Journal of Rural and Community Development

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Citation:
Fisher, L., Sweatman, M., Mansfield, K., Oncescu, J., & Fortune, M. (2024). Low-income families and the rural social determinants of health during COVID-19. *The Journal of Rural and Community Development*, *19*(1), 113–132.

Publisher:
Rural Development Institute, Brandon University.

Editor:
Dr. Doug Ramsey

Open Access Policy:
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ISSN: 1712-8277 © Authors
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Low-income Families and the Rural Social Determinants of Health During COVID-19

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Abstract

The COVID-19 pandemic has significantly impacted families across Canada; however, rural low-income mothers and their families have experienced significant challenges due to historical and current social, economic, cultural, and health inequities. These inequities complicated mothers' ability to navigate the pandemic. This paper is based on a study that used a grounded theory framework to explore the implications of the COVID-19 pandemic on rural, low-income mothers in Nova Scotia, Canada, while supporting their families' wellbeing during the pandemic. Through 29 interviews with rural low-income mothers, and three focus groups with community organizations serving these mothers, this study found that mothers and their families were deeply impacted by the first and second waves of the COVID-19 pandemic. Factors such as inadequate internet and internet access, limited and unaffordable transportation options, food insecurity, social isolation, and mental health challenges emerged from these interviews. Three focus groups with service providers to low-income rural mothers also informed the final results. The inequities faced by rural mothers created additional barriers to accessing services and resources to support their families' wellbeing during the pandemic. The results of the study

connect to the importance of addressing inequities through a holistic social determinants of heath model. As a result, the findings of this study have implications on the actions of service providers, policymakers, and researchers, as little has been written about this demographic in relation to social determinants of health and in the context of the COVID-19 pandemic.

Keywords: Indigenous social determinants, low-income families, pandemic, service provisions, wellbeing

Les familles à faible revenu et les déterminants sociaux ruraux de la santé pendant la COVID-19

Résumé

La pandémie de COVID-19 a eu des répercussions considérables sur les familles partout au Canada. Cependant, les mères rurales à faible revenu et leurs familles ont été confrontées à des défis importants en raison des inégalités sociales, économiques, culturelles et en matière de santé, historiques et actuelles. Ces inégalités ont compliqué la capacité des mères à faire face à la pandémie. Cet article est basé sur une étude qui a utilisé un cadre théorique fondé pour explorer les implications de la pandémie de COVID-19 sur les mères rurales à faible revenu de la Nouvelle-Écosse, au Canada, tout en favorisant le bien-être de leurs familles pendant la pandémie. Grâce à 29 entretiens avec des mères rurales à faible revenu et à 3 groupes de discussion avec des organismes communautaires au service de ces mères, cette étude a révélé que les mères et leurs familles ont été profondément touchées par la première et la deuxième vague de la pandémie de COVID-19. Des facteurs tels qu'un Internet et un accès inadéquats, des options de transport limitées et inabordables, l'insécurité alimentaire, l'isolement social et des problèmes de santé mentale sont ressortis de ces entretiens. Trois groupes de discussion réunissant des prestataires de services destinés aux mères rurales à faible revenu ont également éclairé les résultats finaux. Les inégalités auxquelles ont été confrontées les mères rurales ont créé des obstacles supplémentaires à l'accès aux services et aux ressources nécessaires au bien-être de leurs familles pendant la pandémie. Les résultats de l'étude sont liés à l'importance de lutter contre les inégalités grâce à un modèle holistique de déterminants sociaux de la santé. En conséquence, les résultats de cette étude ont des implications sur les actions des prestataires de services, des décideurs politiques et des chercheurs, car peu de choses ont été écrites sur ce groupe démographique par rapport aux déterminants sociaux de la santé et dans le contexte de la pandémie de COVID-19.

Mots-clés : déterminants sociaux autochtones, familles à faible revenu, pandémie, prestation de services, bien-être

1.0 Introduction

On March 22nd, 2020, the Nova Scotia Liberal Government declared a state of emergency due to the first wave of the COIVD-19 pandemic and ordered a province wide lock down. Following this announcement many service providers that low-income families relied upon for support including buses, recreation, day cares, and family resource centres suspended their activities. This article focuses on the implications of the COVID-19 lock down and subsequent impacts of the pandemic on rural low-income mothers and their families in Kings County, Nova Scotia, Canada. We focus on the manner in which the pandemic contributed to adverse social determinants of health that affected the wellbeing of these already marginalized families and how we can learn from this pandemic to better prepare for future rural community crises and disasters.

