times and locations of assaults (Adams et al. 2011). Such digital technologies can be an effective tool to assist rural service agencies with limited financial resources to extend their outreach capacity to help family members experiencing conflict and violence (Harris & Woodlock 2022). The long-term success and use of these digital platforms to address the needs of these families, however, is strongly influenced by the engagement of local leadership to role out and promote these mechanisms (Adams et al. 2011).

4.2.14 Informal supports

Informal support networks through work sites have deteriorated as industries have shifted towards more subcontracting and precarious forms of employment where mobile workers are temporarily employed and housed in camps (Neil & Neis 2020). Families may lack informal family and support networks to not only support spouses and children, but also to support aging parents in home communities (Newhook et al. 2011; Ryser et al. 2014). They may also be more remotely located from close family and friends who live in larger urban centres (Wrathall & Herron 2021). Despite the important role and use of informal supports to help families cope with the stresses of mobile work, there is an interest in increasing access to co-parenting across FIFO families or intergenerational family networks (Ryser et al. 2018). FIFO family networks can be valued by spouses seeking greater emotional support by other families engaged in mobile work (Voysey 2012). Support groups and workshops for family and friends of camp families should also be organized to strengthen these support networks (Gilbert 2019). These families also need access to informal supports to address snow removal and property maintenance issues when mobile workers are away (Markey et al. 2015).

4.2.15 Outreach supports

Outreach supports is a critical gap that needs to be addressed with any new service model that seeks to reach families who may be isolated due to the stresses of mobile work. These outreach supports may be in the form of visiting services scheduled during flexible times to touch base with families (Chung et al. 2015); although, outreach support workers may also need access to safe spaces to empower women to discuss any safety concerns (The Firelight Group with Lake Babine Nation and Nak'azdli Whut'en 2017). Outreach workers that cross the jurisdictional boundaries of Indigenous and non-Indigenous communities are needed to support women and children during the transition period after they leave emergency shelters (Chung et al. 2015), as well as to support those who become homeless, sex workers, or victims of trafficking (Stienstra et al. 2017). Industries may also consider providing a family liaison worker on site to provide advice or support emergency contact with mobile workers (Parker et al. 2018). Some camps will also provide concierge services to help workers obtain items for their family (Ryser et al. 2018).

4.2.16 Social activities

Social activities can help provide families with an orientation to remote work and camp settings, as well as opportunities to network with other families engaged in these lifestyles. Such activities may be sponsored by industry in the form of on-site family barbeque days, company picnics, or Christmas parties to allow spouses and family members to know more about the workers' responsibilities and workplace pressures (Gardner et al. 2018; Storey et al. 1989). Golf tournaments, trade shows, and community fundraising events have also been used to connect mobile workers and their families with community supports (Ryser et al. 2018). These events may also provide opportunities for families to connect with on-site family liaison personnel,

deliver healthy relationship workshops, and to distribute resource guides to support the families who remain at home (Gilbert 2019; Parker et al. 2018).

4.2.17 Recreation

Home communities that have experienced industry closures can struggle to sustain recreational programs as people commute to pursue mobile work. These recreational supports, however, play an important role for families to maintain social support networks and develop routine, positive activities for children who are coping with the stresses of mobile work. In these situations, recreational facilities operated deficits to maintain activities that keep families busy (Markey et al. 2015). To sustain membership, recreational organizations reduced membership costs or offered a payment plan for families impacted by out-of-town work. If registration numbers were low, age groups were combined or sustained at a smaller scale. Groups also offered babysitting services to encourage participation with community groups (Markey et al. 2015).

4.2.18 Transportation barriers

Rural and small-town places may not have reliable, accessible, and affordable public transportation to help families connect with supports at a local and regional level (Gillespie et al. 2021; Neil 2019; The Indigenous Caucus of the Indigenous Advisory and Monitoring Committee 2022). Access to consistent and reliable transportation is also critical to assist victims of domestic violence to prepare an exit strategy (Neil 2019) and to support family access to justice supports, including legal professionals, courts, counselling, and social services (Magnus & Donohue 2022). In some small communities, residents have no access to public or private transportation (Ryser et al. 2015). These challenges are exacerbated by winter driving conditions and costly private transportation options (Neil 2019; Wrathall & Herron 2021). For victims of domestic violence, access to personal transportation can become complicated when abusers control access to personal vehicles (Magnus & Donohue 2022). In response, some women's resource centres and family service agencies have integrated local and regional public transportation into their services (Letourneau et al. 2023). These transportation options are often essential to help spouses work through chaotic exit strategies from abusive relationships (Magnus & Donohue 2022). Those supports, however, also increase concerns for personal safety (Gillespie et al. 2021).

Transportation limitations are even more profound in remote Indigenous communities where vulnerable residents struggle to connect with needed supports in regional centres (The Firelight Group with Lake Babine Nation and Nak'azdli Whut'en 2017; The Indigenous Caucus of the Indigenous Advisory and Monitoring Committee 2022). Without safe, reliable transportation options, vulnerable Indigenous people may hitchhike to nearby communities or accept rides by men commuting for camp work (BC First Nations Justice Council 2024). For Indigenous people who reside in non-Indigenous communities, they may also experience racism and discrimination from public transit workers or informal transportation networks that may impact their access to

needed supports (The Community Vitality Advisory Group and Research Team of the University of Guelph 2018).

In response to these transportation issues, some camp companies provide staff shuttles that are coordinated with daycare facilities in nearby communities to provide opportunities to people with children to participate in remote camp employment opportunities (Ryser et al. 2015). Indigenous communities have also developed their own shuttles for workers and community members (The Firelight Group with Lake Babine Nation and Nak'azdli Whut'en 2017).

4.2.19 Workplace policies

Industries need to adopt workplace policies that both foster a healthy lifestyle and support a family-friendly environment. For example, industries may designate camps to be 'dry' to prohibit the use of alcohol or to limit the number of drinks permitted. This may be supported by mandatory random drug and alcohol testing that is implemented through a zero-tolerance policy (House of Representatives 2013). Industries may also adopt family-friendly hiring practices. For example, industry may encourage hiring couples or multiple family members to make it easier for them to be away from home for extended periods of time (Ryser et al. 2018). Depending on the job duties, some companies may provide the flexibility to work from home during a crisis (Meredith et al. 2014). Workplace policies may support time off for special family events, paid bereavement periods, addressing personal and family health issues, and communication with family during extenuating circumstances (Parker et al. 2018). These policies may be expanded to support the unique context of Indigenous communities. For example, while mobile workers may typically be allocated three days of leave to grieve for immediate family members, workers from Indigenous communities may request leaves for the passing of extended family and other community members (Mills & St-Amand 2016). Other family-friendly policies may limit overtime and foster connections with family supports (Parkins & Angell 2011). Research suggests that industries that adopted flexible workplace policies for mobile workers were more likely to retain these employees in the long-term (Meredith et al. 2024). Unions may also play a role to provide supports to mobile workers and their families to address the stress associated with these lifestyles (Ryser et al. 2018).

Workplace policies and programs can also be developed to support the ability of spouses to sustain their employment while coping with the additional responsibilities of managing the household in home communities. In the Peace River Region, for example, a family-friendly certification program was created with support from Shell and the federal government's Social Development Partnerships Program to provide businesses and organizations with toolkits to empower them to create family-friendly work environments (Ryser et al. 2014). This may be accomplished through flexible workplace schedules, daycare supports, and family-friendly activities. Once a business or organization is certified, they can then use that certification as a recruitment and retention tool for new professionals (Ryser et al. 2014).

4.2.20 Planning safe communities

Community planning initiatives may be bolstered by industry and local leadership tours of areas that pose safety concerns to women (Ryser & Halseth 2017). In Kitimat, BC, a local advisory group was formed to support a gendered lens for planning safe communities. This advisory group consisted of the local government, the Tamitik Status of Women, the Haisla Nation, and the Ending Violence Association of BC, with the Community Vitality Advisory Group at the University of Guelph playing an advisory role (The Community Vitality Advisory Group and Research Team of the University of Guelph 2018). Several communities across Canada have also adopted a Community Vitality Index to strengthen the gender lens adopted through planning and policy initiatives (Ryser & Halseth 2017). These initiatives focus on using sharing circles to apply a gender lens to address important planning and community development issues, including "the physical environment, recreation, mutual aid, social isolation, migration, technology, volunteerism, education, health services, transportation, appropriate housing, safety, childcare, employment, women's empowerment, Indigenous culture, discrimination, and politics" (The Community Vitality Advisory Group and Research Team of the University of Guelph, 2018, p.4).

4.3 Barriers to providing services and supports for camp families

As camp families struggle to access supports, the barriers to delivering services and programs to mobile workers and their families is equally complex. Many of the issues outlined below impact the ability of rural agencies to plan effective supports and to deliver them in ways that work for camp families.

4.3.1 Demographic change

In host communities, rapid growth can generate an influx of new residents that are not known to service organizations (Archbold et al. 2014). Service providers are also struggling to collaborate to address the growing demographic and cultural diversity amongst mobile workers and their families (Wrathall & Herron 2021).

4.3.2 Education and training barriers

Education and training about the impacts of mobile work on family and community well-being is needed at both a state and local level. Policy-makers that shape employment, family, social, health, and child protection services in rural regions need to be aware of the scale and scope of issues associated with camp lifestyles (Ryser et al. 2018; Sibbel 2010). Frontline workers may have limited expertise to understand how an effective response to domestic and family violence may be coordinated, especially for family members with limited financial resources, few transportation options, or complex care needs (Hunt 2006; Letourneau et al. 2023). In response, protocols and coordinated response networks may be complemented with tip sheets for frontline workers to work through the unique challenges of family and domestic violence with

mobile work arrangements (Government of Western Australia 2013). Domestic violence workers, police, lawyers, and related justice supports may also lack cultural sensitivity training and understanding about intimate partner violence to be prepared to support victims in rural regions (Gillespie et al. 2021; Letourneau et al. 2023). Such training can be difficult to access in rural regions, leaving these front-line workers with lower-than-average training to address the complex needs of victims of domestic violence (Gillespie et al. 2021). Due to their location in rural and remote regions, service agencies also have fewer opportunities to network with other professionals engaged in similar work. This hinders their ability to obtain advice, share strategies, or learn about best practices to respond to complex needs of these families (Hunt 2006); although, investments in broadband infrastructure and office technologies are providing more opportunities for rural professionals to attend conferences, workshops, and meetings remotely (Chung et al. 2015). Joint training initiatives for childcare and family service needs may also be organized through service co-operatives (Neil 2019).

