# Housing conditions and health implications for migrant agricultural workers in Canada: A scoping review

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*Systematic Review*

# Housing Conditions and Health Implications for Migrant Agricultural Workers in Canada: A Scoping Review

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**Abstract**

Migrant agricultural workers face various health inequities that have led to preventable illness and death. This paper investigates how material housing conditions have shaped physical and mental health outcomes for temporary foreign workers in Canadian agriculture. We conducted a scoping review of literature on migrant agricultural worker housing in Canada published between 2000–2022, analysing insights on the physical quality of workers' housing in relation to international frameworks on housing quality. Our review revealed a range of housing-related health risks, including: (1) Sanitation, food security, and water; (2) Thermal safety, electricity, and utilities; (3) Habitability of structure, air quality, and exposure to hazards; (4) Spacing, privacy, and co-worker relations and; (5) Geographic proximity to necessary services and social opportunities. Although housing has been increasingly recognized as a social determinant of health, little research examines how migrant farmworkers' accommodations shape their health outcomes, particularly in Canada. This scoping review provides timely insights and recommendations to inform research, policy, and public health interventions.

**Keywords**

migrant workers, housing, health equity, Temporary Foreign Worker Program, migrant labor

## Introduction

As wealthy countries worldwide have become increasingly reliant on government-administered 'guestworker' programs for low-wage agricultural work, housing has been consistently identified as a key determinant of migrant workers' health (Neef, 2020; Quandt et al., 2015; Weiler et al., 2021). Issues such as overcrowding, pesticide exposure, and rodent infestation present direct threats to workers' health (Beckford, 2016; Bradman et al., 2005; Muñoz-Quezada et al., 2016). Although researchers have long documented patterns of substandard housing for agricultural workers worldwide (Corrado et al., 2016; Hartwig & Marais, 2005; Neef, 2020), the issue persists because of a weak regulatory regime, agribusiness lobbying, and a lack of government enforcement (Mojtehedzadeh, 2020; Vosko & Casey, 2019). In the isolated rural areas where migrants tend to live and work, they often have limited access to services such as health care (Colindres et al., 2021). Ultimately, the quality of housing that is typically available to migrant agricultural workers can significantly undermine their physical and mental health. During the COVID-19 pandemic, congregate housing conditions for migrant agricultural workers contributed to a heightened risk of poor health outcomes and preventable death (Caxaj et al., 2022a, 2022b, 2020; Vosko et al., 2022). Given the far-reaching health consequences of housing and food security to health outcomes, nurses have a moral and professional obligation to advocate for dignified housing (Vold et al., 2019). This is especially important for the field of nursing given the unique health vulnerabilities facing migrant agricultural workers coupled with the Canadian agricultural industry's assertions that it would collapse without this workforce (Weiler et al., 2017; StatCan, 2022).

While the prevalence of housing-related health challenges for migrant agricultural workers is widely known, little

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research has focused specifically on the physical quality of their accommodations. In Canada, decades of research on what is now the federal Temporary Foreign Worker Program (TFWP) has likewise focused only minimally on migrant agricultural worker housing (Perry, 2018; Smith, 2015a; Tomic et al., 2010). Employers are typically responsible for migrant farmworker housing, which is frequently on-farm and adjacent to employers' homes. In the absence of research that explicitly documents migrant workers' concerns regarding their housing quality, policy decisions may reflect the priorities and lobbying power of actors who have greater access to political channels, such as growers and agribusiness representatives (Weiler & Grez, 2022). An evidence-informed understanding of the complexities that shape migrant workers' living conditions can also inform more effective public health interventions.

In this paper, we present findings from a systematic scoping review of prior research on housing conditions for migrant agricultural workers in Canada. This review was guided by the following central question: What does existing literature reveal about the impact of employer-provided housing on migrant agricultural worker health in Canada? Our scoping review draws from scholarly literature and grey literature in English, French, and Spanish. As such, this paper provides a systematic documentation of concerns raised by workers, researchers, government, and civil society organizations. After providing a brief overview of relevant literature on migrant health and the Canadian policy context, we document five central themes regarding physical dimensions of workers' housing. Specifically, we analyze insights on the physical quality of workers' housing in relation to international frameworks on housing quality (City of Toronto, 2022; Department of Housing and Urban Development, 2004; United Nations, 2019). At a policy level, these findings can inform the long-awaited implementation of enforceable national housing standards for migrant agricultural workers in Canada (Caxaj & Weiler, 2022). As clinicians and leaders privy to the many ways that poor housing negatively impacts health outcomes (Pauly et al., 2009), nurses are uniquely equipped to advocate for improved housing standards for migrant agricultural workers.

