Rooming Houses and Health: A Case Study

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Preface

Contribution of Collaborators

Elements	Chapter One	Chapter Two	Chapter Three	Chapter Four	Chapter Five	Chapter Six
Conceptualization, design and review	--	CP, CB, ED, LL	CP, CB, ED, LL	CP, CB, ED, LL	CP, CB, ED, LL	--
Assistance with search strategy	LS	--	--	--	--	--
Title and abstract screening by second reviewer	MG	--	--	--	--	--
Assistance with developing/organizing/coding/ analyzing material	--	FJ, CP	FJ, CP, ED	CP	CP	--
Auditing data analysis, levels of abstraction and interpretation	--	FJ, CP, CB, ED, LL	FJ, CP, CB, ED, LL	CP, CB, ED, LL	CP, CB, ED, LL	--
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Approval of final version	--	CP,CB, ED, LL	CP,CB, ED, LL	CP,CB, ED, LL	CP, CB, ED, LL	CP, CB, ED, LL

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Thesis Abstract

Background: Rooming house residents have high rates of morbidity and mortality, yet little is known about why this disparity in health exists.

Research Question: How are rooming houses linked to health?

Case: Social exclusion of rooming house residents in downtown Ottawa, bounded by the neighborhood, and Ottawa's political policies at the time of data collection (September 2019-June 2020).

Methodology: A single embedded descriptive case study was informed by multiple sources of evidence, and involved a community advisory group (CAG). Rooming house residents took photos, participated in a community walk-about with participant observations and attended a focus group. Two additional focus groups were conducted; one with fellow rooming house residents, another with the CAG. Interviews with rooming house front-line service providers and a secondary data set of homeless service measures also informed the case.

Findings: 1. Rooming house residents (*n*=10) took 112 photos, and (*n*=8) took part in a focus group where two broad themes emerged: *Housing is health care*, and *just managing today***.** 2. Interviews with front-line service providers (*n*=11) focused on two themes: *There are many costs to living in a rooming house*, and *rooming house front-line service providers wear many hats*. 3. Between a sample of sheltered homeless (*n* = 60) and rooming house residents (*n*=52), there was no difference found for several health indicators, including frequency of care received in the emergency room, hospitalization as an inpatient, and if substance use made it difficult to stay or afford housing. Focus groups with rooming house residents who did not take photos (*n*=10) and the GAG (*n*=6) contributed to persona co-creation revealing financial and contextual factors affecting the health of rooming house residents.

Conclusion: The shared spaces of rooming houses create a tension between offering community and creating a risk environment. The negative health consequences to living in a rooming house are mitigated by the many roles that rooming house front-line service providers play in filling gaps. This study suggests the need to definitively position rooming house residents on the housing continuum in order to ensure equitable distribution of resources to optimize the health of this vulnerable population.

Acknowledgements

I acknowledge that this research took place in Ottawa, on the unceded, unsurrendered Territory of the Anishinabe Algonquin Nation. I continue to be grateful to have the opportunity to live and work on this land.

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Thank you to the rooming house front-line service provider participants for sharing your time and insight to help with this project. I have great admiration for your work, and hope this project showcases your contributions to the health of residents.

I would like to acknowledge the support of Taliesien Magboo Cahill and Susan Lambert for their assistance and support before, during, and after the focus groups. I would like to acknowledge my fellow PhD students, Megan Greenough and Fiona Jager for their contribution to the review of literature and feedback at various points of data analysis as this project progressed. Thank you also to Emily Marcogliese, Christopher White, and Kim Lauzier as fellow students for the support, encouragement, and comradery during this adventure.

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generosity with which you shared your expertise, and the kindness you showed in mentoring me as a new researcher. As my thesis advisor, Craig, you have borne the brunt of my questions, insecurities and edits of this paper- thank you so much for your time, inspiring stories, thoughtful discussions and commitment.

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Glossary of Terms

CPP: Canada Pension Plan is a retirement pension that is dependent upon years of contribution. The average monthly amount is $614.21[1]. This payment can be combined with OAS.

HMO: House of multiple occupancy. This is a British term that refers to shared single-unit accommodation.

Housing First: This is a particular approach to addressing homelessness. By following this model, people who use the most services and have been homeless the longest are prioritized for Housing First supports (such as case management support, access to supportive housing, and rental supplements).

OAS: Old age security. This benefit is payable after 65 years of age and is determined by how long you have lived in Canada. The maximum monthly amount is $615.37[2].

ODSP: Ontario Disability Support Program. In September 2019, this financial support program for people who have been found to have a disability, provided a single person a maximum of $672 per month for basic needs and $497 per month for shelter allowance[3]. This benefit is valid until the age of 64 when a person is transitioned to OAS/CPP.

OW: Ontario Works. In September 2019, a single person in receipt of social services financial support program previously termed 'welfare' qualified for a maximum of $343 per month for basic needs and $390 per month for shelter allowance[3]. This benefit is valid until the age of 64 when a person is transitioned to OAS/CPP.

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1 Government of Canada. CPP retirement pension: How much you could receive. https://www.canada.ca/en/services/benefits/publicpensions/cpp/cpp-benefit/amount.html

2 Government of Canada. Old age security payment amounts. https://www.canada.ca/en/services/benefits/publicpensions/cpp/old-age-security/payments.html

3Income Security Advocacy Centre. OW & ODSP rates and the Ontario child benefit: Current to February 2020. https://cjppr.on.ca/content/user_files/2020/05/March-2020-OW-and-ODSP-rates-and-OCB-EN_.pdf

Rooming house: A rooming house is private accommodation that is regulated by the municipality if there are more than four rooms in a building, each of which is rented individually, and residents share a bathroom and/or kitchen[4]. Generally, rentals are monthly.