Professionals across all spectrums of support for camp families need to be equipped with educational and training resources about the impact of mobile work on the well-being of children and grandparents (Butters et al. 2019). This will require more education about brain science and the potential for family conflicts to affect and shape the brain development of children (Jerke 2023). This underscores the importance of industry to directly connect with service agencies to develop programs and services that are tailored to the needs of mobile workers in natural resource-based industries (Parkins & Angell 2011). Some forms of training will need to be fairly specific, such as the need for cultural sensitivity training or expertise to respond to technology-based domestic abuse (Neil 2019; Williams et al. 2023). However, there is also a need to extend cultural sensitivity training to industry and camp personnel as they engage with mobile workers and surrounding Indigenous communities (The Firelight Group with Lake Babine Nation and Nak'azdli Whut'en 2017).

Within remote work sites and industrial camps, training delivered to supervisors, camp staff, and mobile workers can help shape the awareness of warning signs of physical and mental stress. Such signs may unfold through more absences, reduced concentration and productivity, increased irritability, changes in appearances, more injuries and accidents, and incidents with family conflict and violence (Chandler 2014; Ryser et al. 2015). The capacity for mobile workers to cope with the lifestyles of mobile work can also be improved through fatigue management training, as well as attention to personal skills development to improve communication and conflict resolution (Bloomfield 2017).

4.3.3 Human resources

As rural agencies strive to provide services and outreach supports to camp families, they have fewer staff and administrative resources to do so (Gillespie et al. 2021). For example, police detachments are short-staffed to respond to the increased volume of calls (Archbold et al. 2014). Multi-cultural centres in rural regions may lack language translators (Letourneau et al. 2023). The capacity to sustain the consistency of programs is also limited by staff burnout, staff turnover, and challenges to recruit and retain staff and volunteers (Archbold et al. 2014;

Gillespie et al. 2021; Letourneau et al. 2023). In health care, for example, staff burnout from industry pressures reached critical levels, at times requiring health care facilities to divert patients to other health care providers (Oke & Wilson 2024).

In some cases, the recruitment and retention of critical staff resources is impacted by insufficient hours within their contracts; thereby, prompting a growing number of service professionals to hold multiple jobs (Hughes & Silver 2020). Service agencies may also struggle to retain staff who can obtain higher salaries offered by industrial projects and camp sites (FNHA and Northern Health 2015; Stienstra et al. 2017). Housing pressures can also restrict the ability of organizations to recruit and retain key staff, prompting some groups in Western Australia's Pilbara region to develop FIFO supports at no cost for residents (i.e. social worker, legal counsel, etc.) to address family and domestic violence (Murphy 2023). In the case of the Women's Legal Service WA, these FIFO supports are financially supported by industries such as Pilbara Minerals and BHP Western Australia (Murphy 2023).

4.3.4 Financial barriers

Due to the low population densities and large distances between communities, rural service providers generally have higher costs to deliver on-site and outreach supports for families impacted by mobile work (Chung et al. 2015). The accessibility of on-site and outreach programs in small communities can be compromised by fewer administrative and frontline staff resources due to short-term funding cycles that provide smaller, less consistent amounts of grant funding to sustain programs (Gillespie et al. 2021). This is because funding is often allocated on smaller population and case sizes; even though, research suggests that the prevalence of domestic and family violence is higher in rural and remote areas compared to larger urban centres (Harris & Woodlock 2022). These pressures are exacerbated by funding cutbacks for family counselling programs, legal aid, and domestic and family violence supports (Ryser et al. 2018). Furthermore, rural health and social service agencies in both host and home communities often have very limited financial resources to support and sustain collaboration. Such collaboration may be supported by short-term contracts, part-time support, or volunteer efforts that may undermine the stability and consistency of collaborative frameworks (Wrathall & Herron 2021). In response, some senior governments in Australia have moved to five-year funding cycles for family support programs (Tayton 2014). In Indigenous communities, there may also be limited financial and staff resources to effectively monitor socio-economic indicators for programs (The Indigenous Caucus of the Indigenous Advisory and Monitoring Committee 2022). Addressing the inequity in funding between urban and rural regions can help to address the intergenerational cycles of abuse (Harris & Woodlock 2022; Hunt 2006).

4.3.5 Infrastructure pressures

The capacity of the non-profits to respond to the needs of these families is also limited by infrastructure pressures. This may stem from a lack of space or high costs for space, particularly for non-profits located in rapidly growing host communities (Hoath & Haslam McKenzie 2013;

Ryser et al. 2018). This can impact their ability to have space to support collaboration with other groups (Ryser et al. 2018). With limited staff and financial resources, it can also take long periods of time to develop new social infrastructure or shelters to serve the needs of families (Ryser et al. 2018). While rural stakeholders may encourage industries to strategically support social infrastructure investments (Parkins & Angell 2011), conversations between local service agencies and municipalities may also explore opportunities to use funds from resource royalties and / or fair share agreements to address social infrastructure gaps (FNHA and Northern Health 2015; McKenzie 2020).

4.3.6 Lack of information to guide planning and operations

A significant challenge to planning and developing an effective prototype of services stems from the lack of documented information about camps. This includes a lack of information about the number of camps, which camps are active, and which camps are being decommissioned (Northern Health 2012). This problem is exacerbated by the limited notice provided by industry about when the construction of large-scale industrial projects will begin. As such, service agencies may not have adequate time to obtain necessary information and plan for the increased demands in services (The Firelight Group with Lake Babine Nation and Nak'azdli Whut'en 2017). Part of the challenge stems from the absence of a central government agency to review, approve, and track the use of mobile work camps. Instead, there are different government agencies that are responsible for regulating camps depending on the resource sector served by them. For example, the BC Oil and Gas Commission, now known as the BC Energy Regulator, is responsible for industrial camps used in the oil and gas sector (Edwards 2019b). Industrial camps in the mining sector have been approved by the BC Ministry of Energy and Mines (Northern Health 2012). Forest district offices are responsible for approving permits for logging and silviculture camps (Northern Health 2012). At the same time, Northern Health is responsible for implementing environmental and public health regulations for industrial camps across many resource sectors as part of the Public Health Act (Northern Health 2012). Northern Health has developed an information portal that includes a list of industrial camps across northern BC by drawing upon data from the Land and Resource Data Warehouse, Northern Health Environmental Health Officer (EHO), and Ministry of Energy and Mines inspectors (Northern Health 2012). Despite this fragmented regulatory landscape, there are industries that track incidents within the camps that may inform service needs, such as data about drug and alcohol violations, family violence, and safe driving (Ryser et al. 2014).

Rural service agencies and policy-makers also struggle to effectively plan to address the complex needs for families impacted by mobile work due to a lack of information to inform evidence-based decision-making (Butters et al. 2019). For example, service agencies may not routinely and systematically document the type, scale, and frequency of needs for FIFO workers and their families in order to develop an accessible prototype model for serving their unique needs (Hoath & Haslam McKenzie 2013; McKenzie et al. 2014). Instead, service delivery approaches remain designed around conventional work arrangements (McKenzie et al. 2014). Service agencies may also fail to document digital forms of abuse that may provide important intel about threats of violence and inform early intervention strategies (Harris & Woodlock 2022).

Such information is essential to ensure the community context and needs are understood in order to generate community trust and confidence in a network of supports (Tayton 2014). These challenges also extend to Indigenous communities where there is often limited funding available to support Indigenous community-led research (The Indigenous Caucus of the Indigenous Advisory and Monitoring Committee 2022).

4.3.7 Limited community awareness

Service providers may find it difficult to reach family members to provide needed supports if these family members have limited awareness or acceptance of the value of these services (Chung et al. 2015). Connecting with families in need can also be difficult if members are isolated, lonely, or struggling with drug and alcohol addictions (Ryser et al. 2018). Family members of the 2SLGBTQQIA+ community may remain hidden in rural communities due to fears of stigma and discrimination, making it difficult for agencies to connect with, and obtain knowledge of, their needs related to intimate partner violence (Letourneau et al. 2023).

4.3.8 Operational barriers

In terms of operations, studies have highlighted four key issues impeding the provision of supports for families impacted by mobile work. For example, the delivery of services in rural regions can be fragmented, thus making it difficult for residents to access (Wrathall & Herron 2021). This fragmentation may be exacerbated by short-term funding programs that require organizations to draw heavily on volunteers and community fundraising to sustain services (Wrathall & Herron 2021). Second, small service agencies in rural regions may find it difficult to manage confidentiality while managing multiple relationships that shape child protection (Chung et al. 2015). In a close-knit community, designated safe homes may also be well known and undermine the safety of victims. Third, programs and services are rarely strategically designed to dovetail with the rhythms of mobile work. Service providers in rural regions may have limited sympathy to adjust their operations to have synergies with extended shift rotations (Hoath & Haslam McKenzie 2013). They may also have limited exposure to service models that accommodate referrals for mobile workers that are mandated to complete a domestic violence behaviour program (Government of Western Australia 2013). Furthermore, rural service providers may struggle to adapt their services for these families if senior government policies and regulatory frameworks have not been retooled to address the needs of mobile labour practices (Butters et al. 2019). Senior government policies and strategies tend to be structured around urban-based models (Chung et al. 2015).