## Migrant agricultural worker health in canada

Initiated as a pilot project in 1966, Canada's farm labor migration program enables employers to hire workers from less wealthy countries such as Jamaica, Mexico, and Guatemala (Dunsworth, 2021; Smith, 2015b). It is administered by the Canadian federal government with logistical involvement by grower organizations in various provinces. Agricultural streams of the TFWP are popular among growers and have grown to include some 50,000 farmworkers annually (Zhang et al., 2021). In 2017, international migrants made up 16.1 percent of all agricultural workers (Zhang et al., 2021). Depending on the stream of the TFWP through which they were hired, migrant agricultural workers' visas allow them to reside in Canada for between eight months to two years.

Typically, migrant agricultural workers' ability to legally reside in Canada hinges on remaining employed by the initial person who hired them. Leaving their job could mean losing their immigration status and associated health care (Basok et al., 2014). In a survey of Mexican migrant workers in British Columbia, 44 percent reported a high risk of "working with an aggressive boss or supervisor" (Preibisch & Otero, 2014, p. 186; see also Hennebry et al., 2016, p. 529). Yet even in flagrant contexts of employer abuse and unsanitary accommodations, changing employers can be exceedingly difficult (Weiler & McLaughlin, 2019). Although migrants often depend heavily on income earned in Canada to support themselves and their families, the precarious design of this work abroad presents risks for their physical and mental health, along with labor and human rights (Binford, 2013). The consequences of this precarity include pressure to accept hazardous working and living conditions, limited help-seeking and reporting of health concerns, and enduring workplace abuse and intimidation (Basok et al., 2014; Caxaj & Cohen, 2019; Cohen & Caxaj, 2022). Prolonged familial separation, social isolation, and employer expectations of hyperproductivity can further exacerbate these risks (McLaughlin, 2010; Perry, 2018; Wells et al., 2014).

The precariousness of migrant farmworkers' immigration and employment status heightens their risk of poor health outcomes. For example, workers may avoid reporting illness or injury due to fear of not being rehired, or of being medically repatriated (Colindres et al., 2021, Cohen & Caxaj, 2018; Hennebry et al., 2016; Orkin et al., 2014; Preibisch & Otero, 2014). Health risks such as exhaustion as well as musculoskeletal injuries and pain are significantly linked to long, intense workdays with few or no breaks (Hennebry et al., 2016; Preibisch & Otero, 2014). Mental health concerns including depression and anxiety have also been linked to fear of repatriation, alongside contributing factors such as the loneliness of being apart from children and other family, high levels of stress, and a sense of powerlessness (England et al., 2007; Paciulan & Preibisch, 2013; Pysklywec et al., 2011; Salami et al., 2015). Existing literature often notes how migrant health issues as varied as food insecurity, social isolation, and reproductive health converge with employer-provided housing (Horgan & Liinamaa, 2017; Weiler et al., 2017). However, there has been little explicit scholarly focus on how housing drives poor physical and mental health outcomes for migrant agricultural workers.

## National housing standards for migrant agricultural worker in canada

Considering decades of research and advocacy documenting substandard housing for migrant agricultural workers,

governments in Canada have faced pressure to respond. Responsibility for migrant health, safety, and housing falls under multiple governmental and non-governmental jurisdictions (Hennebry, 2010). However, a federal government department, Employment and Social Development Canada (ESDC), holds ultimate responsibility for coordinating across jurisdictions and administering the TFWP. In 2018, the federal government launched a National Housing Study with the stated intention of "establishing a cohesive Temporary Foreign Worker Program housing standard across Canada" (NHICC, 2018). Key recommendations from the study included establishing a consistent national housing standard, improving coordination across jurisdictions, and strengthening training and certification for housing inspectors. Forty percent of surveyed employers indicated that workers' housing was in a 'dual purpose' building such as a storage facility or machine shed, highlighting the possibility of toxic chemical exposure (p.13). Despite the concerns raised by this study and previous research, grower organizations successfully lobbied against the creation of national housing standards (Mojtehedzadeh, 2020). ESDC asserted it would be difficult to standardize housing requirements across Canada due to distinct standards in provinces and territories, highlighting that "many employers worry that their costs could increase to meet a potential new national standard" (ESDC, 2019).

To date, employer-provided housing standards and enforcement remain a major gap in supporting the health of migrant agricultural workers in Canada. Although the federal government has not yet established national housing standards for migrant workers, ESDC proposed to improve migrant agricultural workers' housing through increased on-site inspections and modest administrative changes that would increase the frequency of certain desk-based reporting requirements expected of employers (ESDC, 2018). Yet housing remained the top concern for many migrant agricultural workers across the country, indicating workers' needs were going unaddressed. In 2019, leaked documents from the Mexican Ministry of Labour showed that since 2009, migrant workers had reported 3,100 concerns about their housing and workplace conditions, with over 1,200 regarding substandard housing (Mojtehedzadeh, 2019). Canadian governments often rely on a complaint-driven system to address migrant worker housing concerns and have not established adequate enforcement measures to proactively address substandard housing (Vosko & Casey, 2019). Nevertheless, extensive research shows that migrant agricultural workers are reticent to voice complaints or pursue legal measures when faced with poor housing conditions because of the threat of retaliation by employers (e.g., Caxaj & Cohen, 2019). In other words, many workers facing poor housing standards remain silent because reporting concerns may jeopardize their employment and immigration status.