The following section will explore the definitions of the social determinants of health within the context of rural low-income mothers and their families and provide evidence of the implications of the adverse impacts of the pandemic on the social determinants of health.

2.0 Scholarly and Geographic Context

The study took place in Kings County, Nova Scotia. Pre-pandemic, Kings County, with a population of 60,600 in 2016 (Municipality of the County of Kings, n.d.), reported high rates of child poverty and accompanying food insecurity (Feed Nova Scotia, n.d.; Frank et al., 2021). In a 2018 report on safe and affordable housing, 65% of Kings County households indicated incomes of less then $40,000 annually (Vacon et al., 2018). Additionally, in province-wide reporting, racism was found to be present in small rural communities in Nova Scotia (Etowa et al., 2007; Waldron, 2020).

In Canada, the welfare state includes (a) universal health care, (b) public education, (c) the Canada Child Tax Benefit, (d) Old Age Security, (e) unemployment insurance, and (f) social assistance—commonly called 'welfare.' Canada is known as a liberal welfare state, according to Esping-Andersen's (1990) typology. The liberal welfare state uses means-tested methods of establishing the deservingness of people for benefits and is characterized by modest transfers to citizens and market-driven policies (Esping-Andersen, 1990). Hick & Stokes (2017) further describe Canada's welfare state as liberal-residual, meaning that it is focused sharply on those in greatest need and the government is hesitant to create dependency in those receiving benefits—particularly social assistance or welfare benefits. The Canadian government transfers monies for health and social services to the provinces and territories who coordinate the provision of welfare independently (Government of Canada, 2023). Although there are differences between provinces and territories, all social assistance has the relatively similar premise of being the provision of last resort (Laidley & Tabbara, 2022). Most provinces' and territories' welfare rates lag behind inflation and the cost of living, with only four indexing their social assistance rates to inflation (PROOF, 2023)

Women, mothers in particular, were more adversely affected by the impacts of the pandemic then men (Alon et al., 2020; Fortier, 2020). Low-income mothers are more likely to have inadequate access to health benefits, sick leave, and childcare, compounding the effects of the pandemic (Fortier, 2020). Informal childcare supports are also a key resource which low-income rural mothers rely on, and which

became inaccessible during the pandemic due to rules about socializing (Sano & Mammen, 2022). More rural families also tend to experience food insecurity and mothers are more likely to engage in self-starvation as a means of supplying adequate food to their children, particularly as resources like foodbanks experience the strain of the increased demand generated by the pandemic (Sano & Mammen, 2022).

Beyond the pandemic, health and wellbeing of rural low-income mothers and their families is impacted by complex social and economic factors that influence access to essential resources and services that make being healthy and well possible.

3.0 Methodology

Given the exploratory nature of this study, and the unknowns surrounding COVID-19 at the time of the study and of the societal impacts of a global pandemic in general, grounded theory was chosen as the theoretical framework for this study. Grounded theory allows for the data to drive the analytical process, using an inductive qualitative research approach while centering reflexivity (Charmaz & Thornberg, 2021). The findings presented in this article come from a broader study which used feminist participatory action research (FPAR). The larger study had the aim of discovering the needs of rural low-income mothers during the COVID-19 pandemic both generally and in relation to community recreation and leisure (Fortune et al., 2022). FPAR combines participatory action research methods with feminist theory (Frisby et al., 2009). Feminist theory centers gender and women's lived experiences (Reid & Frisby, 2008). Reid and Frisby (2008) also note the way that intersectionality and "honouring voice and difference" (p.93) are central to FPAR. In our study we integrated intersectionality into our research objectives as well as questions to participants and overall approach to the research, encompassing (a) race, (b) ethnicity, (c) socio-economic status, and (d) disability of participants. The study included 29 semi-structured interviews with low-income rural mothers as research subjects, as well as focus groups with service organizations that are grounded in feminist values.