4.3.9 Collaboration

Greater collaboration at both the local and regional level could strengthen the resources and capacity to address the needs of families impacted by mobile work (The Firelight Group with Lake Babine Nation and Nak'azdli Whut'en 2017). For example, organizations may pool their resources to complete assessments and strategies to understand the needs of these families

(Ryser et al. 2019). This may also require organizations across many communities to scale up and increase their presence at a regional level during EIA consultation processes with industry to ensure infrastructure and transportation issues are addressed. Leadership across Indigenous and non-Indigenous communities may work together with justice system professionals, regional health providers, and social service agencies to monitor sex and drug trafficking impacts across the region in order to develop cohesive regional strategies (The Firelight Group with Lake Babine Nation and Nak'azdli Whut'en 2017). Many communities across British Columbia have also established crisis response teams that are equipped with strategic plans, contact lists, and protocols for emergency situations (Victim Services and Crime Prevention Division 2010). However, there have also been recommendations to ensure wellness and response teams are in place within camps to ensure mobile workers are engaged in healthy, positive activities (The Firelight Group with Lake Babine Nation and Nak'azdli Whut'en 2017). Such collaboration across community and industry stakeholders may be led by social workers who are well-positioned to guide integrated working relationships given their interactions with many actors in these communities (Wright 2022).

Community stakeholders may also come together through interagency groups or coordinated response teams to support planning, new protocols, and integrated responses for families (Letourneau et al. 2023; Ryser & Halseth 2017). Through routine conversations, organizations may share information that can help leaders to monitor emerging pressures and issues in the community. These collaborative networks can encompass industry, local government, Indigenous leaders, child and youth supports, health representatives, mental health groups, business, employment services, schools, post-secondary institutions, transportation, literacy groups, women's and family resource centres, police, and justice supports.

4.3.10 Safety concerns

Service professionals have also encountered safety concerns as they seek to provide supports to families impacted by mobile work. For families experiencing conflict and violence, there can be concerns about the safety of both family members and staff seeking to provide support. Mobile workers may use their extended shift rotations as an excuse for not meeting orders to engage in rehabilitation programs to address violent behaviours (Government of Western Australia 2013). They may also use their prolonged absence due to mobile work to demand their rights to see their children once they return to their home community (Government of Western Australia 2013). Domestic violence workers and police may engage with families and serve restraining orders to mobile workers while they are away (Government of Western Australia 2013). This provides a window of time for organizations to move vulnerable family members. However, research conducted in Terrace and Hazelton, BC also suggests that many frontline workers engaged to provide supports to domestic violence victims are themselves survivors of abuse (Hunt 2006). Front line workers responding to domestic and family violence need more supports to cope with these stressful situations (Carrington et al. 2020). An increase in violence has increased concerns about police safety (Archbold et al. 2014).

5.0 Collaborative and Integrated Supports for Mobile Work Households

A new service model that addresses the needs of camp families will require a more flexible and innovative approach to promoting and delivering services. Broader systemic reforms may be needed to develop a more holistic and coordinated approach that strengthens the synergies of different stakeholders at the local and provincial level in order to deliver supports in ways that effectively meet the needs of families impacted by mobile work. Below, we explore some of these proposed reforms and innovative approaches to support collaborative and integrated supports for these families. These reforms advocate for a transition away from an adversarial approach to address family conflict, developing collaborative structures to streamline and coordinate access to supports, and to change the culture in how we design and approach the provision of services for families impacted by mobile work.

5.1 Reforming the family justice system

The Reforming the Family Justice System Initiative was launched in Alberta in 2013. This initiative seeks to transform how different professional stakeholders, such as lawyers, family court workers, social workers, and counselling agencies work together as a collaborative network to place a greater emphasis on supporting family well-being. The goal is to reduce children's exposure to adversity within family units and invest more resources to improve the supports that will help families thrive and work through conflict and stress (Jerke 2023). This will require a new approach to ensure brain science is incorporated into the training and certification of professionals to reflect a better understanding of how family conflict experienced within the home and through litigation processes may impact childhood stress and development. Instead of processes that are focused on adversity and family separation, new approaches shift families away from the court system to prevent escalation and focus on building conflict resolution skills, open transparency, healing, and non-adversarial communication (Jerke 2023). This may be achieved though research, courses, experiential learning programs, and modules in law schools and continuing legal education programs to support a reformed culture across the legal system (Jerke 2023).

A pilot initiative called Resolution and Court Administrative Services was launched in Grande Prairie, Alberta to reflect this new model for reforming the justice system (Jerke 2023). Families are connected with resources to address stress and prevent conflicts from escalating into legal disputes. In the case of Grande Prairie, this involved connecting families with more than 50 community groups, such as mediators, lawyers, family service agencies, counselling services, police, court staff, and domestic violence organizations. Perhaps most importantly, a new Family Justice Navigator role was established to connect families with professionals trained in brain science and trauma informed care to address the needs of children and explore different resolutions (Jerke 2023). This initiative is complemented with the New Ways for Families Program that provides support for families in separation and divorce in order to address and reduce high-conflict parenting issues. Information connecting brain science and family conflict is also provided for families and professionals through the Community E-Learning Hub in order to

strengthen a broader community awareness about the harms of adversarial court processes on children (Jerke 2023). For these types of models to be successful, however, divorce professionals will need to understand how the crisis or deteriorating relationship is shaped by family structure and processes (Saposnek & Rose 2024). With our interest in mobile work, this requires divorce professionals to understand how long distance labour commuting, extended shift rotations, and related stresses imposed on family relationships, routines, and resources shape or restructure family dynamics.

5.2 Whole of government strategy

Drawing upon reforms unfolding across Australia, the Victorian Family Violence Reform Strategy was established as a whole of government approach designed to address family conflict and violence that engages senior government leadership at the ministerial level, state agency leaders, the justice system, community service agencies, and stakeholders in planning and community development (Ross et al. 2011). It was one of three clusters funded over four years through the Local Government Preventing Violence Against Women in Our Community Program (Tayton 2014). The strategy reflects a need to pursue horizontal coordination of policies, funding, and strategic priorities across senior government agencies through the development of the Family Violence Reform Coordination Unit. This unit is also responsible for coordination with family violence committees at the regional and sub-regional levels with links to Indigenous groups. It also reflects the vertical integration of supports within communities to coordinate evidence-based planning and prevention at the local level (Ross et al. 2011). It also involves the co-location of agencies and use of common protocols and practices to streamline jointly delivered supports at key entry points where families seek assistance. These entry points may start with family violence services, mainstream services (i.e. education, mental health, health, drug and alcohol rehabilitation, etc.), or justice system supports (i.e. police, court, child protection services).

Tayton (2014) argues that prevention is a key aspect of the whole of government approach by investing resources and collaborative efforts to change attitudes and behaviours in order to mitigate conflict and violence. These strategies target risk factors or conditions that may perpetuate gender-based violence. To be effective, these integrated horizontal and vertical models must have a champion government agency, cross-agency training, common protocols and risk assessment tools, clear roles and responsibilities for each stakeholder, data and information to inform evidence-based decision-making, information sharing protocols, and integrated case management reviews.

These reforms have not been easy to achieve as tensions have unfolded over allocating limited financial resources to coordination activities rather than directly into frontline services (Ross et al. 2011). In some cases, supports, such as mental health, drug and alcohol addiction services, and even child protection services have only been marginally included. Service gaps may persist due to the uneven distribution of resources to address a continuum of needs from housing to income supports to children's programs. At the local level, there have also been concerns over

the complexity of reform processes that may compromise the autonomy or independence of agencies would be compromised.

5.3 Hub and spoke, in-reach and outreach model

Chung et al. (2015) describe the hub and spoke model that is designed to strengthen coordination across local services and with outreach or visiting services from regional service agencies. These models may be managed through community service 'hub' agencies that work with health departments, police, and justice supports. Hub agencies will provide 'in-reach' supports as people visit service offices in regional centres or 'outreach' supports to connect with families in their homes in remote areas. Outreach supports may also be provided through satellite offices as regional staff visit smaller communities to deliver counselling, parenting, health, or supports for domestic and family violence. The partnership between regional service agencies with rural stakeholders to access local infrastructure for these outreach supports strengthens their credibility and integration in the community.

5.4 Alternative models to keep families together

There have also been initiatives to address family conflict within the home rather than immediately moving family members to safe homes. In High River, Alberta, for example, the Safe at Home pilot was developed by the Rowan House Society (Jerke 2023). The goal is to keep spouses and children in the home with supports, while providing temporary housing if needed for the spouses who have committed family violence. This approach de-emphasizes 'punishment' for the perpetrators in order to focus on the complex family circumstances that have led to conflict (Jerke 2023). There is also a shift in the justice system to place a greater emphasis on resolution through mediation. These coordinated responses may be complemented by anti-violence campaigns, men's leadership programs to foster an anti-violence culture, and school-based initiatives to encourage healthy relationships (Chung et al. 2015).

5.5 Women's police stations

Carrington et al. (2020) explore the effectiveness of specialist police stations in Argentina that are staffed with policewomen to coordinate supports focused on receiving and assisting victims of domestic violence. These are also multidisciplinary teams that provide access to social workers, lawyers, counsellors, housing supports, and financial advice to address the complex needs of people experiencing domestic or family violence. Women may also obtain emergency provisions for food and clothing. There is an emphasis on the victim's wishes rather than prioritizing any criminal justice response. This is found to be particularly effective for Indigenous women who may lack trust and a willingness to engage with the criminal justice system due to past colonial injustices. Since these stations are staffed by policewomen, women experiencing domestic violence are more likely to report and connect with other financial, health, counselling, and legal supports (Carrington et al. 2020).

5.6 Reforming the environmental impact assessment processes for major industrial projects

Drawing upon the calls to action by the National Inquiry into the Missing and Murdered Indigenous Women and Girls (MMIWG), voices are also advocating for the reform of environmental impact assessment processes for major industrial resource-based projects to reflect the impact of mobile workforces on the violence and safety of Indigenous and non-Indigenous women (Edwards 2019b; National Inquiry into Missing and Murdered Indigenous Women 2019). Provincial and federal EIA regulations do not currently require industrial projects to adopt a gender-based lens in the planning, operations, and monitoring of industrial camps and their mobile workforces (BC First Nations Justice Council 2024; Edwards 2019b; Garofalo 2022; Morgan et al. 2021). In particular, they are not required to track data that monitors the impacts of these projects on Indigenous communities (Brisbois et al. 2019; The Indigenous Caucus of the Indigenous Advisory and Monitoring Committee 2022). This has left Indigenous leaders to call for legislative reforms that will ensure not only a deeper understanding of camps that perpetuate historical traumas of abuse, but to ensure Indigenous communities receive adequate integrated supports to address these pressures before mobile workforces emerge in their traditional territories (The Firelight Group with Lake Babine Nation and Nak'azdli Whut'en 2017). This includes direct funding to ensure Indigenous women have access to safe transportation, emergency phones, and safe houses (BC First Nations Justice Council 2024). Indigenous leadership has also advocated for legislated reforms that require industry projects to implement gender-based violence and sexual exploitation awareness training for the mobile workforce (FNHA and Northern Health 2015; The Indigenous Caucus of the Indigenous Advisory and Monitoring Committee 2022).