The COVID-19 pandemic amplified many of the housing-related risks facing migrant agricultural workers in Canada (Caxaj et al., 2022b; Vosko et al., 2022). In late 2020, the federal government launched consultations regarding migrant worker housing with various government actors, industry, and civil society organizations that support migrant workers. The following year, the Auditor General released a report that was sharply critical of ESDC for inadequate inspections of migrant farmworker housing. She noted that the quality, rigor, and timeliness of inspections had in fact deteriorated between 2020–2021 (Auditor General, 2021). In 2022, Carla Qualtrough, Minister of Employment, Workforce Development and Disability Inclusion, released a report based on roughly 150 submissions received, documenting inconsistent housing quality criteria across regions (ESDC, 2022a). Minister Qualtrough expressed the government's interest in improving collaboration across sectors and levels of government. At a Ministerial Roundtable later that year, ESDC proposed to address "essential" foci such as access to water, ventilation, proximity to hazardous materials, and sewage (ESDC, 2022b). These items are undoubtedly important for migrant workers' health and safety. However, the government's response reflects both a lack of urgency and an exceedingly narrow acknowledgement of concerns raised by workers, advocates, and scholars. Amidst these political struggles, nurse scholars and advocates have played a prominent role in advocating for affordable, quality housing for the general public (Benbow et al., 2016; Chiu et al., 2020). Yet the discipline has been relatively silent in recognizing the unique housing threats faced by migrant agricultural workers.

## Methods

Our scoping review sought to broadly identify existing research detailing migrant agricultural workers' housing experiences in Canada. We drew on a scoping review framework as first developed by Arksey and O'Malley (2005) and later revised by Levac et al. (2010). A scoping review is an appropriate methodology when there exists minimal scholarly research on a topic, and our literature review is intended to be descriptive rather than theory testing. Although extensive literature exists on migrant agricultural workers in Canada, there is surprisingly little focus on the quality of their housing. Much of the research that does address their housing mentions it only in passing. A strength of scoping reviews is that they enable researchers to analyze a broad range of publication types; this breadth is crucial when there is limited scholarly literature on a topic. For this reason, our search encompassed not only peer-reviewed scholarly literature, but also academic commentaries and influential grey literature. Our review was driven by the question: What does prior literature reveal about migrant agricultural workers' housing experiences in Canada? This question aligned well with a scoping review. First, the question allowed us to account for a variety of micro- and macro-level factors that could shape housing quality for this population. Second, the question permitted us to set sufficiently broad

parameters of inquiry (e.g., 'housing experiences') to map the body of literature in this regard (Peterson et al., 2017; Munn et al., 2018).

To reflect relevant recent policy changes related to migrant worker housing, our scoping review included articles from 2000 onward. Peer reviewed scholarly literature was identified using a comprehensive search strategy developed by information specialist and health science librarian (Martyniuk) in consultation with the review team. This co-author oversaw the main search of databases, along with hand-searches of grey literature and references. The PRISMA-Search extension developed by Rethlefsen et al. (2021) has been used to report all search strategies and can be found in Appendix A. Subject headings and textwords related to the following concepts were included in the search: agricultural foreign workers, housing, and Canada. The complete search strategies can be found in Appendix B.

We developed and finalized our search strategy in OVID Medline and then translated it to OVID Embase, OVID HealthStar, Scopus, Web of Science, Sociological Abstracts, CAB Direct, PAIS Index, and Academic Search Complete. A date limit was applied to include articles published since 2000. No language limit was applied to the search strategies. However, articles not in English, Spanish or French were omitted during our full-text screen. The searches were initially run in April 2021. To capture subsequent publications, we reran searches in June 2022 prior to the final analysis and article submission. The search results were exported into EndNote and deduplicated.

To ensure comprehensiveness, we complemented the main database search in several ways. To identify relevant grey literature, we conducted a hand search of relevant grey literature resources, including TripPro, Canada.ca, and Google Scholar immediately following the academic database search. Documentation of the grey literature search can be found in the Appendix C. To identify any studies that had been missed, we also performed hand searching of reference lists from included articles. In addition, we informally consulted expert colleagues in migrant agricultural worker health and human rights, which involved sharing our list of included publications and asking them to identify any remaining literature missed by our search strategies.