Action research is a methodology committed to processes that centre and support community members to jointly solve problems in their communities (Reason & Bradbury, 2008). In this study the problem identified by the community organizations was in relation to the barriers to community involvement experienced by low-income rural mothers and their families during the COVID-19 pandemic. Reason and Bradbury (2008) describe action research as an "inquiry-in-action" (p. 3). It combines principles of activism, or action, with research inquiry. The actions of this research include knowledge mobilization with community partners at the local and regional level.

The participatory element of FPAR comes in the form of community engagement of those "whose lives are impacted by the research issue directly" (Boser, 2006, p. 11); in our project this took the form of a Community Advisory Committee (CAC). The CAC was established at the beginning of the study and included members of the public as well as community organizations and service providers. It encompassed diverse backgrounds including Indigenous and African Nova Scotian members, and diverse community roles, including non-project staff, volunteers, local parents, and municipal representatives. The CAC provided regular direction and feedback to the research team.

3.1 Participant Sample

The participants in this study were 29 mothers within the study site and represented diverse backgrounds including five Black mothers (two of whom identified as African Nova Scotian), six mothers who identified as Indigenous, three mothers who identified themselves as Filipino, 11 who identified as white, two who identified as mixed race and two who did not specify. Six mothers identified as having a disability and eight mothers had one or more children with disabilities. Three mothers identified having bi-racial children. Additionally, focus groups were conducted with staff from three different organizations which provided services to the target demographic during the first wave of COVID-19. Focus groups were conducted during the second wave of COVID-19 and ranged from two to five participants.

3.2 Data Collection and Analysis

Interviews were conducted via video conferencing or phone and lasted between 25 and 60 minutes. Questions centred around demographics and community supports, and the experience of the first wave of the COVID-19 pandemic. Interviews and focus groups were conducted beginning in autumn 2020 and throughout the winter and early spring of 2021. This meant that the interviews were happening during the second wave of the pandemic, so participants were both looking back at the first wave as well as speaking to current living realities in the second wave. Verbatim transcripts were generated using NoNotes transcription service. The transcripts were then analyzed using grounded theory (Chun Tie et al. 2019). Four of the members of the research team engaged in initial coding individually. Individually the team engaged in intermediate coding as outlined by Chun Tie et al. (2019). Once intermediate coding was completed, the research team broke into dyads and compared their codes, merging codes when possible. A master code list was then generated by all members of the research team. Advanced coding then took place that helped create a story from the data at a higher theoretical level (Chun Tie et al. 2019). This advanced coding process generated the themes outlined in the next section.

4.0 Findings

The inequities and intersections of socio-economic status, race,[1] ethnicity, gender and/or disability were part of all the research participants' experiences and were additionally highlighted by the service provider focus groups. Inequity is a thread woven throughout this study and is central to each of the sub-sections below. Our study found that the barriers to community and wellbeing involved the intersecting factors of (a) food insecurity, (b) transport poverty, (c) digital and internet inequities, (d) mental health challenges, and (e) social isolation. These were the major themes of the study and each will be discussed separately, however, they are intersecting and compounding determinants of health for the families in this study.

[1] Racism and systemic racism are important dimensions that impact or compound the oppression already experienced by low-income mothers in a rural setting. Throughout this paper we have utilized both Black Canadian and African Nova Scotian as identifiers based on how participants identified themselves and the understanding that African Nova Scotians, while they are also Black Canadians, have a long and distinct history as a people of Nova Scotia.

4.1 Food Insecurity

Healthy food access in a rural landscape was reiterated by participants in both the interviews and focus groups and represented a major theme of this study. Food is a flexible budget line for most low-income families, in relation to expenses such as rent and other bills, which tend to be fixed (Pybus et al., 2021). Parents in food insecure households will generally do everything in their power to avoid having their children directly experience hunger, including depriving themselves of food (Tarasuk, 2016). An ethnographic study in rural Ontario found that while rurality could sometimes create strong social supports, factors like lack of transportation could also impact the ability to obtain food (Buck-McFadyen, 2015).

Food security was identified by the focus group participants repeatedly as central to their COVID-19 relief and support efforts for low-income families. Some organizations were freed from food provision early in the pandemic because so many others answered the need—such as food banks, a community arts organization, private donations—allowing them to focus on other supports and services such as phone counselling and activity kits for children.