SRO: Single room occupancy. This is often referred to a dwelling, or hotel. Like rooming houses, these are shared accommodations with single units, but these are often rented weekly.

Vulnerable: In this paper rooming house residents are referred to as a vulnerable population. This term refers to a susceptibility of the population to being physically or emotionally wounded or figuratively refers to a defencelessness against non-physical attacks[5].

4 By-law & regulatory services February 2016. Property Standards By-law Bylaw No. 2013-416. Ottawa: City of Ottawa.

5 "Vulnerable." *Merriam-Webster.com Dictionary*, Merriam-Webster, https://www.merriam-webster.com/dictionary/vulnerable. Accessed 19 Jun. 2021.

Chapter One

Introduction

In 2020 Ottawa, Canada's capital, was the first city in Canada to declare a housing emergency (Osman, 2020). As emergency shelters fill to capacity each night, there is a concurrent urgent demand for low-income housing options. However, there are fewer low-income options as rental stock ages, urban communities experience gentrification, and the building of new subsidized units fails to keep up with demand (City of Ottawa, 2017). Low vacancy rates have driven a rise in rents among the low-income housing options that remain available (Canada Mortgage and Housing Corporation, 2018). The inability to find adequate affordable housing units has pushed many low-income households into substandard and unhealthy housing, which in turn adversely impacts resident health and safety (Tilburg, 2017). One of these forms of low-income housing caught between essential affordable housing and concerns for the quality of housing impacting the health of residents, are rooming houses.

A rooming house is private accommodation regulated by the municipality if there are more than four rooms in a building, each of which is rented individually, and residents share a bathroom and/or kitchen (City of Ottawa, 2016). Single room occupancy (SRO) hotels are similar to rooming houses in terms of physical structure, and rooming houses are a form of SRO, but the rental agreements are different; SROs are most often rented weekly. People living in SROs are similar to people living in rooming houses, and the housing terms are often used interchangeably (Schloming & Schloming, 2003). Houses of multiple occupancy (HMO) are conceptually similar to rooming houses and SROs. HMO is a term used in the United Kingdom and parts of Europe (Currie, 1999).

Historically rooming houses have been an affordable housing option for various groups of people. It was acceptable and even expected for young married couples who moved to the

urban core, as well as travelling workers involved with providing labour during increased urbanization, to move into a rooming house (Campsie, 1994). As suburbs developed, the investment and popularism of rooming houses declined, and increasingly rooming houses, as single-occupancy dwellings, have simultaneously become a last resort for people vulnerable to homelessness, but also first option for people seeking to exit street or sheltered homelessness. (Dum, 2014). Living in a rooming house may be the only affordable low-income rental option. Without rooming houses, for people vulnerable to homelessness, the transition into sheltered homelessness would be precipitous and attempts to exit from sheltered homelessness would be all the more problematic (Lottis et al., 2014).

Clinical Significance and Relevance to Nursing

Overall, residents of rooming houses are unhealthy. Compared to the general population and even compared to people living in an emergency shelter, rooming house residents are disproportionately affected by treatable and chronic illnesses that contribute to premature mortality (Hwang et al., 2011; Jones et al., 2015; To et al., 2017; Vila-Rodriguez et al., 2013). People living in a shelter or a rooming house are more likely to die at least ten years earlier than the average Canadian, and only one third of men living in a rooming house will live past the age of seventy-five (Hwang et al., 2009). However, there is a gap in understanding how the rooming house context and available resources contribute to these poor health outcomes.

Nurses are in an ideal position to look at how housing experience and health intersect. The issues that affect the health of rooming house residents are complex and diverse, often stemming from the disadvantages of this social group, including unmet health care needs, poor medication adherence and problematic substance use (Argintaru et al., 2013; Hwang, Martin, Hulchanski, & Tolomiczenko, 2003; Green, Barratt, & Wiltshire, 2016; Parkdale Neighbourhood

Land Trust, 2017; Shepard, 1997). Nurses have the expertise to measure health outcomes, but also to assess the web of complex factors of the individual, social network and resources that contribute to why an individual needs or will need care. Nurses are on the front lines providing direct care in a variety of settings, including peoples' homes, and they can and should use their professional voice to translate what they see as part of daily practice into advocacy efforts and research (Archibald & Fraser, 2013).

Nurses have a unique perspective which approaches health from a holistic perspective. However, incorporating the social determinants of health framework into care provision and research requires a change in thinking for nurses who have focused mostly on interventions directed at health-care accessibility and acquired-health behaviours, based on an ideology of individual responsibility (Reutter & Kushner, 2010). As the domain of community health gains influence as an area of practice expertise, nurses need to participate in research studies that apply a multi-sectoral approach in assessing health to challenge policies that contribute to health inequities and poverty (Delvin et al., 2018). This study uses a community health nursing perspective, considerate of the social determinants of health, to better understand the gap in health outcomes for rooming house residents.

Situating the Researcher: Critical Pragmatism

It is important to understand my epistemological stance and philosophical fit within a research paradigm to better understand how this research project transpired. A paradigm can be seen as our worldview, and guides not only the method of research, but the questions that we ask and how we ask them (Guba & Lincoln, 1994). My thinking aligns with critical pragmatism, and this paradigm influenced the framing of the research question, the selection of the theoretical framework, and my choice of research methodology.

Clinical Interest

At the time of the study, for over fourteen years, I had provided weekly outreach nursing services to rooming house residents in my role as a nurse practitioner. Before this, I had worked in the homeless shelter system for a number of years. As a nurse working in the community, I recognized that to consider housing as part of health care assessments and plans can be messy, frustrating and problematic; however, there are few factors that affect health as much as housing. I also felt that I was regularly seeing a population that did not interact with many other health professionals and I would note that many of the rooming house residents died suddenly, were lost to follow up, or presented late in their disease process. My interest in conducting research on rooming houses started from my perceived failure as a front-line clinician to instigate sustainable change so necessary to improving the health of rooming house residents.