To screen the articles for inclusion, we imported articles into Rayyan (with additional deduplication as necessary). Two paired reviewers then independently screened the titles and abstracts for eligibility. Any conflicts were resolved through consensus among the three authors. Next, the three authors independently screened full-text versions of the long-listed articles. Any articles that raised questions regarding the interpretation of the eligibility criteria were discussed among all authors to ensure consistency across the screening process. Eligibility criteria for academic articles included empirical or theoretical works, including book chapters, relevant to migrant workers, housing and the Canadian context. Articles published before 2000, in languages other than English, French or Spanish, or not relevant to the topic were excluded. The PRISMA Flow Diagram (appendix A) presents the screening process of the included and excluded articles. In total, we included 51 academic articles, 6 government documents/websites and 7 non-profit reports. Most government documents reviewed were authored by federal agencies (n = 5). Most academic articles written within a bounded geographic setting were based in Ontario (n = 21), British Columbia (n = 10), with much less focussed in Quebec (n = 1) and Nova Scotia (n = 1). Yet a large amount of articles, because of their theoretical or methodological nature (i.e., literature reviews), or, their transnational or multi-regional analysis could not be classified under a specific provincial context (n = 18). Only 4 non-English articles were identified, three being in Spanish and one in French.

Finally, the two first authors [Caxaj, Weiler] used a live intake spreadsheet form to extract and organize key insights from the full-text included articles and grey literature. Authors only participated in the extraction of articles written in a language they were fluent in. To analyze key qualitative themes from the data, we drew on Braun and Clarke's (2006) approach to thematic analysis. This involved Weiler and Caxaj applying codes to each unique insight and then combining codes to develop broader themes. We delineated two distinct but interrelated types of findings: (1) Physical housing characteristics - descriptions of concrete and/or material issues and; (2) Social dynamics of housing – interpersonal, political, and economic circumstances that determined migrant agricultural workers' subjective housing experiences. Here, we focus on physical housing characteristics, which merit targeted consideration to guide both issues of housing quality definitions and oversight and enforcement. To make sense of how these findings measure up against broader measures of housing and health, and to organize our findings, we drew from housing standards in Canadian, U.S., and other international jurisdictions (City of Toronto, 2022; Department of Housing and Urban Development, 2004; United Nations, 2019).

## Findings

Our findings revealed a range of housing issues that posed a notable risk to migrant workers' physical and mental health, and that did not measure up to existing governmental requirements for employers of migrant workers in Canada (Service Canada, 2017; WALI, 2020). Here, we will discuss these issues under five broader categories: (1) Sanitation, food security, and water; (2) Thermal safety, electricity, and utilities; (3) Habitability of structure, air quality, and exposure to hazards; (4) Spacing, privacy, and co-worker relations; and (5) Geographic proximity to necessary services and social opportunities. Structural factors such as workers' precarious immigration status make them uniquely vulnerable to the health and safety risks posed by these issues. The implications of

these findings will be discussed following this section and further elaborated in subsequent publications.

### *Sanitation, food security and water*

Literature on migrant agricultural worker housing documented a lack of access to adequate washrooms, laundry facilities, and other sanitary facilities (Bejan et al., 2021; Caxaj & Diaz, 2018; Caxaj & Cohen, 2019; Horgan & Liinamaa, 2017; Landry et al., 2021; Diaz Mendiburo & McLaughlin, 2016; Rosales Mendoza, 2016; Perry, 2018; Salami et al., 2015; Stasiulis, 2020; Thomas, 2020). For a workforce that may be regularly exposed to agrochemicals, a lack of laundry and handwashing stations posed a threat to workers' health and safety (Preibisch & Otero, 2014). In addition, researchers reported insufficient refrigeration and/or food storage capacity, along with limited facilities and space to cook meals (McLaughlin, 2017; Preibisch, 2004; Perry, 2018; Valenzuela-Moreno, 2018; Weiler et al., 2017). A scarcity of facilities — whether related to hygiene or food preparation — had significant implications for migrant farmworkers' health. For instance, individual workers reported that delayed access to scarce shared facilities meant losing out on opportunities for rest, recreation, and even sleep (Binford, 2013; Horgan & Liinamaa, 2017; Perry, 2018). Some workers also reported having to wake up at dawn to have a chance to shower. A lack of adequate food storage, including refrigeration, had an adverse impact on migrant farmworkers' nutrition and food security (Al-Bazz et al., 2022; Díaz Mendiburo & Mclaughlin, 2016). This included heightening the risk of foodborne illness transmission. Inadequate kitchen facilities and utensils limited workers' capacity to prepare nutritious food, prompting them to rely on high-energy and nutritionally poor processed food requiring limited preparation (Weiler et al., 2017). Finding a physical space to eat was also reported as a challenge (Perry, 2018).