Some progress has been made through new initiatives unfolding that engage Indigenous stakeholders, industry, and senior levels of government. For example, The Indigenous Advisory and Monitoring Committee for the Trans Mountain Expansion and Existing Pipeline was formed in 2017 to strengthen dialogue and coordination between Indigenous communities, the federal government, and the Canada Energy Regulator (The Indigenous Caucus of the Indigenous Advisory and Monitoring Committee 2022). This committee is implementing three community-based monitoring pilot projects that track Indigenous socio-economic indicators, two of which are located in the Fraser Valley and Interior of BC.

Despite the urgent need for reform, efforts to support change are hampered by outdated policies and strategies. Most notably, British Columbia's Provincial Domestic Violence Plan is now a decade old (Provincial Office of Domestic Violence 2014).

6.0 Conclusion

This report sought to better understand how mobile workers and their families are impacted by the unique stresses and challenges imposed by mobile work and extended shift rotations in order to inform future strategic directions for new service models that will promote rather than undermine the health and well-being of workers, spouses, children, and extended family members. Such reforms are long overdue as large-scale industrial projects unfold across northern BC. As industries continue to use mobile workforces to support flexible operations and construction timelines, families provide the backbone for this to be possible. They do so with tremendous risk and stress for each member of the household. Family dynamics are altered with routine disruptions as mobile workers prepare to leave for their rotation and as they return home for intense short periods. These disruptions affect consistent parenting, relationship intimacy, household roles and responsibilities, and family routines for children. Without adequate information and wrap-around supports during the early stages of these mobile lifestyles, sustained stress can lead to conflict and violence. Unfortunately, witnessing open conflict can affect the development of children, making it essential to ensure preventative and comprehensive supports are in place for these families. A new holistic model for providing services to these households will strengthen their capacity to cope with the pressures of routine disruptions and to work through routine conflicts in a more constructive and healthy manner.

The literature reviewed in this background report provides insights into some helpful starting points to initiative a positive transformation with supports provided to families engaged in mobile work. To start, families need an information package or resource document to guide their decision to engage in mobile work, as well as to prepare for, and cope with, the stresses associated with mobile work. This may include tips for parents to have conversations with their children about the family decision to engage in mobile work and how they will manage household responsibilities and transition periods around the mobile worker's shift rotation schedule. It can also help families to recognize signs of stress for children who may struggle in the absence of a parent. This type of information guide should be complemented with access to an inventory of local, regional, and provincial services and programs that are strategically designed to address the needs of families engaged in mobile work.

Given the potential for mobile work to disrupt family dynamics and strain relationships, it will be essential for families to have a communication plan in place to allow children to remain in touch with mobile workers and to ensure couples can work through household concerns during the shift rotation. This will help to alleviate the build-up of stress when mobile workers return to their families in their home communities. This may require workshops to be delivered in camps and communities to equip mobile workers, family members, and grandparents with the technology skills needed to use digital platforms for communication.

A primary goal of this initiative is to ensure families engaged in mobile work have adequate support to help them cope with the stresses associated with this lifestyle in order to reduce the potential for conflict, violence, or break-up within families. This is a critical goal given the evidence provided through brain science that demonstrates how exposure to conflict and

trauma can impact the development of children and adolescents. Appropriate services and programs will need to be in place to strengthen the resiliency of families as they engage in mobile work overtime. Parenting programs, for example, can be strategically designed to address the unique challenges faced by these families with attention to consistent parenting, managing children's anxieties and behaviours, and tips for managing transition periods associated with mobile work. Spouses will need more support to help them shoulder the additional responsibilities and uncertainties that come with sudden changes to shift rotations and contracts of mobile workers. More drop-in programs, visiting programs, and playgroups are needed for spouses and their children. There is an urgent need for daycare programs that dovetail with the workforce schedules of spouses in home communities. Children and adolescents attending school may need additional counselling, tutoring, and mentoring supports to help them cope with the stress and anxieties associated with mobile work routines within their household. In some cases, camps may be organized to help youth who have witnessed or experienced violence to cope with these past experiences and develop skills to be more resilient in the future. Mobile workers will need better access to workshops that reinforce healthy habits while they are engaged in remote work, such as exercise, healthy nutrition, and strategies to manage fatigue and stress. Such habits will better position mobile workers to re-engage with families in between shift rotations. Furthermore, families may become more resilient when they have the opportunity to engage with other families in similar circumstances through social events or social media groups in order to share experiences and tips for coping with this lifestyle.

Failure to address the stresses associated with mobile work will only exacerbate conflict and increase the risk of domestic or family violence. Unfortunately, service agencies in rural regions have not been equipped with adequate resources to provide trauma informed and culturally appropriate supports for spouses and children impacted by violence. Victims of domestic and family violence will need more information and advocacy resources to work through referral processes and related protocols for urgently needed supports. In this regard, there are some positive initiatives unfolding to address these challenges as communities have either established a justice navigator role or provided tip sheets for frontline workers to address the unique issues of family and domestic violence in rural regions.

Moving forward, community service agencies may also need to reflect on the more nuanced needs of special groups impacted by mobile work. This includes a need for programs to support grandparents who may struggle to cope with the pressures of family conflict and demands for care supports related to mobile work. More culturally appropriate supports will be needed to address the needs of Indigenous families and immigrant families engaged in mobile work. For Indigenous families, there is a need to recognize how the legacies of colonialism may be perpetuated by the negative impacts of resource extraction activities in close proximity to Indigenous communities. There is a need to strengthen cultural sensitivity training for both industry and community organizations that provide support to Indigenous people. Indigenous communities also need to be equipped with resources to provide trauma informed services for spouses and children who have witnessed or experienced violence. For immigrant families, this

may require more attention to welcome packages and access to translators to help them integrate into the community and become connected with needed resources and supports.

An effective service prototype, however, must be informed by effective data and information management to guide the design and implementation of supports. This will require legislative and systemic changes to environmental impact assessment review processes and ongoing monitoring programs to ensure data about mobile workforces is tracked and used to inform investments in social infrastructure, services, and programs. It will require a change in the culture of how we train the next generation of service providers to monitor the needs of mobile workers and their families. Joint training initiatives may be organized to ensure family service agencies, justice system professionals, health care professionals, schools, and other agencies understand how mobile work and extended shift rotations may produce stress on family relationships. This should also include efforts to ensure professionals are trained in brain science to understand how exposure to conflict and violence may impact the development and resiliency of children in these small communities. As rural regions continue to endure the challenges of having limited resources to sustain their services and programs, it will be essential to ensure stakeholders are strengthening their collaborative approaches to move away from siloed programs to a more streamlined and integrated system of supports for families with children. Policy-makers can no longer afford to look at large-scale industrial projects in isolation, but must recognize the real costs incurred by families by investing in new service models that will strengthen the well-being of families engaged in mobile work.

Appendix A: Scoping Review Methodology

Several terms were used to obtain relevant information about mobile work and family well-being through Google Scholar. These terms included: family violence, domestic violence, mobile work, FIFO, long distance labour commuting, abuse, conflict, stress, violence, trauma, coping, services / supports, children / partner / spouse, legal, and justice. Input from the Project Leadership Committee was also pursued to acquire additional resources. A collection of 190 news stories, articles, student theses, books, academic reports, and government documents were reviewed. Each document was assessed:

• To understand how camp families are negatively impacted by camp work, and enumerate the range of stresses and challenges they experience;

• To identify areas of needed assistance and how this assistance could be offered in ways that work for camp families, to inform the design of service and tool prototypes;

• To identify how camp families engage in relation to the structures in their community;

• To inform how communities can play a role in designing and offering services and tools to camp families; and

• To identify ways to mitigate the stresses and their impacts on children, youth and families, while integrating camp families and their communities.

This was supported by a descriptive document and thematic content analysis to extract information for each article and assess the issues that impact families engaged with mobile work (Bowen 2009; Levac et al. 2010). Themes were then reported within the context of research questions to inform a more educational, supportive, preventative, and adaptable prototype of services and tools for camp families (Westphaln et al. 2021).

References

Access Consulting Group. (2008). *Stage 1 construction site plan: Carmacks Copper Project, Yukon*. Western Copper Corporation.

Adams, A., Lea, S. G., & D'Silva, E. M. (2021). Digital technologies and interventions against gender-based violence in rural areas. *International Criminal Justice Review, 31*(4), 438-455.

Archbold, C. A., Dahle, T., & Jordan, R. (2014). Policing "the patch": Police response to rapid population growth in oil boomtowns in Western North Dakota. *Police Quarterly*, *17*(4), 386-413.

Asare, B. Y. A., Kwasnicka, D., Robinson, S., & Powell, D. (2024). Health and related behaviours of partners of fly-in fly-out workers in Australia: A cross-sectional study. *Community, Work & Family*, *27*(1), 78-97.

Atkinson, G., & Hargreaves, J. (2014). An exploration of labour mobility in mining and construction: Who moves and why. Adelaide: National Centre for Vocational Education Research, Commonwealth of Australia.

Australia Pacific LNG. (2012a). *Australia Pacific LNG integrated housing and accommodation strategy, gas fields pipeline*. Public Document Q-LNG01-15-MP-0126. Milton, QLD.

Australia Pacific LNG. (2012b). *Australia Pacific LNG – LNG facility community health and safety strategy*. APLN-000-HS-R01-D-14924.