At one point I was asked to participate in a documentary about palliative care in rooming houses (Rolfe & Kucerak, 2018), and I was able to see the impact that visual images can make to communicate an idea to a wide audience. This peaked my interested in learning how to use photos as part of research.

Epistemology

My research focus is problem-based, motivated by outcomes and guided by questioning "so what?" or "then what?" Dewey's pragmatism combined with the tradition of critical theory has led discussion by scholars towards a model of critical pragmatism that emphasizes the construction of reality as a struggle between conflicting discourses and competing definitions of a situation (Kadlec, 2006). This fits with the phenomenon of the health of rooming house residents, as there is a tension between an affordable dwelling, and an often inadequate source of housing for which there are few alternatives.

Critical pragmatists give attention to both process and outcomes, and attend not only to the consequences of framing a problem in a certain way, but to the contingencies of the relations of power and authority that can make alternative frames and knowledge claims more or less plausible in the first place (Forester, 2012). Issues need to be explored in a practical way, thoughtfully framing questions and the process of how to ask them, thinking both pragmatically and critically so that a discourse leads to evidence-informed and equitably structured processes to achieve outcomes (Forester, 2012). Research involving vulnerable populations can present ethical challenges as researchers have a position of power, but a critical pragmatism lens recognizes this relationship and emphasizes the necessity of listening critically and acknowledging multiple forms of knowledge. Researchers with a pragmatic worldview are open to using multiple methods of data collection with a focus on the "best fit" to best answer the research questions irrespective of tradition (Creswell, 2013).

Reflexivity

In qualitative research, reflexivity refers to the process of clearly describing the contextual intersecting relationships between the participants and the researcher in order to decrease the risk of bias from the researcher inserting themselves into the research process without recognizing their effect (Dodgson, 2019). It is important for me to be transparent in how my social location, experiences and opinions influenced how I conceptualized the project, how data were collected and interpreted. In some ways I was an insider to the rooming house community because of my work. For instance, I knew to expect difficulty gaining entry to buildings, not to sit down because of the risk of bedbugs, and to schedule the next meeting with participants before leaving them, because working phones may be scarce. But I was most definitely an outsider in terms of identification with rooming house residents as a cultural group.

I am a permanently-housed, food-secure, car-owning, Caucasian, middle-class individual who identifies as female (pronouns she/her) with a graduate education, and at the time of data collection had worked as a nurse for over twenty years.

Buetow (2019) advocates for researchers to consider unconscious biases, such as sexism or classism, and for this study it is important to reflect on my position wary of neo-liberalism. The neo-liberal concepts of privatization, competition, efficiency and individual responsibility were part of my nursing education and clinical experience (Butcher & Bruce, 2016), but I was employed by an organization that prioritized an opposing view, marked by ensuring access to healthcare for the most disadvantaged in the community. I chose to use a social exclusion framework (Popay et al., 2008) because it captured some of the tensions that I perceived between the neo-liberal government policies of the larger community, and the difficulties I had in trying to provide care for residents who live in rooming houses who seemed to become increasingly disenfranchised.

If I had to identify a side, I would be most sympathetic towards rooming house residents. I have been known to share my frustration in trying to address the needs of rooming house residents, as well as my enthusiasm for attempting to address their healthcare by minimizing barriers. As a nurse I enjoy working as part of a team and I, along with rooming house residents as teammates, need to often think outside the box to optimize health. I use a harm reduction approach in providing care, and used this approach when I engaged with participants for this study.

There were several strategies that I used to mitigate the influence of my position and increase the accuracy of the research (Berger, 2015). To recruit participants and consult on the implementation of how data were collected, a community advisory group (CAG) was formed.

Data were not collected in an area of the city where I provided nursing outreach, and potential participants were excluded if I had a prior relationship in a professional capacity. In the photo-elicitation component of the data collection, I met with the same ten rooming house residents who took photos a minimum of four times, using prolonged engagement. During data collection, I kept a reflective journal of my challenges and progress which helped trigger memories and ground my decisions when analyzing the study data. I created an audit trail from the notes taken during weekly meetings with my thesis supervisor, the highlighted transcripts, and the electronic database of manuscript versions. The audit trail provides transparency and shows my reasoning and judgement for decisions I made in how data were interpreted and presented.

Context of the Research Project

The timing of this research project potentially influenced how data were interpreted, and how data were collected. Most of the data were collected before the restrictions of the Covid-19 pandemic, but additional information from four participants was collected in the spring of 2020 by phone as direct contact with participants was no longer permitted in accordance with public health guidelines. As months passed, more information came to light about the risks of the pandemic in congregate living settings (Terebuh et al., 2021). In the late spring of 2021, while I was writing the dissertation, the media reported that the remains of hundreds of residential school children had been found (Dickson & Watson, 2021). This shameful example in Canada's history demonstrated the catastrophic effects that can result when the status quo is not challenged, and policies allow the needs of vulnerable populations to be ignored. The health and housing needs of marginalized populations, such as rooming house residents, needs to be humanized in research. The pandemic and atrocities against the Indigenous Peoples of Canada served to build momentum to finish this project and analyze data within this time and context.

Theoretical Framework

A framework for a research study helps the researcher organise the study and provide a context to examine the problem, gather and analyse data (Brink, 2012). In conceptualizing how best to study the disproportionately poor health of rooming house residents, considerate of my community health nurse training of the social determinants of health, a framework was needed that could incorporate the complexities of housing and health. The framework needed to provide an understanding of health from a broad perspective to include the context of rooming houses and the wider community. Looking at context allows us to challenge the traditional medical model and move the focus away from individual-level factors to address growing health inequalities (Dunn, 2002; Satcher, 2010; Srinivasan & Williams, 2014). A nursing study that focuses on the context that surrounds health issues lends itself to an ecological model, or a social determinants of health model. For the current study, a social exclusion framework based on the social determinants of health was selected, which incorporated a critical lens to frame the processes and dynamics exerting influence on health.