Food was also reported by participants as being integrated into the supports given by non-food organizations during the first wave of COVID-19, as Amy, a white mother of three explained:

> Great Beginnings [part of the Canadian Prenatal Nutrition Program] would come with different things here and there, if they had donations. Like there was one time they came through (with) some fish and some fries, some vegetables. Then another time…they dropped off bags of clothes for the kids. So, it was like community support still.

With these community supports, food became less of a struggle for families that had access to these organizations.

It was also noted during the focus groups that organizations and municipalities were able to connect with new families because of the food provisioning. An example of this is when the municipal recreation department helped to deliver food boxes from the foodbank to families who would normally have to pick up the food boxes. This saved the family a trip and allowed for informal conversations in driveways and on doorsteps as well as the ability to share information about other programs and services, and the delivery of play kits or art supplies. These conversations also served to informally assess community needs. Food became a means to connect low-income rural mothers with other organizations and services. Jasmyn, a Black Canadian mother of six, talked about being connected with an arts-based organization that does not normally focus on food and which she was not as familiar with before the pandemic hit:

> What they did was they started preparing meals, and they delivered them every Thursday. I thought it was just going to be for a couple of months or something, but they've been doing it ever since. I actually just got one yesterday.

Participants who did receive food provisions from various community organizations, and also via the local recreation department, relied on them and were extremely grateful for the support. Jade, a white mother of six, described how meals helped her family stretch their food dollars:

> We would not have to buy a meal for Friday, or we would not have to prepare a meal for Friday. That was already given to us. So, that was food that we could save for another day, so it did help us out financially.

Anna, an Indigenous single mother of two, discussed the connection between transportation and food costs and the way that delivery of food boxes helped her family deal with having to choose between transportation to the grocery store and buying groceries:

> [Community Organization] has been helping me a bit food-wise, because getting my groceries back and forth. It's kind of like, okay, I need the money to get the groceries back and forth. But then I don't have money to get the groceries.

Mothers who did not receive food support or received inconsistent support struggled to make ends meet. Jessica, a Black Canadian single mother of one, discussed the way inconsistent access to food provisions impacted her family:

> So, during the first wave, I was pregnant as well as people were not dropping off food boxes anymore, so I could not go [grocery shopping] because I was immunocompromised with the pregnancy. It was just like a double whammy of those things ... They were not doing it at all, so it was kind of like a shit out of luck all the way around. Excuse my language.

While food banks and other forms of food charity are often seen as the first method to address food insecurity for low-income families, there are issues with this premise including the stigma associated with food banks (Tarasuk et al., 2020). One of the community organizations in a focus group described the difficulties and stigma experienced by clients trying to access a food bank:

> But we don't realize how hard it is for people to go to the food bank and get food. Even me, when I was contacted by certain people, I was questioned about who the people were and do they really need it? So, as an individual who actually needs food, how hard it was for them to actually go and access that service, I can understand how that is now, because I had to deal with the food bank.

This comment gives insight into why food delivery was particularly important for food provision compared to the common method of attempting to access the food bank directly. This same community organization commented that more families were accessing the local food banks because their organization was delivering food

from the food bank during the COVID-19 pandemic and the food bank was able to be more generous with their donations—requiring less client information.

It is important to note that while food charity, such as food banks, was needed during the pandemic by the participants, and this was used as a means to reach marginalized families, food charity has not been shown to be as effective as cash transfers and food subsidies at addressing food insecurity (Loopstra, 2018).

4.2 Transportation Poverty

Organizations such as the Rural Health Information Hub (2020) have called transportation a rural social determinant of health because rural residents cannot access health care, necessities, or participate in their communities without transportation. In fact, transportation may be one of the biggest challenges in linking rural residents to necessary services (National Advisory Committee on Rural Health and Human Services, 2017, p.16) and yet, transportation is frequently neglected in the literature as a key determinant of health for rural residents.

Transportation was a barrier to community participation for interview participants before the pandemic but became even more heightened during the pandemic. For example, many participants relied on public transit which was shut down during the first part of the first wave and even when services resumed many did not feel safe travelling by bus because of risk of exposure to COVID-19. Some of the more rural participants did not have transit access because there were no bus routes where they live. Alyson, an Indigenous single mother of three, stated, "I can't afford transportation." Adding the cost of taxis and the fear of exposure in public transportation, many participants became even more isolated than they were pre-pandemic. Jasmyn said of her fear of exposure in public modes of transportation: "Because I was so scared, I didn't want to get to the cabs and buses. There's a lot of people that go through those; they can't really be cleaned all that well in between. You know what I mean?"