Australia Pacific LNG. (2012c). *Integrated housing and accommodation strategy, Volume 2 – LNG Facility*.

Avery, D., & Novoa, G. (2022). A hidden chapter in life we did not expect or foresee: Sharing the stories of grand-families in Prince Edward Island. In Neis, B., Murray, C., & Spinks, N. (Eds.), *Families, Mobility, and Work* (225-232). Memorial University Press.

Baker, L. A., & Mutchler, J. E. (2010). Poverty and material hardship in grandparent-headed households. *Journal of Marriage and Family*, *72*(4), 947-962.

Baker, A., Roach, G., Ferguson, S., & Dawson, D. (2003). The impact of different rosters on employee work and non-work time preferences. *Time Society, 12(2/3),* 315-332.

Barclay, M.A., Harris, J., Everingham, J., Kirsch, P., Arend, S., Shi, S., & Kim, J. (2013). *Factors linked to the well-being of fly-in fly-out (FIFO) workers*. Research report. Brisbane, Australia: CSRM and MISHC, Sustainable Minerals Institute, University of Queensland.

BC First Nations Justice Council. (2024). *Indigenous women's justice plan: Guiding draft*. Westbank, BC: BC First Nations Justice Council.

Beach, R., Brereton, D., & Cliff, D. (2003). *Workforce turnover in FIFO mining operations in Australia: An exploratory study*. Brisbane: CSRM and MISCH.

Beamish Consulting Ltd. and Heartwood Solutions Consulting. (2013). *Policy, communications, capacity: a time to lead. Scoping the impacts and benefits of work camps in the Peace region.* Prepared for Peace River Regional District. Authors.

Bergen, R. (2018, November 12). Site visit: Caterpillar's roster of mining haul trucks being equipped with autonomous ready designs, company says. CIM Magazine.

Bhalotra, S. R., GC Britto, D., Pinotti, P., & Sampaio, B. (2021). Job displacement, unemployment benefits and domestic violence. Institute of Labor Economics. No. 14543.

Bloomfield, K. (2017). The lived experiences of "camp wives" in Northwestern BC. Master's thesis. Prince George, BC: University of Northern British Columbia. Available online at: https://unbc.arcabc.ca/islandora/object/unbc:17360

Bowen, G. A. (2009). Document analysis as a qualitative research method. *Qualitative Research Journal*, *9*(2), 27-40.

Brand, D. (2014). Kit/set/tlements: Camps and hydrotowns in New Zealand 1840-1985. *Journal of Urban Design*, 19(3), 333-351.

Brisbois, B. W., Reschny, J., Fyfe, T. M., Harder, H. G., Parkes, M. W., Allison, S., Buse, C., Fumerton, R., & Oke, B. (2019). Mapping research on resource extraction and health: A scoping review. *The Extractive Industries and Society*, *6*(1), 250-259.

Butters, L., Hall, H., Halseth, G., Ryser, L., Vodden, K., & Markey, S. (2019). Policy synthesis: Community impacts of labour mobility. Available online at: https://www.onthemovepartnership.ca/wp-content/uploads/sites/14/2019/03/Policy-Synthesis_Community-Impacts_March-19-2019_EXTERNAL.pdf

Carrington, K., Guala, N., Puyol, M. V., & Sozzo, M. (2020). How women's police stations empower women, widen access to justice and prevent gender violence. *International Journal for Crime, Justice and Social Democracy*, *9*(1), 42-67.

Carrington, K., Hogg, R., & McIntosh, A. (2011). The resource boom's underbelly: Criminological impacts of mining development. *Australian & New Zealand Journal of Criminology*, *44*(3), 335-354.

Carrington, K., McIntosh, A., & Scott, J. (2010). Globalization, frontier masculinities and violence: Booze, blokes and brawls. *The British Journal of Criminology*, *50*(3), 393-413.

Cassiano, M. S., Raza, A., & Ricciardelli, R. (2022). Labour surveillance practices in Canada's oil sands region: Ethnographic accounts from work camps in northern Alberta. *Interdisciplinary Justice Research*, *11*, 45-72.

CBC News. (2016). Automation becoming more prevalent in mining, says executive.

Chandler, G. (2014). *Reducing alcohol and substance abuse: A benefit of workforce housing in oil, gas, mining and construction industries*. White Paper 04.14. Target Logistics.

Chung, D., Bryant, L., Elder, A., & Wendt, S. (2015). Seeking help for domestic violence: Exploring rural women's coping experiences: State of knowledge paper. *ANROWS Landscapes*. Available online at: https://anrows.intersearch.com.au/anrowsjspui/bitstream/1/19982/1/4_1-3-LandscapesRuralWomen-14-7-2015-1.pdf

Clark, J. (2018, August 23). Data is the future of mining. Canadian Mining & Energy. Available on-line at: https://www.miningandenergy.ca/technology/article/data_is_the_future_of_mining.

Clark, J. (2017, October 17). The future is here. Canadian Mining & Energy. Available on-line at: https://www.miningandenergy.ca/technology/article/the_future_is_here.

Cohen, A., & Hjalmarson, E. (2020). Quiet struggles: Migrant farmworkers, informal labour, and everyday resistance in Canada. *International Journal of Comparative Sociology*, *61*(2-3), 141-158.

Construction Sector Council. (2005). *Working mobile: A study of labour mobility in Canada's industrial construction sector*. Ottawa: Construction Sector Council.

Cooke, D. C., Kendall, G., Li, J., & Dockery, M. (2019). Association between pregnant women's experience of stress and partners' fly-in-fly-out work. *Women and Birth*, *32*(4), e450-e458.

Daly, M., & Perry, G. (2021). In-law relationships in evolutionary perspective: The good, the bad, and the ugly. *Frontiers in Sociology*, *6*, 683501.

Daly, M., & Perry, G. (2017). Matrilateral bias in human grandmothering. *Frontiers in Sociology*, *2*, 11.

Dare, J., Marquis, R., Wenden, E., Gopi, S., & Coall, D. A. (2020). The impact of a residential camp on grandchildren raised by grandparents: Grandparents' perspectives. *Children and Youth Services Review*, *108*, 104535.

Davison, C. (2007). Engagement and the northern school setting: A critical ethnography among the Tlicho First Nation of Behchoko, NWT. PhD. Dissertation. Department of Community Health Sciences, University of Calgary.

Davison, C. M., & Hawe, P. (2012). All that glitters: Diamond mining and Tåîchô youth in Behchokö, Northwest Territories. *Arctic*, 214-228.

Di Milia, L., & Bowden, B. (2007). Unanticipated safety outcomes: Shiftwork and drive-in, drive-out workforce in Queensland's Bowen Basin. *Asia Pacific Journal of Human Resources, 45(1),* 34-45.

Dittman, C. K., Henriquez, A., & Roxburgh, N. (2016). When a non-resident worker is a non-resident parent: Investigating the family impact of fly-in, fly-out work practices in Australia. *Journal of Child and Family Studies*, *25*, 2778-2796.

Dittman, C. K., & Rathbone, J. A. (2023). 'I Have to be the mum and dad for 4 weeks straight'. Exploring the experiences and support needs of Australian parents and partners engaged in fly-In/fly-out work practices. *Journal of Family Issues*, *44*(8), 2138-2161.

Dorow, S., & Jean, S. (2022). Managing liminal time in the fly-in fly-out work camp. *Human Relations*, *75*(4), 681-704.

Dorow, S., & Mandizadza, S. (2018). Gendered circuits of care in the mobility regime of Alberta's oil sands. *Gender, Place & Culture*, *25*(8), 1241-1256.

Dorow, S., & O'Shaughnessy, S. (2013). Fort McMurray, Wood Buffalo, and the oil/tar sands: Revisiting the sociology of "community". *Canadian Journal of Sociology*, *38*(2), 121-140.

Edwards, K. (2019a, May 13). *How we treat women*. Maclean's. Available online at: https://macleans.ca/news/how-we-treat-women/

Edwards, K. (2019b, June 3). *MMIWG's Findings on 'man camps' are a good place for government to get started*. Maclean's. Available online at: https://macleans.ca/news/mmiwgs-findings-on-man-camps-are-a-good-place-for-government-to-get-started/

EHN Canada. (2019). Stress, shift work, and little support: Alcohol and substance use disorders in Canadian oil and gas workers. EHN Canada. Available on-line at: https://www.edgewoodhealthnetwork.com/resources/blog/stress-shift-work-and-little-support-substance-use-disorders-in-canadian-oil-gas-workers/

Environmental Assessment Office. (2014). *Coastal Gaslink Pipeline Project: Assessment report*. Victoria, BC: Province of British Columbia. Available online at: https://projects.eao.gov.bc.ca/api/document/5e459849c981fe0021018fb0/fetch/CGL%20-%20Assessment%20Report%20for%20EAC%20Decision%20-%2020141008.pdf.

Fahy, P. J., & Steel, N. (2008). Post-secondary learning priorities of workers in an oil sands camp in Northern Alberta. *Journal of Vocational Education and Training*, *60*(3), 273-295.

First Nations Health Authority and Northern Health. (2015). *Northern First Nations caucus overview of sub-regional engagement sessions*. Prince George, BC: First Nations Health Authority and Northern Health.

Foster, J., & Taylor, A. (2013). In the shadows exploring the notion of "community" for temporary foreign workers in a boomtown. *Canadian Journal of Sociology*, *38*(2), 167-190.

Fresle, N. (2010). *The role of social support systems in reducing loneliness and social isolation for parents whose partner work fly-in/fly-out*. Unpublished honour's thesis. Perth: Edith Cowan University.

Gardner, M. (2021, May 4). The digital decade to come. *Canadian Mining Journal.*

Gardner, B., Alfrey, K.-L., Vandelanotte, C., & Rebar, A. L. (2018). Mental health and wellbeing concerns of fly-in, fly-out workers and their partners in Australia: A qualitative study. BMJ Open. Available online at: https://bmjopen.bmj.com/content/8/3/e019516

Garofalo, E. (2022, June 6). *A direct link between work camps and violence*. My Sea to Sky. https://myseatosky.org/email-blasts/2022-06-22-trigger-warning-work-camps-are-linked-to-increased-sexual-violence-all/

Giesbrecht, N., & MacDonald, S. (1982). Alcohol Problems in Conjunction with Resource Development in Northern Canada: Control Issues and Research Policies. *Contemp. Drug Probs.*, *11*, 421-453.