Social exclusion has roots in the socio-political awareness of poverty that occurred with the advent of industrial capitalism and social degeneration described by Marx and other philosophers who shared concern for societies changing from cooperative to individualist, competitive societies (Bonner, 2006). This individualism left segments of the population excluded, and then further alienated by their poverty. The concept of social exclusion was popularized in the 1970s by Paul Lenoir as a policy initiative with the French socialist government that moved discussions about poverty to a broader term of exclusion from both social and economic opportunities (Mathieson et al., 2008). European governments have used the term for several decades to plan and measure programs, but in Canada social exclusion only

gained recognition in the early 2000s (Yanicki et al., 2015). Scholars from many disciplines who work with disadvantaged populations use a social exclusion framework. It can be particularly useful when measures of income and resources are not enough to explain outcomes, but instead a range of indicators of living standards are needed (Abrams et al., 2007).

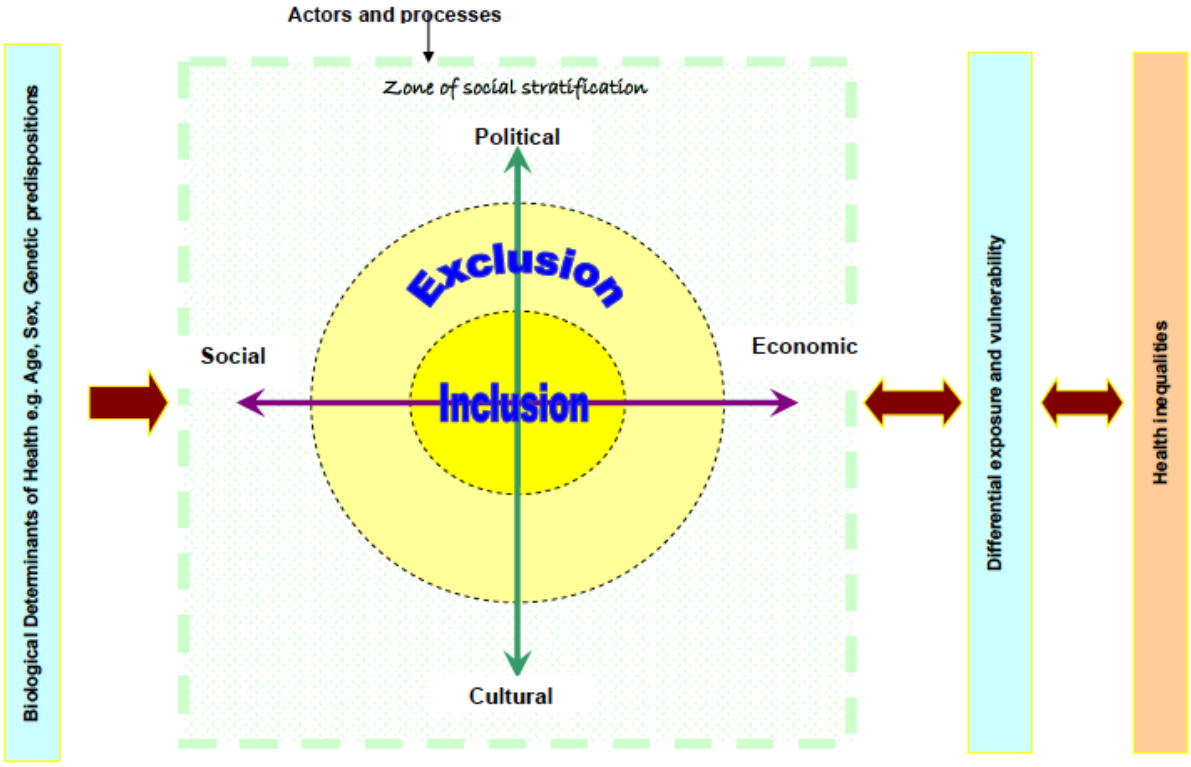
The framework proposed by the Social Exclusion Knowledge Network (SEKN) builds on the social determinants of health by adding a perspective inclusive of power, agency, individual and structural factors (Popay et al., 2008) (Figure 1). The SEKN framework provides four dimensions that modify the biological determinants of health: economic, political, social and cultural.

The *economic* dimension relates to access to and distribution of material resources to sustain life, such as income, employment, housing, and working conditions. The *political* dimension relates to power dynamics in relationships which create unequal opportunities to participate in society, and unequal patterns of formal and informal rights to access adequate housing, healthcare, education, services and social protection. The *social* dimension includes friendship, neighbourhood, and family; relationships that generate a sense of belonging within social systems. The *cultural* dimension includes the extent that diverse values and norms are accepted and respected, free of stigma and discrimination. These four dimensions and the unequal access to power and resources embedded in them in turn lead to differential exposure to health-damaging circumstances, leading to greater biological, social, psychological and economic vulnerabilities (Popay et al., 2008). The dimensions of the social exclusion framework provide a way of interpreting health in degrees of health inequality and social stratification. The SEKN framework helped to frame the research question and develop the propositions of the project by using the dimensions of the framework to relate the health of rooming house residents.

The framework was used to the development of the tools to guide data collection and it was used in interpreting results.

Figure 1

Conceptualization of the SEKN framework



Note. The SEKN model of social exclusion. Reprinted from Understanding and Tackling Social Exclusion (p. 38), by Popay et al., 2008, Lancaster, UK: World Health Organization. Permission for use under licence: CC BY-NC-SA 3.0 IGO.