Perhaps most concerningly, nine studies highlighted a lack of, or inadequate, potable/clean water in migrant farmworkers' homes (Bauder, 2005; Bejan et al., 2021; Caxaj & Diaz, 2018; Díaz Mendiburo & McLaughlin, 2016; McLaughlin, 2017; Decent and Dignified Housing for Migrant Farmworkers, 2020; Preibisch & Otero, 2014; Salami et al., 2015; Stasiulis, 2020). Limited access to this basic amenity would amplify challenges for workers already facing barriers to kitchen and washroom facilities. Beyond describing this issue as illustrative of poor housing conditions or wider structural marginalization, none of the studies provided an in-depth investigation of inadequate potable water.

### *Thermal safety, electricity, and utilities*

Buildings or shelters in which some workers were housed were in such poor condition that basic ventilation required for summer months, and adequate heating required for cooler periods, were sometimes ineffective or nonexistent (Beckford, 2016; Caxaj & Diaz, 2018; Díaz Mendiburo & McLaughlin, 2016; Rosales Mendoza, 2016; Salami et al., 2015). Researchers documented a case in which migrant worker residents had no electricity (Caxaj & Diaz, 2018). In other cases, migrant workers stated that they faced illegal deductions from their earnings, or that they had to pay directly for heating and electricity despite employers' contractual obligations to cover these costs (Caxaj & Diaz, 2018). A lack of access to utilities or service to facilitate communication was reported in some studies and considered particularly difficult, especially because workers relied on phones and the internet to communicate with their families abroad (Binford, 2002; Caxaj & Diaz, 2018; Colindres et al., 2021; Juarez Cerdi, 2016; Díaz Mendiburo & McLaughlin, 2016; Tomic & Trumper, 2012).

### *Habitability of structure, air quality, and exposure to hazards*

Some housing structures were noted as being in disrepair, with inadequate installation of washrooms, kitchens and bedrooms, and a lack of basic furniture (e.g., beds and chairs), or communal spaces, leading to extreme discomfort and poor wellbeing (Binford, 2013; Salami et al., 2015; Díaz Mendiburo & McLaughlin, 2016; Rosales Mendoza, 2016; Tomic & Trumper, 2012; Perry, 2018). In one study, employers "staged" a kitchen with additional stoves that were only temporarily placed in workers' homes for the duration of a housing inspection (Caxaj & Cohen, 2019). Relatedly, researchers reported on cases of minimal or no maintenance or clean-up of living quarters by employers across seasons (Bejan et al., 2021; Binford, 2013). Pest infestations, such as rodents, were also documented (Beckford, 2016; Bejan et al., 2021).

Ten studies identified exposure to pesticides as a housing hazard (e.g., pesticides stored adjacent to living quarters) (Basok, 2000; Bauder, 2005; Caxaj & Cohen, 2019; Caxaj & Diaz, 2018; Hennebry & McLaughlin, 2012; McLaughlin, 2017; Díaz Mendiburo & McLaughlin, 2017; NHICC, 2018; Salami et al., 2015; Stasiulis, 2020). A report in Eastern Canada identified bylaw violations related to the placement of smoke detectors (Bejan et al., 2021). Air quality was generally discussed in relation to thermal safety (see above), but also in relation to hazardous exposures. The COVID-19 pandemic elevated the consequences for workers' health and safety of access to ventilation, fresh air, and personal space. For instance, authors described cases in which migrant farmworkers were not provided with separate facilities when awaiting COVID-19 tests, even when symptomatic (Landry et al., 2021; Caxaj et al., 2020). Shared dwellings and overcrowding were significant problems for migrant workers generally (Díaz Mendiburo &

McLaughlin, 2016; Preibisch & Grez, 2010; Valenzuela Moreno, 2018). During the COVID-19 pandemic, especially during the quarantine period, overcrowding resulted in an inability to physically distance and a greater risk of exposure (Bejan et al., 2021; Colindres et al., 2021; Landry et al., 2021; Mema et al., 2021; Sztainbok, 2021).