Giesbrecht, N., & McKenzie, D. (2009). Alcohol problems and resource development in Atikokan, Ontario: Benign effects or insufficient information? *Canadian Journal of Community Mental Health*, *2*(S1), 93-99.

Gilbert, J. M. (2019). *Between a rock and a hard place: Exploring ways to optimise wellbeing for people who work fly-in, fly-out in the Australian mining industry*. Doctoral dissertation. Curtin University. Available online at: https://espace.curtin.edu.au/bitstream/handle/20.500.11937/77509/Gilbert%20J%202019.pdf?sequence=1&isAllowed=y

Gillespie, L. K., King, L. L., Bostaph, L. G., & Goodson, A. (2021). Crime victim service providers' needs and barriers: Rurality and "high need". *Journal of Interpersonal Violence*, *36*(15-16), 7274-7297.

Gilmore, W., Liang, W., & Chikritzhs, T. (2016). The wild west: Associations between mining and violence in Western Australia. *Australian Journal of Rural Health*, *24*(2), 136-143.

Goodfellow, J., & Laverty, J. (2003). Grandparents supporting working families. *Family Matters*, 66(Spring/Summer), 14-19.

Government of Canada. (2021). *Government invests to help accelerate innovation in Canada's mining industry*. Ottawa: Innovation, Science, and Economic Development Canada.

Government of Western Australia. (2013). *Fly-in/fly-out (FIFO) and family and domestic violence: An exploratory study of the association between FIFO work arrangements and family and domestic violence.* Department for Child Protection and Family Support, Government of Western Australia. Available online at: https://apo.org.au/sites/default/files/resource-files/2013-11/apo-nid102366.pdf

Greer, S. B. (2011). *Children and the fly-in/fly-out lifestyle: Employment-related paternal absence and the implications for children*. Doctoral dissertation. Curtin University. Available online at: https://espace.curtin.edu.au/bitstream/handle/20.500.11937/559/169725_Bradbury%202011.pdf?sequence=2&isAllowed=y

Grzetic, B. (2022). Ruminations on ephemerality. In Neis, B., Murray, C., & Spinks, N. (Eds.), *Families, Mobility, and Work* (54-77). St. John's: Memorial University Press.

Hanoa, R., Baste, V., Kooji, A., Sommervold, L., & Moen, B. (2011). No difference in self-reported health among coal miners in two different shift schedules at Spitsbergen, Norway. *Industrial Health, 49(5),* 652-657.

Harris, B., & Woodlock, D. (2022). 'You can't actually escape it': Policing the use of technology in domestic violence in rural Australia. *International Journal for Crime, Justice and Social Democracy*, *11*(1), 135-148.

Haslam McKenzie, F. (2013). Delivering enduring benefits from a gas development: Governance and planning challenges in remote Western Australia. *Australian Geographer, 44(3),* 341-358.

Haslam McKenzie, F., & Rowley, S. (2013). Housing market failure in a booming economy. *Housing Studies, 28(3),* 373-388.

Hemmadi, M. (2021, Feb 24). Digitization making some sectors more productive, but legacy industries lag: Statistics Canada. The Logic. Toronto.

Hoath, A. & Haslam McKenzie, F. (2013) *The socio-economic impacts of long-distance commuting on source communities*. Perth, Co-operative Research Centre for Remote Economic Participation and Curtin Graduate School of Business. Available online at: https://nintione.com.au/resource/TheSocio-economicImpactsLDConSourceCommunities.pdf

Houghton, D. (1993). Long distance commuting: A new approach to mining in Australia. *The Geographical Journal, 159(3),* 281-290.

House of Representatives. (2013). 'Fly-out' communities. In Cancer of the bush or salvation for our cities? *Fly-in, fly-out and drive-in, drive-out workforce practices in regional Australia.* (pp. 89-100) Canberra, Australia: Standing Committee on Regional Australia, Parliament of the Commonwealth of Australia. Available online at:
https://www.austlii.edu.au/au/other/AUHRStaCRAU/2013/1.pdf

Hughes, K. D., & Silver, W. A. (2020). Beyond time-binds: Rethinking work–family dynamics for a mobile world. *Human Relations*, *73*(7), 924-952.

Hunt, S. (2006). Violence in the lives of sexually exploited youth and adult sex workers in BC. Available online at:
https://www.jibc.ca/sites/default/files/research/pdf/Violence_Research_FinalReport2006.pdf

Jerke, R. A. (2023). *The story of re-imagining the family justice system study leave report.* Court of King's Bench of Alberta.

Kaczmarek, E. A., & Sibbel, A. M. (2008). The psychosocial well-being of children from Australian military and fly-in/fly-out (FIFO) mining families. *Community, Work & Family*, *11*(3), 297-312.

Kelly, G., Garcia M.F.M., & Dorow, S. (2022). A juggling act: Mothering while FIFO. In Neis, B., Murray, C., & Spinks, N. (Eds.), *Families, mobility, and work* (99-111). Memorial University Press.

Kinnear, S., Kabir, Z., Mann, J., & Bricknell, L. (2013). The need to measure and manage the cumulative impacts of resource development on public health: An Australian perspective. Chapter 7 in A.J. Rodriguez-Morales (ed.) *Current topics in public health* (pp. 125-148). InTech Publishing. Open access: http://dx.doi.org/10.5772/54297.

Kirby, J. (2015, June 19). Forward thinking is key for Alloycorp Mining Inc. Canadian Mining & Energy. Available on-line at:
https://www.miningandenergy.ca/exploration/article/forward_thinking_is_key_for_alloycorp_mining_inc.

Kuyek, J. & Coumans, K. (2003). *No rick unturned: Revitalizing the economies of mining dependent communities*. Ottawa: Mining Watch Canada.

Labour Education Centre & Adapting Canadian Work and Workplaces to Respond to Climate Change (ACW). (2022). Working green 2050: Just transition: Exactly what's in it for workers. Available on-line at: https://yorkspace.library.yorku.ca/server/api/core/bitstreams/0ec5a8ae-449c-4bdd-b767-5fac256745bb/content.

Langdon, R. R., Biggs, H. C., & Rowland, B. (2016). Australian fly-in, fly-out operations: Impacts on communities, safety, workers and their families. *Work*, *55*(2), 413-427.

Lederach, J. P. (1995). Preparing for peace: Conflict transformation across cultures. Syracuse, NY: Syracuse University Press.

Lee, Y., & Blitz, L. V. (2016). We're GRAND: A qualitative design and development pilot project addressing the needs and strengths of grandparents raising grandchildren. *Child & Family Social Work*, *21*(4), 381-390.

Lester, L., Waters, S., Spears, B., Epstein, M., Watson, J., & Wenden, E. (2015). Parenting adolescents: Developing strategies for FIFO parents. *Journal of Child and Family Studies*, *24*, 3757-3766.

Lester, L., Watson, J., Waters, S., & Cross, D. (2016). The association of fly-in fly-out employment, family connectedness, parental presence and adolescent wellbeing. *Journal of Child and Family Studies*, *25*, 3619-3626.

Letourneau, N., McBride, D. L., Barton, S. S., & Griggs, K. (2023). Service providers' perspectives: Reducing intimate partner violence in rural and northern regions of Canada. *Canadian Journal of Nursing Research*, *55*(2), 165-175.

Levac, D., Colquhou, H., & O'Brien, K. (2010). Scoping studies: Advancing the methodology. *Implementation Science*, *5*(1), https://doi.org/10.1186/1748-5908-5-69.

Lopez-Pacheco, A. (2018, October 29). A combination of hands-on expertise and high-tech tools offer big wins to operators working to keep on top of downtime. CIM Magazine. Available on-line at: https://issuu.com/cim-icm_publications/docs/sepoct2018_full.

Macgroarty, K. & Pfaender, P. (n.d.). *Fly-in and Fly-out – Getting doctors to the mines*. Presentation by Directors of Mobile Medical Services. Available on-line at: http://www.qrc.org.au/conference/_dbase_upl/Fly%20in%20and%20fly%20out%20getting%20doctors%20to%20the%20mine.pdf.

Magnus, A. M., & Donohue, F. A. (2022). Reimagining access to justice through the eyes of rural domestic violence survivors. *Theoretical Criminology*, *26*(3), 434-455.

Major, C., & Winters, T. (2013). Community by necessity: Security, insecurity, and the flattening of class in Fort McMurray, Alberta. *Canadian Journal of Sociology*, *38*(2), 141-165.

Manitoba Hydro. (n.d.). *Bipole III transmission project. Chapter 3: Project description: Subsection 3.5.4.8 Keekwatinoow Construction Camp*. pp. 3-113ff.

Markey, S., Ryser, L., & Halseth, G. (2015). "We're in this all together": Community impacts of long-distance labour commuting. *Rural Society*, *24*(2), 131-153.

Marriott, E. (2023). Just for whom? Including immigrant and migrant workers of Asian Descent in the energy transition dialogue in Alberta, Canada. Master's thesis. Edmonton: University of Alberta.

Massie, A., & Jackson, E. (2020). 'Standing up for Canadian oil & gas families': Tracing gender, family, and work in the Alberta petro-economy. *Media Tropes*, *7*(2), 40-66.

May, B. (2019). *Precarious work: Understanding the changing nature of work in Canada*. London, UK: House of Commons. Available online at: https://www.ourcommons.ca/Content/Committee/421/HUMA/Reports/RP10553151/humarp19/humarp19-e.pdf

Mayer, A., & Hazboun, S. O. (2019). Does fracking drive you to drink? Unconventional oil and gas production and alcohol consumption in US Counties. *The Extractive Industries and Society*, *6*(3), 823-830.

Mayes, R. (2020). Mobility, temporality, and social reproduction: Everyday rhythms of the 'FIFO family' in the Australian mining sector. *Gender, Place & Culture*, *27*(1), 126-142.