Research Question and Propositions

The overall goal of this thesis was to investigate how rooming houses are linked to health. The study aimed to answer the following research question: How do aspects of a rooming

house, the behaviours and characteristics of the people who live in a rooming house, or the resources that are accessible to people who live in a rooming house, influence health?

Case Study

In trying to better understand how the rooming house context contributes to why rooming house residents have poor health outcomes, multiple sources of data would better help inform these complex relationships. Case studies ask how and why questions, and using multiple sources of data, the aim of a case study is to understand the case, how it works, and how it interacts in the contextual environment (Yin, 2018). Case study methodology is particularly useful when it is difficult to differentiate the phenomena from the context (Yin, 2018). For this study, the phenomenon of the health of rooming house residents, is intertwined with the context of the neighbourhood, resources, social connections and physical building of the rooming house.

The two leading scholars of case study research, Robert Yin and Robert Stake offer slightly different interpretations of case study methodology. Yin (2014) situates his history of study from a realist perspective within a post-positivist paradigm, but ensures that a relativist perspective, capturing the perspectives of different participants, certainly fits within the case study methodology and his research projects. Stake (2006) aligns with a constructivist paradigm and gives little acknowledgement to quantitative components of case studies. I chose to apply Yin's interpretation of case study methodology for this research project because it aligned closely with my perspective as a critical pragmatist, and as a novice researcher it provided detail and structure to guide the project, and it recognized a role for quantitative data.

Propositions

Like study questions, propositions help to focus a research project. In case study methodology propositions help make sense of the numerous sources of data and explicit statements help to create feasible limits (Yin, 2018). The propositions of the case study were to:

1. Document the needs and resources of rooming house residents in Ottawa that contribute to health.
2. Document the contextual factors (political/social/cultural/economic) that contribute to social exclusion of rooming house residents.
3. Situate rooming house residents along the housing/homelessness continuum.
4. Use and evaluate three methodologic approaches (photo elicitation methods, focus groups and persona co-creation) in conducting research with rooming house residents.

Literature Review

A review of the literature was conducted to better inform the factors and complexities involved in how single room occupancy dwellings are linked to health. One part of the literature focused on research involving single-occupancy dwellings and the relationship with health. Another part of the literature review involved looking at supplemental literature of housing and health and the definition of homelessness.

Single-Occupancy Dwellings and Health

A librarian helped to create a search strategy (Appendix I) to ensure a comprehensive review of sociodemographic and health characteristics that have been studied and the relationship with single-occupancy accommodation.

Search Strategy

The first challenge was to develop an inclusive list of terms to be searched. Although the current study and the City of Ottawa use the term rooming houses, several terms for single-occupancy dwellings were identified from an initial review of the literature, and suggestions from MESH headings. Although there was no consensus on terminology, several phrase options represented the same population. MeSH terms and keywords included: Homeless persons/ or homeless man/ or homeless woman/ or homelessness/, housing, single room occupancy, provisional housing, vulnerable housing, rooming house, unsheltered homeless, hidden homeless, congregate housing, houses of multiple occupancy (Appendix H) . Several key databases were searched: MEDLINE, EMBASE, PsycINFO and CINAHL. References of key articles were also searched.

Inclusion/Exclusion Criteria

Specific inclusion and exclusion criteria were used to focus the literature review. The sample population was limited to single-occupancy rental accommodation specifically referring to rooming houses, single room occupancy (SRO) dwellings, and houses of multiple occupancy (HMOs). Initially in the search, there was no publication period, but this was later limited to studies from 1990 to present. Single-occupancy dwellings have undergone significant changes, and previous to 1990, single room accommodations were more plentiful and attracted a more diverse population that is not reflective of the population seen today. Studies before 1990 were excluded as they were not relatable to the modern context (i.e., patients from mental asylums, the role of nursing). Language was limited to English and adult population over 18 years of age. Studies with mixed homelessness populations and single occupancy dwellings were excluded if the results did not differentiate between the two populations.

The phenomenon of interest when reviewing the literature was the impact of single-occupancy rental accommodations on residents, and the characteristics of residents. Studies that did not focus on the relationship between health and housing were excluded (i.e., rooming house population used to test the effectiveness of an exercise program).

There was no restriction on the type of study or design eligible for inclusion but qualitative studies, quantitative studies, systematic reviews, and grey literature reports must have reported the results of original research. Opinion, abstracts and commentaries were excluded. Abstracts were excluded because of the risk of inadequate information to evaluate the methods, the sample, the analysis or the possibility of bias. Grey literature, articles not found through the key databases searched, were found through scanning article reference lists, and Google internet searches using the same search terms used for the databases. Grey literature was scanned, including websites of academic and non-academic community organizations, non-governmental organizations referenced in studies, research reports, working papers, newspaper articles and newsletters. Relevant research eligible for inclusion was added, but the bulk of grey literature did not focus on health or was not original research.

Studies were evaluated for outcome measures relating to the health of single room occupancy residents, with an emphasis on quality of life (QoL) indicators, mental health indicators, physical health indicators, and health outcomes.