### Spacing, privacy, and co-worker relations

The location of workers' housing and the blurring of personal and work spaces led to various mental health stressors for migrant agricultural workers, including the pressure to be constantly "on call" or working (Bridi, 2013; Caxaj & Cohen, 2019; Cohen, 2019; Hjalmarson, 2016; Perry, 2018; Preibisch, 2004; Valenzuela Moreno, 2018; Reid-Musson, 2018). This pressure was exacerbated by the location of workers' housing, which was typically on their employer's property and/or in close proximity to farm operations (Caxaj & Cohen, 2019; Gallié, Galerand & Bourbeau, 2020). Proximity to employers' homes facilitated surveillance and arbitrary 'house rules,' and overcrowding in congregate housing quarters further reducing workers' autonomy and freedom of mobility (Bejan et al., 2021; Birdi, 2013; Caxaj & Diaz, 2018; Cohen, 2019; Hjalmarson et al., 2015; McLaughlin, 2017; Perry, 2018). In an extreme case, migrant workers reported being physically locked indoors after work (Preibisch, 2004) and in many cases, workers were explicitly instructed not to socialize outside of the farm (Caxaj & Cohen, 2018; Hjalmarson et al., 2015). Another common spatial practice of employer control involved racial and gender segregation of housing facilities (Cohen, 2019; Juárez Cerdi, 2010; Preibisch & Grez, 2010). Workers reported poorer or differential treatment based on their gender or country of origin, which they described as a form of discrimination or control (Beckford, 2016; Cohen & Caxaj, 2018; Cohen, 2019; Hjalmarson et al., 2015; Preibisch & Grez, 2010). Researchers also cataloged extensive cases in which workers reported that harassment and fear for safety impacted the overall quality of their living conditions, and that these dynamics often mirrored workplace hierarchies (Basok et al., 2014; Binford, 2013; Cohen, 2019; Juárez Cerdi, 2010; Decent and Dignified Housing for Migrant Farmworkers, 2020; Perry, 2018; Preibisch & Grez, 2010).

Without a clear separation between home and workspaces, and without adequate personal space, conflict could arise between co-workers who were also housemates (Lippel & Walters, 2019; Perry, 2018). Workplace hierarchies could be reproduced in living spaces, entrenching workers' experiences of lacking control over their personal time and space (Caxaj & Diaz, 2018; Preibisch & Grez, 2010). Overcrowding resulted in a lack of privacy, dignity, and poorer reported mental health for many workers (Caxaj & Diaz, 2018; Perry, 2018; Salami et al., 2015). In one study, Mexican migrant farmworkers were misinformed by the Mexican recruitment office about how crowded their housing would be (Bejan et al., 2021). In another case, participants reported sharing three trailers and two working toilets with 45 co-workers (Preibisch, 2004).

### Accessibility and location

Research commonly described the geographic location of workers' housing as situated in rural or segregated areas with few amenities (e.g., groceries), and with limited access to basic services (Binford, 2013; Cohen & Caxaj, 2018; Horgan & Liinamaa, 2017; Juárez Cerdi, 2010; Rosales Mendoza, 2016; Tomic & Trumper, 2012). This isolation was often reinforced by a lack of access to safe and affordable transportation (e.g., public transit, sidewalks, etc.), making it difficult for workers to leave their employer's property/farm (Bridi, 2013; Juárez Cerdi, 2010; McLaughlin, 2013; Hjalmarson et al., 2021; Lippel & Walters, 2019; Preibisch, 2004; Reid-Musson, 2018; Stasiulis, 2020). Limited mobility also restricted individuals' opportunities to forge social connections with local communities (Binford, 2002; Cohen, 2019; Horgan & Liinamaa, 2017; Rosales Mendoza, 2016; Reid-Musson, 2018; Tomic & Trumper, 2012; Wong et al., 2021). As a result of their isolation, workers often had to rely on supervisors or employers to access health services and other essential needs (Basok, 2000; Basok, Belanger & Rivas, 2014; Cohen & Caxaj, 2018; Colindres et al., 2021), which jeopardized migrant workers' privacy and could deter help-seeking (Caxaj & Cohen, 2018; Wong et al., 2021). Farmworkers' built-in dependence on employers and supervisors also intensified barriers for workers to move freely and access necessary services (Basok, 2000; Caxaj & Cohen, 2018; Hennebry & McLaughlin, 2012; Rosales Mendoza, 2016). Constrained freedom of mobility became acute during employer-overseen quarantine periods in the COVID-19 pandemic (Decent and Dignified Housing for Migrant Farmworkers, Sztainbok, 2021). Racialized surveillance and profiling in the surrounding community also contributed to workers' sense of isolation (Basok et al., 2014; Cohen, 2019; Cohen & Caxaj, 2022; Juárez Cerdi, 2010; Preibisch, 2004; Hjalmarson et al., 2015).