The mothers who had their own cars most often expressed that those cars needed repairs or that they couldn't go far because of the cost of gas. Aurora, a Filipino mother of three, explains her concerns about her car breaking down, "We really cannot travel so far. We just do not want to have any incident … or we just do not want to stop in the middle of the road." Ginger, a white mother of one, described how they sometimes have transportation and sometimes do not depending on the state of their vehicle and their financial constraints for taxis:

> We can't buy a brand-new vehicle, so they break down a lot. And when we're, when we don't have a vehicle, we are stuck up on the mountain in our rural location with no transportation unless family will provide us transportation, because cabs cost from town to here and back to town, $35 a trip?

In this comment we can see the precarity of the transportation situation for this family, a precarity that was communicated by many of the mothers within the study. This precariousness of transport or transport poverty in a rural area means a lack of access to necessities like groceries as well as the broader community, including parks, trails, and playgrounds (Allen & Farber, 2019). This is a difference for the rural residents interviewed from an urban setting where public transportation is a given and many services are within walking distance.

However, delivered services from food to play boxes were helpful in alleviating stress and inaccessibility of resources which existed pre-pandemic and intensified during the pandemic. Jordan, a Métis mother of two who also cares for her grandchild full time, stated, “so, having that art stuff was a godsend every week. The kids look forward to it, and I look forward to it.” While Jade, a white mother of six, said of the delivered boxes:

> Something that I did not think of at the time, but I think that was important too to the kids because the door drops the way they would do it, it was kind of like the fairy thing. And so, the kids, they would get excited, so that was a little bit of a glimmer of hope for them.

Hope is an important element for families that have been facing isolation because of COVID-19. While days can become monotonous, delivered goods become something to look forward to and break up the monotony. They also help to mitigate poor access to transportation.

The precariousness of transportation experienced by participants was a strain on their health and wellbeing. Delivered services proved helpful and broke the isolation. One service provider described the meaningful connections made while dropping off items in people’s driveways and on their doorsteps. Bringing services to those in rural areas without transportation helped to forge connections where isolation would have prevailed.

4.3 Digital Divide–Internet Inequity

During the first wave of the pandemic in Nova Scotia, like much of the world, mental health care shifted primarily to remote online platforms (Feijt et al., 2020). Daigle and Rudnick (2020) contend that this measure improved the quality of care. Specifically, they state that access was improved to rural residents (Daigle & Rudnick, 2020). However, many rural Nova Scotia residents have poor internet access compared to urban residents (Spicer et al., 2021; Starratt 2021).

Benda et al. (2020) argue that internet access is a social determinant of health, especially within the context of the pandemic which has forced many services to go exclusively online. During COVID-19 Internet quickly became the main way to access education, health care, and community (Benda et al. 2020). Those in rural areas without access to good quality internet and technology were effectively cut off from their communities.

Many of the families in the study mentioned their slow rural internet or complete lack of internet. This created challenges in reaching families for online programming through social media, such as workshops provided by community organizations and municipalities. Pauline, a white single mother of one, mentioned her inability to afford the internet, “because I'm low income, I can't afford the internet, so I don't have it.”

Those who did have the internet had others asking for access to it. Anna, a First Nations mother of two, described neighbours asking each other for internet access: “a lot of the people on our street didn't have internet. So the people who did have internet had people who don't have internet knocking on the door.”

Access to technology was another issue experienced by the mothers interviewed, creating a digital divide in communities where some had devices to use while others

had few or no devices. Several families were attempting to utilize limited data on one cell phone for multiple children to access their online learning. Jennifer, an African Nova Scotian mother of four children discussed the difficulties inherent in sharing a single device while trying to facilitate her own work and her children's home learning:

> And the kids were supposed to be doing homeschooling. And I had to use the only laptop that we had to do work all day. And so, the kids were kind of left to play outside and kind of do their own thing. And school was maybe sometime in the evening. But they would always miss their Google meets and things like that because we just didn't have the electronics.