Screening and Data Extraction

References were exported to EndNote X8, duplicates were deleted, and then references were exported to Covidence (Covidence systematic review software, Veritas Health Innovation, Melbourne, Australia. Available at www.covidence.org). Figure 1 provides a PRISMA diagram of the detailed steps used for this review. A second reviewer was involved in the initial title and

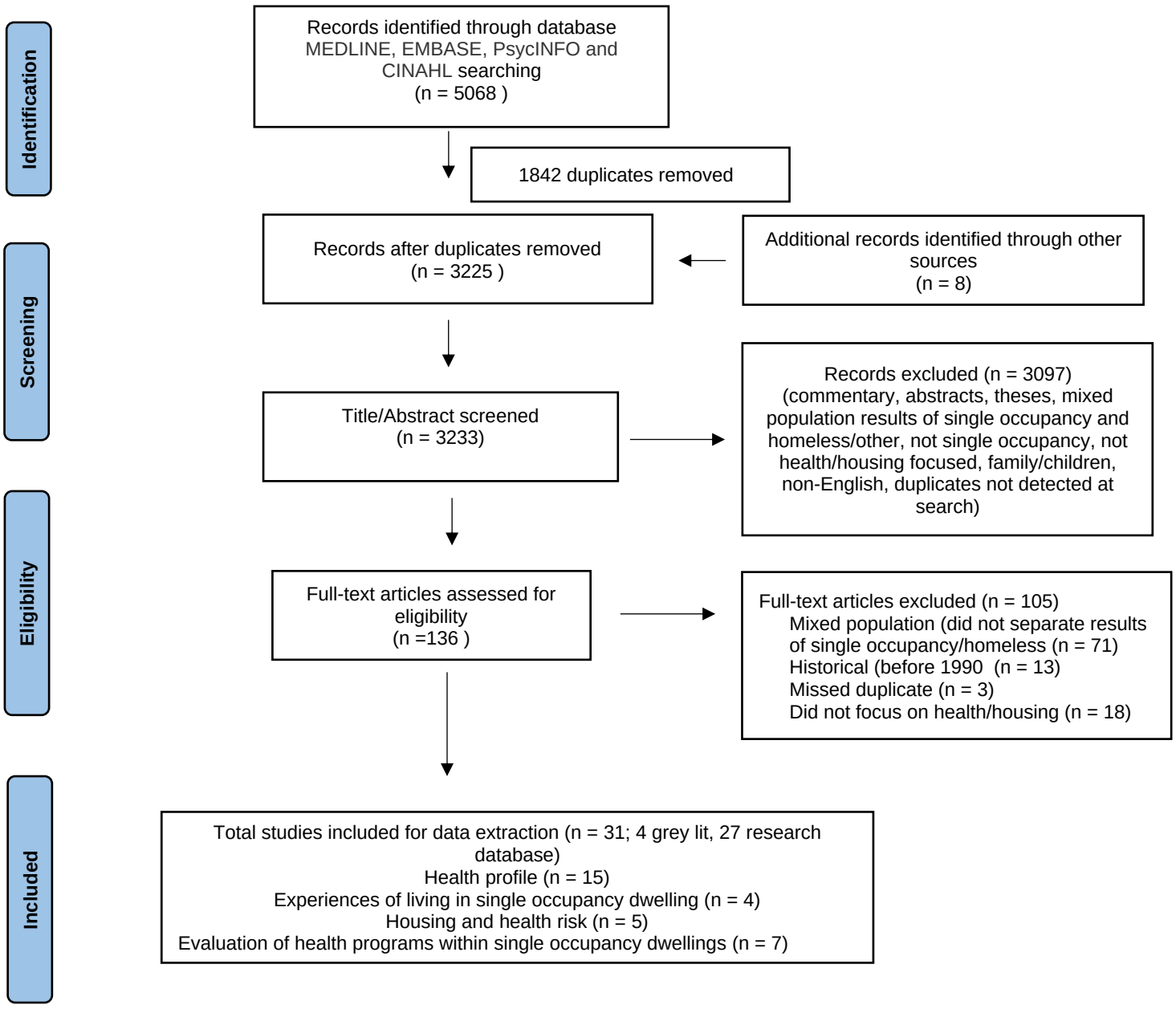
abstract screening and in the full text review. There were 5068 references imported for screening, with 1842 duplicates removed, leaving 3225 studies screened against title and abstract. One hundred and thirty-six studies were assessed for full-text eligibility, of which 105 studies were excluded (71 mixed population- findings did not separate homeless from single room accommodation; 3 missed duplicates; 2 abstracts with inadequate detail of results; 13 historical (earlier than 1990)- not deemed relevant; 18 did not focus on health or housing). Thirty-one studies were included.

Data were extracted using a data extraction form that included author/year of publication/study title, aims/purpose/research question, participants/data source and theoretical underpinning, methods/design/data collection research methodology, results/findings/future directions and strengths/limitations/comments. A table of the 31 included studies are presented in Appendix I.

Description of Studies

The thirty-one studies included in the literature review involving the relationship of single-occupancy rental accommodation and health, can be divided into four categories: studies focusing on a health profile of residents (n = 15), studies of the experience of living in a single-occupancy dwelling (n = 4), studies of the health risks associated with living in a single-occupancy dwelling (n = 5), and evaluations of programs within single-occupancy dwellings designed for residents (n = 7).

Figure 2: PRISMA Diagram



Note. Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009) Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. PLOS Medicine 6(7): e1000097. https://doi.org/10.1371/journal.pmed.1000097 https://journals.plos.org/plosmedicine/article?id=10.1371/journal.pmed.1000097

Health Profile. Most of the studies in this review focused on some type of a profile of the health of single occupancy dwellings. Four of the published studies were from data of the HOTEL study, a prospective cohort study that followed a cohort of single-room occupancy hotel residents in Vancouver, Canada monthly for five years, using a number of survey instruments and blood samples. Barbic et al. (2018) provided clinical and functional characteristics of the young adults, and found pervasive use of stimulants and opioids, a higher-than-average mortality rate, unmet mental health needs and poor functioning with frequent contacts with the health, social and justice systems. Gicas et al. (2014) and Zhou et al. (2019) used a number of tools and diagnostic imaging of the HOTEL study cohort to look at neurocognitive profiles and risk of brain infarcts of these SRO residents. The authors found the SRO residents to have a higher prevalence of brain infarcts than expected which was associated with impaired decision-making, and lower neurocognitive functioning, manifested as impaired verbal skills, memory, attention and mental flexibility. At the two-year follow up, Vila-Rodriguez et al. (2013) found that participants had a mean number of three multimorbid illnesses, high prevalence of co-occurring substance dependence and mental illness, with high rates of hepatitis C and human immunodeficiency virus (HIV).