Overcrowding and isolation undermined migrant workers' mental health in several ways. Indoor housing tended to offer few spaces for privacy or solitude, and a lack of access to green space limited individuals' opportunities to practice their spiritual or cultural beliefs (Rosales Mendoza, 2016). Previous authors noted that on the rare occasions when green space was available, workers were afforded some reprieve, and opportunities to more easily bond with co-workers (Perry, 2018). Furthermore, migrant agricultural workers identified physical space and time off the farm/property as important, particularly given the drawbacks of their on-farm housing. Yet strenuous work schedules, geographic isolation, limited freedom of mobility, and the expenses

incurred through travel and recreation further constrained workers' ability to access health-promoting amenities and leisure from life off of the farm/property (Binford, 2002; Birdi, 2013; Caxaj & Diaz, 2018; Juárez Cerdi, 2010). Because it was often difficult to leave their employer's property in remote rural areas, poor living conditions became an inescapable, fundamental determinant of workers' physical and mental health in their day-to-day lives.

## Discussion and implications for policy, nursing practice, and public health

Based on our scoping review, we recommend that the federal government establish national housing standards that significantly raise requirements for the quality of migrant workers' physical housing conditions (e.g., no bunk beds), along with more systemic changes to the design of the TFWP (Caxaj & Weiler, 2022; Caxaj et al., 2020; McLaughlin, 2013). Stronger mechanisms for proactive enforcement and complaint-reporting are needed to ensure such standards are followed. We recommend that the federal government coordinate among all levels of government so that workers no longer fall through the jurisdictional cracks, which have led to accommodation quality that is inconsistent and at times severely substandard (Hennebry, 2010).

A key first step to address health inequities facing migrant farmworkers is for the federal government to establish strong national housing standards. These standards should include targeted attention to chemical exposures, thermal safety, and ventilation. Thermal safety and air quality will become of increasing public health importance with climate-related extreme weather events such as heat domes, droughts, wildfires, and flooding (Amini et al., 2021; Austin et al., 2015; Greene, 2018). Policymakers should develop stronger health and safety standards for farmworker housing to reflect the known adverse effects of thermal stress on workers' physical and mental health (Berry et al., 2010; Castillo et al., 2021). Access to internet utilities should be considered a basic right because it not only enables migrant farmworkers to maintain ties with families and communities abroad, but also to use e-health services (Price et al., 2013). This is crucial given that a lack of access to timely medical care can lead to preventable illness and death (Caxaj et al., 2022a). Nurses are emerging as leaders in advocacy for climate change, digital health equity, and racial justice (International Council of Nurses, 2020) — areas of expertise that could be leveraged to inform a national housing strategy for this population, and ultimately, improve housing conditions for migrant farmworkers.

The fundamental design of Canada's farm labor migration program lends itself to health vulnerabilities faced by migrant workers, including issues of substandard housing, geographic isolation, a lack of privacy, and employer restrictions on migrant workers' freedom and dignity (Caxaj & Cohen, 2019; Horgan & Liinamaa, 2017). Key features of the program that undermine workers' bargaining power include farmworkers' precarious immigration status and deportability, exclusion from certain provincial labor protections (e.g., agricultural workers cannot unionize in Ontario), structural and interpersonal racism, and low-wage positions (Basok et al., 2014; Smith, 2015b). Provincial governments should support farmworkers' right to collectively organize and assert decision-making power over their housing conditions through processes such as contract negotiations (Preibisch, 2004). Government funding for workers to be housed off-farm in the community, with transportation to worksites, could serve as an important preventive strategy to keep workers safer and closer to the supports they need. Providing migrant agricultural workers with permanent residency on arrival, open work permits, and a fair grievance procedure prior to a removal order could significantly address the asymmetrical power relationship between workers and employers (Weiler & McLaughlin, 2019).

Solutions to poverty and unemployment in the Global South are complex and context-specific. However, multilateral coordination to support viable livelihood options in workers' countries of origin can also help reduce pressure on migrant workers to 'consent' to high-risk jobs and substandard housing in the Global North (Binford, 2013). Given the transnational migratory status that underpins this groups' housing, and ultimately their health, nurses and other clinicians must exercise working knowledge of the various structural factors that threaten this group's health status (Cole et al., 2019). For example, nurses can anticipate how fear of being repatriated may underscore workers' decision to withstand hazardous living conditions or tolerate employer gatekeeping of service access. Program and service delivery may need to be adapted accordingly to meet the unique needs of this group.

The existence of unsanitary farmworker housing, along with a lack of clean running water and unsafe food storage conditions, suggests that existing oversight and enforcement mechanisms for employer-provided housing have been ineffective (Beckford, 2016; Colindres et al., 2021; McLaughlin, 2013; Wong et al., 2021). The severity of these issues underscores the need for urgent policy interventions to prevent them from occurring. A reliance on pre-arrival and desk-based housing inspections has clearly proved inadequate, particularly during the COVID-19 pandemic (Baum & Grant, 2020). ESDC should prioritize random, unannounced, and proactive housing inspections by in-person inspectors. Documented issues with rodent infestations, exposure to agrochemicals, and lack of appropriate heating, ventilation, and cooling further underscore the importance of in-person housing inspections to assess safety-ground conditions. Federal and private Inspectors alike should be well-trained, certified by a single federal governing body for consistency, and either able to speak migrant workers' languages or accompanied by a translator. Penalties for non-compliance

should be sufficiently high to promote deterrence. Strong leadership and coordination in this area by ESDC could help address jurisdictional and procedural issues. Furthermore, in many provinces and territories, public health units are tasked to carry out housing inspections that may be overly narrow in volume and scope. Therefore, nurses and other healthcare professionals have a role in advocating for more comprehensive standards and infrastructure to oversee and implement safer and more dignified housing for this population.