Several community organizations attempted to address this; one did so by obtaining a grant to buy iPads and data plans so that isolated families could participate in online programming. Another organization lent out laptops to families in need. Schools also responded better in subsequent school closures, by giving Chrome books to any student who needed one.

The pandemic also spurred on rural access to internet and technology in Nova Scotia through government development projects (Build Nova Scotia, n.d.), however, during the course of this study many of the participants experiencing internet and technology inequity also experienced higher levels of stress and demonstrated the rural–urban divide in technology and internet access. Internet and technology access, like transportation, can be a lifeline to not only entertainment and school/work but also social support and connection during a very isolated time that took a toll on the mental health of many participants.

4.4 Mental Health

Mothers discussed general feelings of being 'trapped', 'shacky whacky', and having 'depressive days' when reviewing the impact of COVID-19 on their mental health. Flora, a white mother of two Black Canadian children, said, "in the beginning, we were really scared, obviously. But it really affected our mental health more than anything." Samantha, a white single mother of two, described feeling trapped by COVID-19, "I do feel trapped …why have I been feeling trapped? Well, there it is, Covid."

Fear of the unknown future and fear of COVID-19 exposure were strong themes in the interviews with these low-income rural mothers. Many mothers discussed their hesitancy to access parks, trails, and playgrounds, as well as busses and other public spaces due to their high fear of COVID-19 exposure, even when restrictions had eased considerably. Flora, a white mother of two, said "So, I don't usually take the kids out at all anymore, because I'm too scared of the COVID. So, we pretty much stay at home." COVID-19 fears compounded isolation for low-income mothers who often lacked adequate and safe transportation options and outdoor spaces. Based on a study done in Italy, longer isolation and less personal space were equated with high rates of poor mental health (Pancani et al., 2021). Additionally, online social contact could help mitigate the isolation (Pancani et al. 2021) but for those with poor or no internet, such as many of our study participants, this was a challenge.

Participants also seemed to be impacted by a general lack of resources due to their low-income, such as lack of personal outdoor space or safe personal outdoor space, and limited ability to purchase items that would entertain children and stave off boredom—such as pools and trampolines. Their ability to access health care and mental health care were also impacted during COVID-19 with participants experiencing delays in services such as assessments for children and appointment times with mental health providers. A number of participants in the study had infants during the first wave of the pandemic. A study by Ollivier et al. (2021) about the mental health of new Nova Scotia parents during COVID-19 revealed that they were having "overwhelmingly negative" (p. 3) experiences with their mental health. The reasons for their decreased mental health included social isolation and lack of access to support and resources (Ollivier et al., 2021).

4.5 Social Isolation

Social isolation was faced by many during the first wave of COVID-19, however, our study found that low-income rural families experienced this isolation in a heightened way because of a lack of resources such as transportation, technology, and personal outdoor spaces, and for many of the interviewees, intensified racism. Jessica, a Black Canadian single mother of one, talked about her social isolation as a single mother, "at the beginning, it was absolutely terrible. I was really isolated because I do not have a partner, so it was like just me and her." Alyson, an Indigenous single mother of three, discussed the toll on her mental health that social isolation caused, "I was tired a lot, physically and mentally exhausted. And I really didn't have a whole lot. I didn't have any other adults to really talk to a lot face to face."

Some of the participants lived more rurally than others and were already isolated pre-pandemic, but with social restrictions in place and lack of personal transportation or community organizations providing transportation, this isolation was intensified. Sarah, a single mother of three who did not self-identify her race, said of her rural location, "[we live] out of town. Only where we live right now has two other houses and we're secluded on the road pretty much."

A thread throughout all the participants' experiences was social identity, particularly race, which was connected to the participants' experiences of social isolation. Some participants in this study described experiences of racism that intensified their social isolation during the COVID-19 pandemic. Racism in the form of systemic exclusion as well as experiences with neighbours or the public were described by participants. Aaliyah, a Black mother of two, recounted being scared to leave home during Covid-19 because of the intensity of the racism being brought to light around her:

> Being an African Nova Scotian with what was going on in the States and what was going on in the city and everywhere around us, it made COVID a little more difficult at times. Going out in public was a little stressful, [a] little intimidating ...There were times where I was afraid to leave my house because I was safer in my four walls because I knew no one judged me based on the color of my skin [in] my four walls. So sometimes, even leaving my driveway was hard.