As part of a community-based cohort study in Vancouver, Shannon et al. (2006) described characteristics of individuals in SRO hotels to explore the association of living in a SRO with health status. The authors found living in a SRO was associated with HIV and hepatitis C infection, history of physical assault, emergency room use, recent incarceration, injection drug use, and smoking crack, but acknowledged their sample in the downtown area was a unique community known for intensive drug use.

As part of the follow-up to the HOTEL study, Vila-Rodriguez et al. (2013) noted the investigators had difficulty in gaining access to SROs, which was a difficulty shared by S. W. Hwang et al. (2003) who attributed some of the difficulty in recruiting rooming house residents for interviews of housing conditions and health to the inability of researchers to gain entrance to several rooming houses. In that study, Hwang et al. individually surveyed 295 residents in person from 171 rooming house in Toronto, Ontario and associated the poorest rooming house conditions with residents reporting the poorest health and concluded rooming houses should be considered a marker of high risk for poor health similar to homelessness. From this data S. Hwang et al. (2003) published a demographic profile of rooming house residents, indicating most lived alone, had a low income with food insecurity, paid almost half their income in rent, with over 75% reporting alcohol use, and 15% having a university degree. Oriole Research & Design Inc (2008) also provided a profile of Toronto rooming house residents, interviewing 44 individuals mostly in unlicensed rooming houses. The authors found more men than women live in rooming houses, residents were mostly middle-aged, lived in poverty with an income mostly from social assistance or low paying work, based their social network on the rooming house, and expressed greater satisfaction if they lived in a smaller rooming house (5 units or less) and felt part of a residential neighbourhood (Oriole Research & Design Inc).

The Canada Mortgage and Housing Corporation (CMHC) (2006) conducted interviews and workshops with rooming house residents in three Canadian cities: Vancouver (80 participants), Ottawa (80 participants), and Montreal (80 participants) to create a demographic profile. The authors found residents were mostly male, lived well below the poverty line, used food banks, often reported mental health and addictions and suggested future research needed to consider the additional needs residents would have with aging. Distasio et al. (2002) used five

different surveys, in-depth interviews and workshops with rooming house residents, landlords, and nearby residents to provide information about the rooming houses of Winnipeg and found the medical and psychological support needs of residents were a burden to owners. The authors reported positive themes to be affordable housing and sense of community within the rooming house, and negative themes of poor conditions of the rooming houses and difficulties with some tenants.

Two of the studies provided a profile of single-occupancy dwellings in San Francisco. Brown et al. (2020) studied the prevalence of food insecurity from a paper survey of 595 SRO residents, and found almost three-quarters were male, 85% reported being food insecure, with 34% living at or below the poverty level. The authors found many food aid programs did not help SRO residents because of residents' unique needs, such as issues with food storage (i.e., lump provision of food from food banks) and timing of community meal programs. In San Francisco, Rowe et al. (2019) searched mortality records and a database of SRO buildings and found the overdose death among SRO residents to be 19.3 times that of non-SRO residents, and SRO residents were much more likely to die at home, indicating a need for SRO-specific harm reduction strategies.

In New York City, Cunningham, Sohler, et al. (2005) described characteristics of 150 HIV-infected individuals from 16 SRO hotels where most residents were over 40 years of age, were covered by public insurance, had a regular care provider, had a history of substance use and depressive symptoms, and 30% of people interviewed had at least one hospitalization in the last six months, suggesting that HIV primary care was inadequate. From interviews about self-reported substance use and HIV-related health care with 238 SRO residents from eight different SRO in New York City, residents who had any drug use reported increased perception of poor

quality of care, and poor HIV-care access (Cunningham et al., 2006). Case workers of a SRO for persons with severe and persistent mental illness in New York City were asked to complete a questionnaire that was used to provide a demographic profile of the 26 residents, finding people with co-morbid substance use were most disruptive, and residents who were compliant with their medications rarely caused problems with staff and management (Grunebaum et al., 1999).

Although the fifteen studies included residents from multiple locations in Canada and the United States, they shared a common profile. Residents of single-room occupancy dwellings were described as a male-dominant, single, middle-aged group of individuals who live below the poverty line, struggle with addictions, infectious diseases, food security and mental health issues, and have a lower level of functioning compared to the general population. The studies also make the case that any attempt to address the high levels of morbidity and mortality of single-room occupancy residents needs to be considerate of the special challenges that come with the unique living situation.

Experience of Living in a Single-Occupancy Dwelling. Four of the extracted studies provided insight into the experience of single-room occupancy residents and how this related to residents' health. Barratt et al. (2015) wanted to better understand how housing affected the mental health of residents of houses in multiple occupation (HMO) in a seaside town in the United Kingdom. The authors interviewed 20 HMO residents and found poor properties increase the risk of poor mental health due to high stress levels and the possibility of abuse, but these negative mental health effects where moderated by a resident's sense of control, safety and identity (Barratt et al.). Skemp et al. (2014) interviewed seven middle-income and affluent elderly individuals who moved into a single-room occupancy dwelling which enabled them to live independently in their community, and residents spoke about the positive aspects of safety,

saving energy for living, and freedom to come and go as living in a SRO increased their independence, autonomy, and individuals rights, and challenged the stigma associated with SROs. This study was unique in its focus on a higher income elderly population living in a private single-room occupancy dwelling. Crystal and Beck (1992) surveyed 485 elderly residents of SROs in New York City to examine the role of this type of housing for the elderly and found that the SROs allowed residents to remain centrally located in the city at an affordable rent. The authors highlighted the importance of the resources available to residents of the SRO because of location, and the secondary benefits of the housing because of affordability which residents recognized and expressed concern of finding an acceptable alternative housing option if they lost their tenancy in the SRO. Mifflin and Wilton (2005) reported findings from a case study conducted in Hamilton, Ontario with rooming house residents and key informants to better understand the concept of home and long-term tenancy. The authors remarked on the tension between affordable housing and inadequate living space, and the complexity of the positive health impact of having a home for rooming house residents, not just shelter.