Alongside stronger proactive enforcement, ESDC should create accessible mechanisms for workers to safely report concerns about their housing. ESDC's commitment to staff complaint lines with live operators is a useful first step (ESDC, 2022c), but these operators must be trained to understand the unique barriers and potential retaliation migrant workers might face by making a complaint. In addition, methods to ensure anonymous reporting to inspectors during site visits, and protocols to activate adequate referrals and follow-up to ensure hazardous living conditions are fully addressed must be put in place. Alternative housing must be available for workers who report human rights abuses and other violations.

Nurses and other health care practitioners play an important role in supporting migrant workers' access to healthier housing. Outreach by healthcare workers to the remote rural areas where workers live could also help improve sanitation, food security, and potable drinking water access, especially given this group's limited connections with the wider community. In addition, taking into account that this workforce faces circumstances that pressure them to accept and under-report unsafe living conditions, nurses and other clinicians should proactively develop effective communication channels to connect with migrant farmworkers well in advance of emergency events (Chiabai et al., 2018; Roelofs, 2018). Given the precarity and multiple layers of regulation that shape migrant workers' housing challenges, nurse leaders can form working relationships with civil society organizations, churches, and other support organizations that have gained the trust of this population. Furthermore, they must be prepared to help navigate and liaise with government authorities that have not always prioritized workers' health and safety through their policies and actions. This is particularly important in rural and small-towns where migrant workers may often be isolated.

## Limitations

A few limitations of this review should be acknowledged. First, of the academic articles included in our review, housing was rarely the central empirical or theoretical focus. This points to the need for further research that specifically targets housing issues and experiences faced by this population. Second, the vast majority of articles that met our inclusion criteria used qualitative methods. This suggests the need for further quantitative empirical work to measure the magnitude of housing challenges faced by migrant agricultural workers in Canada, including associated health outcomes. Lastly, our review included documents only up until June 2022. So pertinent articles since that time have not been included in our analysis.

## Conclusion

Our scoping review provides evidence that the material conditions of migrant agricultural workers' accommodations in Canada can significantly undermine their physical and mental health. On the one hand, the design of migrant farmworker housing can contribute to barriers to well-being for this population, including by creating a dependence on employers for transportation from remote rural areas to healthcare services and crucial amenities such as groceries. On the other hand, housing conditions can directly threaten workers' health, such as the threat of exposure to agrochemicals from 'dual purpose' housing, rodent infestations, along with airborne disease and stressful interpersonal conflict in overcrowded bunkhouses. Given the increasing popularity of low-wage, temporary farm labor migration programs worldwide and a growing recognition of housing as a determinant of health (Lee et al., 2022; Reid et al., 2021; Swope & Hernández, 2019), this scoping review offers insights that transcend the Canadian context. On the other hand, our focus on the physical domains of housing may preclude important social processes and consequences such as the gender dynamics arising from institutionalized living quarters (Preibisch & Grez, 2010; Smith, 2015b; Thomas, 2020), along with workers' agency in resisting housing conditions that segregate them (Cohen & Hjalmarson, 2020; Juárez Cerdi, 2010). Further research should also explore how both micro and macro-level power dynamics in employer-provided housing may shape health equity for migrant workers.

Future studies that look to areas of migrant farmworker housing in Canada that have been less well-documented thus far could be particularly beneficial. For instance, some housing issues faced by this group, even compared to U.S. research have been minimally explored in the Canadian context, and include household food security, water potability, and pesticide exposure. Finally, given the profound impacts of climate-related weather events on occupational health and health equity, the link between migrant farmworker accommodations and climate change represents a vital, under-explored area of empirical study in Canada and internationally. Nurses can play a critical role in advocating for policies and practices that ensure more suitable housing for various underserved populations, through the development of oversight mechanisms, preventative frameworks, and policy changes (Ford-Gilboe et al., 2018; Koprowski, 2020). As key voices in public health advocacy (Caxaj et al., 2021), nurses are well-positioned to document the health threats faced at the intersection of housing and

health equity for migrant agricultural workers specifically, and to push for needed changes to prevent such injustices.

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The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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## Supplemental material

Supplemental material for this article is available online.

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