Jennifer, an African Nova Scotian mother of four children, had consistent experiences of her white neighbours bringing their children inside whenever her children came out to play in their own separate yard: "I mean if I'm being bluntly honest, where we're living there aren't—the people were all Caucasian. And so, just

living here, the kids going outside to play, I have neighbors who, even though my kids are in … their own yard they would bring their kids inside."

In addition to these experiences of racism, the research team noted that among non-white research participants there was less likely to be a connection with specific services or even a knowledge of what was being offered, for instance, from the local recreation department or community organizations.

5.0 Discussion

In these findings there is a strong connection to the social determinants of health (SDH) as well as the Indigenous social determinants of health (ISDH). ISDH include indicators that speak to Indigenous values and health, and acknowledge and account for the inequities First Nations, Inuit, and Métis communities continue to face, such as the complex implications of colonialism (Jardin & Lines, 2018; Wilson et al., 2013).

The World Health Organization (n.d.) defines the social determinants of health as including the following: (a) income and social protection; (b) education; (c) unemployment and job insecurity; (d) working life conditions; (e) food insecurity; (f) housing, basic amenities, and the environment; (g) early childhood development; (h) social inclusion and non-discrimination; (i) structural conflict; and (j) access to affordable health services of decent quality. Expanding on this definition we also offer, an Indigenous social determinants of health model, which is holistic and relational including (a) land, (b) language, (c) culture, (d) peoplehood, (e) spirituality, and (f) sovereignty (Wilson et al., 2013). ISDH emphasises a holistic worldview that does not separate mind, body, and spirit and centres land and nature as kin, which is critical for the health of Indigenous peoples (Jardine & Lines, 2018).

While each model is extensive and each factor interrelated, below we draw attention to the SDH and ISDH factors that were most relevant to our study: (a) income, (b) food security, and (c) social inclusion and non-discrimination.

5.1 Income

Poverty impacts all aspects of rural, low-income mothers' lives. Poverty in Canada is associated with poorer health (Auger & Alix, 2016; Bethune et al., 2019) and negative developmental and health outcomes for children (Auger & Alix, 2016, p. 93). Families that are in receipt of income assistance—welfare—in Nova Scotia live in deep poverty, well below the low-income measure (Frank et al., 2021). According to a systematic review by Shahidi et al. (2019), receiving social assistance (welfare) was connected to more adverse health outcomes. These adverse outcomes included negative mental health statuses of recipients (Shahidi et al., 2019).

The rate of child poverty in Kings County in 2018, where this study took place, was 23.6% (Frank et al., 2021). The rate of child poverty among visible minorities is even higher, over one third of children (Frank et al., 2021). Off-reserve Indigenous children also had a higher rate of child poverty (25.6%) than their non-Indigenous peers (Frank et al., 2021). In terms of African Nova Scotian populations, Frank et al. (2021) found that census areas associated with higher African Nova Scotian populations also had a higher rate of child poverty. This demonstrates an intensifying of the prevalence of poverty-associated harms based on race.

5.2 Food Security

Food insecurity is defined as "the inability to acquire or consume an adequate diet quality or sufficient quantity of food in socially acceptable ways, or the uncertainty that one will be able to do so," according to Health Canada (n.d., para. 1). In addition, for Indigenous peoples, this would include access to traditional sovereign foods. Food security is strongly connected to income (Health Canada, n.d.), and is more likely to exist in households dependent on social assistance, employment insurance, and worker's compensation (Tarasuk et al., 2019). Indigenous populations in Canada also face a high rate of food insecurity (Batal et al., 2021; Huet et al., 2012; Tarasuk et al., 2019). In addition, African Canadian households are more likely to face food insecurity than white households (Dhunna & Tarasuk, 2021). Nova Scotian families have a higher rate of food insecurity than the national average at 11% in 2017/2018 according to the Nova Scotia Department of Finance (2020).

In the Indigenous social determinants of health, food insecurity is an outcome of residential schools and social services (Wilson et al., 2013). By the 1950s, there was compounding implications of residential schools and assimilation efforts by the child welfare system (Wilson et al., 2013). Therefore, food security for Indigenous peoples is interlinked with colonization, residential schools, social services, and food sovereignty.