McDonagh, M. (2010). *The end of boom towns: The rise of fly-in/fly-out mining camps and implications for community and regional development in the Canadian North*. M.A. Thesis. Vancouver: School of Community and Regional Planning, University of British Columbia.

McKenzie, F. H. (2020). Long distance commuting: A tool to mitigate the impacts of the resources industries boom and bust cycle? *Land Use Policy*, *93*, 103932.

McKenzie, F., Haslam McKenzie, F., & Hoath, A. (2014). Fly-in/fly-out, flexibility and the future: Does becoming a regional FIFO source community present opportunity or burden? *Geographical Research*, *52*(4), 430-441.

McKernan, C. (2013). *Uncovered voices: Life stories of Lebanese immigrants and their adaptation to a northern Ontario mining frontier*. PhD. Dissertation. Ontario Institute for Studies in Education, University of Toronto.

McTernan, W. P., Dollard, M. F., Tuckey, M. R., & Vandenberg, R. J. (2016). Enhanced co-worker social support in isolated work groups and its mitigating role on the work-family conflict-depression loss spiral. *International Journal of Environmental Research and Public Health*, 13(4), 382.

Meredith, V., Rush, P., & Robinson, E. (2014). *Fly-in fly-out workforce practices in Australia: The effects on children and family relationships*. Child Family Community Australia Paper No.19. Available online at: https://core.ac.uk/outputs/30675205/?utm_source=pdf&utm_medium=banner&utm_campaign=pdf-decoration-v1

Mills, S., & St-Amand, A. (2016). I wanted a career not a job": First Nations and Métis employment in the construction of the Lower Mattagami River project.

Mining Industry Human Resources Council (MIHRC). (n.d.). New to Canada: Information on the mining industry for immigrants. Kanata, Ontario: Mining Industry Human Resources Council.

Mining Industry Human Resources Council (MIHRC). (2024). Support for newcomer integration into Canada's mining sector: An environmental scan. Kanata, Ontario: Mining Industry Human Resources Council.

Morgan, V. S., Hoogeveen, D., & de Leeuw, S. (2021). Industrial camps in Northern British Columbia: The politics of 'essential' work and the gendered implications of man camps. *ACME: An International Journal for Critical Geographies*, *20*(4), 409-430.

Morris, R. (2012). *Scoping study: impact of fly-in fly-out/drive-in drive-out work practices on local government*. Australian Centre of Excellence for Local Government, University of Technology, Sydney.

Murphy, J. (2023, September 17). *FIFO women's legal service to provide victim support for domestic violence in WA's Pilbara*. ABC News. Available online at: https://www.abc.net.au/news/2023-09-18/fifo-womens-legal-service-domestic-violence-pilbara/102860390

Murray, C., Lionais, D., & Gallant, M. (2022). "Above everything else I just want to be a real grandparent": Examining the experiences of grandparents supporting families impacted by mobile labour in Atlantic Canada. In Neis, B., Murray, C., & Spinks, N. (Eds.), *Families, Mobility, and Work* (209-224). Memorial University Press.

National Inquiry into Missing and Murdered Indigenous Women. (2019). Reclaiming power and place: The final report of the National Inquiry into Missing and Murdered Indigenous Women. Volume 1A. Available on-line at: https://www.mmiwg-ffada.ca/wp-content/uploads/2019/06/Final_Report_Vol_1a-1.pdf.

Neil, K. (2019). Families on the move, families in Canada. Satellite Event Report. St. John's: Memorial University. Available online at: https://www.onthemovepartnership.ca/wp-content/uploads/sites/14/2019/07/Families-on-the-Move-Report.pdf

Neil, K. C., & Neis, B. (2020). "Mobility has always been a part of my life": Work-related mobility and families in Canada. *Canadian Studies in Population*, *47*(1), 111-118.

Neis, B., Murray, C., & Spinks, N. (2022). Conclusion. In Neis, B., Murray, C., & Spinks, N. (Eds.), *Families, Mobility, and Work* (485-498). Memorial University Press.

Newhook, J. T., Neis, B., Jackson, L., Roseman, S. R., Romanow, P., & Vincent, C. (2011). Employment-related mobility and the health of workers, families, and communities: The Canadian context. *Labour*, *67*, 121-156.

Northern Health. (2012). Part 1: Understanding the state of industrial camps in Northern BC: A background paper. Available online at: https://www.northernhealth.ca/sites/northern_health/files/about-us/leadership/documents/industrial-camps-bkgrd-p1v1.pdf

Northern Health. (2013). Part 2: Understanding resource and community development in Northern British Columbia: A background paper. Available online at: https://www.northernhealth.ca/sites/northern_health/files/about-us/position-statements/documents/industrial-camps-part-2.pdf

O'Faircheallaigh, C. (1995). Long distance commuting in resource industries: Implications for Native peoples in Australia and Canada. *Human Organization, 54(2),* 205-213.

Oil Sands Community Alliance. (2018). *The rotational workforce in the Athabasca oil sands area.* Paech, G., Jay, S., Lamond, N., Roach, G., & Ferguson, S. (2010). The effects of different roster schedules on sleep in miners. *Applied Ergonomics, 41(4)*, 600-606.

Oke, B., & Wilson, G. N. (2024). Health service impacts and extractive industries: Experiences from health service leaders operating in a resource-dependent region. *The Extractive Industries and Society*, *19*, 101475.

Pablo, L. A., & Davison, C. M. (2021). Patterns in Father Presence and Engagement in Mongolia: A Historical Cross-Sectional Study. *Journal of Child and Family Studies*, *30*(11), 2808-2821.

Parizot, M. (2020, October 28). To support its RACE21 program, Teck partnered with Shaw Business and Nokia to develop a private wireless network designed for a fully-connected mine. CIM Magazine. Available on-line at: https://magazine.cim.org/en/news/2020/teck-deploys-5g-ready-wireless-network-at-elkview-en.

Parker, S., Fruhen, L., Burton, C., McQuade, S., Loveny, J., Griffin, M., Page, A., Chikritzhs, T., Crock, S., Jorritsma, K., Esmond, J. (2018). *Impact of FIFO work arrangement on the mental health and wellbeing of FIFO workers. Available online at: https://www.mhc.wa.gov.au/media/2548/impact-of-fifo-work-arrangement-on-the-mental-health-and-wellbeing-of-fifo-workers-summary-report.pdf*

Parkins, J. R., & Angell, A. C. (2011). Linking social structure, fragmentation, and substance abuse in a resource-based community. *Community, Work & Family*, *14*(1), 39-55.

Peetz, D., Murray, G., & Muurlink, O. (2012). *Work and hours amongst mining and energy workers: Australian coal and energy survey, first phase report*. Centre for Work, Organisation and Wellbeing, Griffith University.

Pikal, S. (2024, January 31). There are various programs that can help mining employers with newcomer integration, the Mining Industry Human Resources Council shared in a recent CIM-hosted webinar. CIM Magazine.

Pini, B., & Mayes, R. (2012). Gender, emotions and fly-in fly-out work. *Australian Journal of Social Issues*, *47*(1), 71-86.

Power, N.G. (2022). Young people as sources of support and community-building in a context of mobile work in rural NL. In Neis, B., Murray, C., & Spinks, N. (Eds.), *Families, Mobility, and Work* (235-252). Memorial University Press.

Preston, J. (2017). Racial extractivism and white settler colonialism: An examination of the Canadian Tar Sands mega-projects. *Cultural Studies*, *31*(2-3), 353-375.

Province of Alberta. (2011). *Public health act: Work camp regulation. Alberta regulation 218/2002 with amendments up to and including Alberta regulation 107/2011*. Edmonton, AB: Alberta Queen's Printer.

Province of Alberta. (2006). *Investing in our future: Responding to the rapid growth of oil sands development*. Final Report. Edmonton, AB: Province of Alberta.

Province of British Columbia. (2012). *Public health act: Industrial camps regulation. B.C. Reg. 70/2012. O.C. 190/2012*. Victoria, BC: Queen's Printer.

Province of Nova Scotia. (2004). *Industrial and construction camp regulations*. Made under Section 74 of the Health Protection Act S.N.S. 2004 c. 4, N.S. Reg. 40/42 (March 9, 1942).

Province of Québec. (2014). *Regulation respecting sanitary conditions in industrial or other camps*. Environment Quality Act (chapter Q-2, s. 87).

Provincial Office of Domestic Violence. (2014). *British Columbia's Provincial Domestic Violence Plan*. Victoria: Province of British Columbia.

Public Health Agency of Canada. (2014, August 4). Approaches to prevent and respond to family violence. Available online at: https://www.canada.ca/en/public-health/services/health-promotion/stop-family-violence/approaches-prevent-respond-family-violence.html

Purcal, C., Brennan, D., Cass, B., & Jenkins, B. (2014). Grandparents raising grandchildren: Impacts of lifecourse stage on the experiences and costs of care. *Australian Journal of Social Issues*, *49*(4), 467-488.

Rolfe, K. (2022, May 6). Mining companies are having to promote themselves, and compete with other industries, in the hunt for employees with high-tech skills. CIM Magazine. Available on-line at: https://magazine.cim.org/en/management/reaching-out-for-talent-en.

Ross, S., Frere, M., Healey, L., & Humphreys, C. (2011). A whole of government strategy for family violence reform. *Australian Journal of Public Administration*, 70(2), 131-142.

Royal, D. (2022). You do it for other people: Social reproduction practices outside the home among commuting workers. In Neis, B., Murray, C., & Spinks, N. (Eds.), *Families, Mobility, and Work* (191-208). Memorial University Press.

Ryser, L., Rajput, A., Halseth, G., & Markey, S. (2012). *Assessing the scale of long-distance labour commuting in Mackenzie, BC*. Prince George, BC: Community Development Institute, University of Northern British Columbia.

Ryser, L., Good, J., Morris, M., & Halseth, G. (2014). Learning from experience: Lessons in community readiness. Prepared for the BC Natural Gas Workforce Strategy Committee. Prince George, BC: Community Development Institute, University of Northern British Columbia.