5.3 Social Inclusion and Non-Discrimination

Social determinants of health are also impacted by structural racism and colonialism or what the World Health Organization (n.d.) calls "social inclusion and non-discrimination" (para. 4). Kim (2019) discusses the way the legacy of residential school systems has resulted in lower socioeconomic status overall for Indigenous peoples and has impacted their social determinants of health. The "socioeconomic gradient" is the way that health outcomes are influenced by socioeconomic status (Kim, 2019, p. 380).

Wylie and McConkey (2019) identified that discrimination against Indigenous patients in Canada is systemic. They note that healthcare can be an unwelcoming environment and Indigenous patients regularly encounter stereotyping and stigma. Wylie and McConkey (2019) go on to suggest that discrimination is "a key social determinant of health for Indigenous people" (p. 41).

According to Veenestra and Patterson (2016), health inequalities for residents of African Descent in Canada were prevalent prior to the COVID-19 pandemic. For example, adverse social determinants of health relate to higher death rates among Americans of African Descent. A U.S. study by Dalsania et al. (2022) of Covid-19 death rates by county showed that counties had higher death rates and adverse social determinants of health when they had higher numbers of Black residents. Adverse "social determinants of health contribute to COVID-19 mortality for Black Americans" (Dalsania et al., 2022, p. 1), indicating a likely parallel for other developed nations such as Canada.

6.0 Recommendations and Conclusion

The social determinants of health, and Indigenous social determinants of health in particular, have the capacity when deeply considered in program and service provisioning to support all low-income, rural mothers more fully, but especially racialized and Indigenous mothers who often have fewer community supports and

less connection with community organizations. The Indigenous social determinants of health emphasize relationality not just between people but with the land and environment (Lines et al., 2019). This relationality can benefit everyone's health by addressing the previously mentioned factors such as social isolation which had a tremendous impact on the wellbeing of participants. This differs from the current literature by focusing on the SDH and especially ISDH as a means to connect with and support low-income, rural mothers who are often also neglected within the literature.

Food security, internet/technology, transportation, mental health, and isolation are key considerations both when researching rural low-income families and when designing programs and services for them as practitioners. In this study, three major recommendations were highlighted for service providers.

- Decentralization of services through programs like foodbox and play kit delivery services should be continued for individuals and families for whom transportation is a barrier, beyond the COVID-19 pandemic.
- The mental health and accessibility of mental health resources for rural low-income mothers—especially during a pandemic or similar isolating crises—must be considered. Develop plans with community members for times of crisis to provide safe and culturally appropriate social connections, and if these are online, ensure internet–digital inequity has been addressed. Mothers with new babies may be especially vulnerable and require additional resource referrals and points of social connection.
- Acknowledge and work to dismantle chronic systemic racism as well as interpersonal racism within service delivery organizations. The diversity of the community must be represented on decision-making committees and boards. Consider targeted programming for equity-deserving groups. Build relationships with organizations and groups serving equity-deserving individuals, and seek input about recommended education and training that they would like to see practitioners engage in. When possible, hire local organizations to deliver their training and education programs to practitioners.

The above recommendations should be assessed and evaluated using a community action research approach.

A SDH and ISDH framework should be used when considering resources and services for low-income rural mothers. These frameworks provide a holistic view of health that is also culturally appropriate and inclusive of Indigenous peoples/communities. Adapting a specifically rural lens to the SDH and IDSH ensures that often-overlooked factors such as internet–technology access and transportation are also considered.

COVID-19 revealed and amplified inequities that were already in our communities. We cannot go back to the way things were, we must be brave enough and creative enough to develop alternative and innovative community services and systems, work collaboratively between sectors, and include multiple ways of knowing and diverse perspectives at decision-making tables.

Acknowledgement

The lands this research was conducted upon are the unceded, ancestral territory of the Mi'kmaq peoples, known as Mi'kma'ki. This territory is covered by the 'Treaties of Peace and Friendship', signed between 1726 and 1752. Historical and ongoing colonization shapes the lives of our participants and ourselves as researchers through intersecting privileges and oppression. We are all treaty people.

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