Ryser, L., Good, J., Morris, M., Halseth, G., & Markey, S. (2015). Best practices guiding industry community relationships, planning, and mobile workforces. Prepared for the BC Natural Gas Workforce Strategy Committee. Prince George, BC: Community Development Institute, University of Northern British Columbia. Available on-line at: http://www.unbc.ca/sites/default/files/news/40513/lessonslearned-work-camp-community-relations-practices-making-positivedifference/best_practices_guiding_industry-community_relationships_and_mobile_workforces_final_-_march_2015.pdf.

Ryser, L., & Halseth, G. (2017). It's community that matters! Tracking social and economic transformation of Kitimat, BC, 2011-2016. Prince George, BC: Community Development Institute, University of Northern British Columbia. Available online at: https://www.unbc.ca/sites/default/files/sections/greg-halseth/kitimatcomprehensivereportfebruary8th2017short.pdf

Ryser, L. M., Halseth, G., Markey, S., & Morris, M. (2017). New mobile realities in mature staples-dependent resource regions: Local governments and work camps. *Environment and Planning C: Politics and Space*, *35*(3), 500-517.

Ryser, L., Halseth, G., & Markey, S. (2018). Labour mobility in Northern BC. Available on-line at: https://research.library.mun.ca/14180/1/BCOTM%20final%20report%20March%2028%202018.pdf

Ryser, L., Halseth, G., Markey, S., & Morris, M. (2018). On the move: Labour mobility and community capacity – The opportunities and challenges for labour mobility in rural and remote

Canada. Prince George, BC: Community Development Institute, University of Northern British Columbia.

Ryser, L., Markey, S., Halseth, G., & Welch, K. (2019). Moving from mobility to immobility in the political economy of resource-dependent regions. *Applied Mobilities*, *4*(3), 307-328.

Sandow, E. (2014). Til work do us part: The social fallacy of long-distance commuting. *Urban Studies*, *51*(3), 526-543.

Saposnek, D., & Rose, C. (2024, October 17). The psychology of divorce. Mediate.com.

Schwab, K. (2017). *The fourth industrial revolution*. World Economic Forum.

Scott, K. (2023, February 27). *From FIFO to defence, if you work away, here's how to support your kids*. ABC News. Available online at: https://www.abc.net.au/news/2023-02-28/supporting-a-child-with-a-parent-who-works-away/101946526

Shandro, J.A., Veiga, M.M., Shoveller, J., Scoble, M., & Koehoorn, M. (2011). Perspectives on community health issues and the mining boom-bust cycle. *Resources Policy, 36(2),* 178-186.

Shepard, M., Betz, M., & Snyder, A. (2020). The shale boom and family structure: Oil and gas employment growth relationship to marriage, divorce, and cohabitation. *Rural Sociology*, *85*(3), 623-657.

Sibbel, A. M. (2010). *Living FIFO: The experiences and psychosocial wellbeing of western Australian fly-in/fly-out employees and partners*. Doctoral dissertation. Perth: Edith Cowan University. Available online at: https://ro.ecu.edu.au/cgi/viewcontent.cgi?article=1132&context=theses

Sibbel, A. M. (2001). *The psychosocial well-being of children from fly-in/fly-out mining families*. Bachelor of Arts Honours. Perth: Edith Cowan University. Available online at: https://ro.ecu.edu.au/cgi/viewcontent.cgi?article=1898&context=theses_hons

Sims, D. (2017). Dam Bennett: The impacts of the W.A.C. Bennett Dam and Williston Lake Reservoir on the Tsek'ehne of Northern British Columbia. Ph.D. Dissertation. Edmonton, AB: University of Alberta.

Snow N., & Fong, I. (2022). Making it work. In Neis, B., Murray, C., & Spinks, N. (Eds.), *Families, mobility, and work* (159-174). St. John's: Memorial University Press.

Stienstra, D., Manning, S. M., Levac, L., & Baikie, G. (2019). Generating prosperity, creating crisis: Impacts of resource development on diverse groups in northern communities. *Community Development Journal*, *54*(2), 215-232.

Storey, K. (2001). Fly-in/fly-out and fly-over: Mining and regional development in Western Australia. *Australian Geographer, 32(2),* 133-148.

Storey, K. (2010). Fly-in/fly-out: Implications for community sustainability. *Sustainability, 2(5),* 1161-1181.

Storey, K. (2018). From 'new town' to 'no town' to 'source', 'host' and 'hub' communities: The evolution of the resource community in an era of increased labour mobility. *Journal of Rural and Community Development*, *13*(3), 92-114.

Storey, K. (2023). From FIFO to LILO: The place effects of digitalization in the mining sector. *The Extractive Industries and Society*, 13 (March), 101206.

Storey, K., & Hall, H. (2018). Dependence at a distance: Labour mobility and the evolution of the single industry town. *The Canadian Geographer*, *62*(2), 225-237.

Storey, K., Shrimpton, M., Lewis, J., & Clark, D. (1989). *Family life impacts of offshore oil and gas employment.* Institute of Social and Economic Research, Memorial University of Newfoundland.

Sweeney, B. (2005). *Cultivating communities of practice: Work cultures in tree planting camps in northern Ontario*. Master's Thesis. Kingston, Ontario: Queen's University.

Taylor, J., & Simmonds, J. (2009). Family stress and coping in the fly-in fly-out workforce. *The Australian Community Psychologist*, *21*(2), 23-36.

Tayton, S., Kaspiew, R., Moore, S., & Campo, M. (2014). Groups and communities at risk of domestic and family violence. A review and evaluation of domestic and family violence prevention and early intervention services focusing on at-risk groups and communities. *Australian Government, Australian Institute of Family Studies*. Available online at: https://core.ac.uk/download/pdf/30673375.pdf

The Canadian Press. (2024, October 30). Drug-trafficking investigation leads to charges against 19 people in northern BC. CTV News. Available on-line at: https://bc.ctvnews.ca/drug-trafficking-investigation-leads-to-charges-against-19-people-in-northern-b-c-1.7092849

The Community Vitality Advisory Group and Research Team of the University of Guelph. (2018). *The wellbeing experiences of women in the Haisla Nation and the District of Kitimat*. Available online at: https://tamitik.ca/community-vitality-index/

The FIFO Wife. http://thefifowife.com.au/.

The Firelight Group with Lake Babine Nation and Nak'azdli Whut'en. (2017). *Indigenous communities and industrial camps: Promoting healthy communities in settings of industrial*

change. Available online at: https://firelight.ca/assets/publications/reports/firelight-work-camps-feb-8-2017.pdf

The Indigenous Caucus of the Indigenous Advisory and Monitoring Committee for the Trans Mountain Expansion Project and Existing Pipeline. (2022). *Resource development and violence against Indigenous women and girls*. Prepared for the House of Commons Standing Committee on the Status of Women.

Thorne, C. W. (2012). Mexicans with sweaters, working in the oil/tar sands, in Newfoundland's third largest city: Regionalism, narrative, and imagination in Fort McMurray, Texas? *Ethnologies*, *34*(1), 29-58.

Tordimah, J. (2021). *"Man camps": Temporary housing facilities or sites of permanent devastation? The cases of British Columbia, Manitoba, and Nunavut*. MA Major Research Paper. Western University.

Torkington, A.M., Larkins, S., & Sen Gupta, T. (2011). The psychosocial impacts of fly-in fly-out and drive-in drive-out mining on mining employees: A qualitative study. *Australian Journal of Rural Health, 19(3),* 135-141.

URS Australia. (2012). *Bowen Gas Project EIS: social impact management plan, report*. Prepared for Arrow Energy. Brisbane, QLD, Australia: Author.

Verhoef, P. C., Broekhuizen, T., Bart, Y., Bhattacharya, A., Dong, J. Q., Fabian, N., & Haenlein, M. (2021). Digital transformation: A multidisciplinary reflection and research agenda. *Journal of Business Research*, *122*, 889-901.

Victim Services and Crime Prevention Division. 2010. *Domestic violence response: A community framework for maximizing women's safety*. Victoria, BC: Ministry of Public Safety and Solicitor General.

Voysey, W. (2012). *Satisfaction with a fly-in/fly-out (FIFO) lifestyle: Is it related to rosters, children and support resources utilised by Australian employees and partners and does it impact on relationship quality and stress?* Doctoral dissertation. Murdoch University. Available online at https://researchportal.murdoch.edu.au/esploro/outputs/graduate/Satisfaction-with-a-fly-infly-out-FIFO-lifestyle/991005540489007891

Waiser, B. (1995). *Park prisoners: The untold story of Western Canada's national parks, 1915-1946*. Calgary: Fifth House Ltd.

Wanjek, C. (2013). *Workforce housing and feeding solutions for health, safety, productivity and morale*. White Paper 03.13. Target Logistics.

Watts, J. (2004). Best of both worlds?: Fly in-fly out research project report.

WEF (2017). *Digital transformation initiative: Mining and metals industry*. World Economic Forum: Geneva.

Western Australia. (2013). *Health Act: Construction camp regulations*. Version 02-c0-02.

Westphaln, K. K., Regoeczi, W., Masotya, M., Vazquez-Westphaln, B., Lounsbury, K., McDavid, L., Lee, H., Johnson, J., & Ronis, S. D. (2021). From Arksey and O'Malley and beyond: Customizations to enhance a team-based, mixed approach to scoping review methodology. *MethodsX*, *8*, 101375.

Wrathall, M., & Herron, R. (2021). Regional service providers' understandings of rurality and intimate partner violence. *Journal of Rural and Community Development*, *16*(2). Available online at: https://journals.brandonu.ca/jrcd/article/view/1898/512

Wright, A. C. (2022). *Blood, sweat, and oil: an ethnographic examination of worker wellbeing and culture in Alberta's petroleum industry*. Doctoral dissertation. Calgary: University of Calgary. Available online at: https://prism.ucalgary.ca/server/api/core/bitstreams/7d2a1ad0-71ab-4a1f-af93-35bdf27bd19d/content

Williams, S. R., Afrouz, R., & Vassos, S. (2023). Exploring rural and regional social workers' perceptions and practices of technology-facilitated domestic abuse. *Australian Social Work*, *76*(2), 231-244.