The studies of the experiences of residents living in single occupancy dwellings emphasize the importance this type of housing as a way of extending the independence of elderly residents, and how the upkeep of the buildings can directly and indirectly affect the health of residents. These studies, the majority qualitative, provided rich descriptions of the complexity of both positive and negative factors that impact the health of residents and why residents may choose to continue to live in SROs despite the associated stigma and marginalization.

Health Risks. Five studies reported on the health risks associated with living in single-occupancy dwellings and three involved the same authors. Bowen et al. (2016) surveyed 224 SRO residents from 10 private dwellings in Chicago and found that 52% met the criteria for

severe food insecurity, and found associations with female SRO residents, and residents living with a mental health condition, problem drinking or at least one chronic health condition. The authors suggested that the risk of poverty from living in a SRO led to the food insecurity, and to meaningfully address food insecurity would require a commitment to provide an adequate income and improve housing. Bowen and Mitchell (2016a) examined HIV risk behavior among 163 rooming house residents from Chicago who completed a survey to ascertain if greater housing instability was associated with greater risk behaviours. If a rooming house resident considered themselves homeless, they were more likely to report increased risk behaviours, and the authors concluded that self-reported homelessness should be used as a risk indicator, and the single-occupancy dwelling population cannot be considered either homeless or housed, but is a unique, diverse population. This same data set was analysed by Bowen and Mitchell (2016b) around rent burden and risk behaviours and found that self-reported risk behaviours were increased for SRO residents with a full rent subsidies, suggesting that reliable income sources are needed to reduce risk behaviours.

From the HOTEL study in Vancouver, Knerich et al. (2019) analyzed social support networks in SROs for associations with risk of substance use. The authors described different social networks which were strongly influenced by residence, and which in term influenced types of substances used, suggesting that any interventions need to focus not on individuals, but the entire population of the single-occupancy dwelling. Knight et al. (2014) reported on findings from qualitative interviews of 30 women living in SROs in San Francisco, examining the relationship of the built environment and risk behaviours. The authors found the type, availability and material conditions of the SRO plays a significant role in the formation of social

relationships within the SRO, and the behavioural strategies that residents use to cope with histories of trauma and mental illness.

From the studies looking at risk associated with single-occupancy dwellings, research highlighted how the shared accommodation of the dwelling, and the associated rental costs increased risk for HIV and drug-related harms, food insecurity, and mental health risk. Living in a single-occupancy dwelling can increase the risk for negative health outcomes, and any interventions need to recognize the impact of the social networks within buildings, and the underlying impact of poverty on behaviour.

Evaluations of Programs. Seven studies extracted from the literature review involved a description of a program within the single-occupancy dwelling that impacted the health of residents. Bardwell et al. (2018) described a tenant overdose response program and presented findings from ethnographic observations and interviews with 20 peer workers in ten SROs in Vancouver. The authors found that peer-led in-reach engaged isolated tenants and was an effective intervention for reversing overdoses, but the SRO environment contributed to the number of overdoses by stigmatizing people who use drugs making the buildings unfit for their housings. Grace et al. (2016) also found a program offered in the rooming house helped to reduce the isolation of residents. From the focus groups and interviews with 20 residents of the rooming house in Melbourne, Australia, the activity program for women also increased experiences of community connection within the building, but the authors admitted that only a small percentage of women could be engaged to participate. Minkler et al. (2005) analyzed a health education program for elderly residents of seven SROs in San Francisco and found that social isolation and powerlessness were intimately connected to the health problems experienced

by the SRO residents, some of which could be mitigated by participating in programs that build supportive networks within the buildings.

Two of the studies referred to the CitiWide outreach program which provided medical outreach at eight New York City SROs targeted to individuals living with HIV. Eighteen months after the program was implemented, surveys were conducted with 66 participants of the program, and found that people who received care through the program were more likely to have a regular health care provider, take HIV medications, and engage in more regular medical care (Cunningham, Shapiro, et al., 2005). Data of medical visits at the hospital-partnered program associated with the group who provided outreach was extracted for this group of SRO residents and found that same-day and walk-in appointments are needed to meet the needs of individuals living in the SRO (Cunningham et al., 2007). The authors suggested the medical system needs to evaluate systemic factors, not just individual factors in successful implementation of HIV care.

In a foundational study of tuberculosis (Tb) screening in a SRO in New York City targeted to people living with HIV, Layton et al. (1995) evaluated a program where 116 residents were screened for Tb with an interview, Mantoux skin test and portable chest x-ray and found only 50% of the 16 residents with active Tb were compliant with treatment. From this study a directly observed therapy program for SROs and an emergency room-SRO partnership was formed to increase engagement and treatment adherence. In another SRO program, Shepard (1997) described a social-worker model to increase engagement of SRO residents, providing social services and employment counselling in the building. The pre- and post- test designed study found significant gains in goals, but mental health, addictions, and inadequate employment income kept SRO residents steps away from homelessness.

Studies describing programs within single-occupancy dwellings acknowledge the difficultly residents have in engaging with mainstream health and social services, and the studies report many benefits to offering services where people live. Residents were less isolated, and more connected to social networks within the buildings, but shared how the physical housing \ places residents at increased risk for communicable diseases. The structural factors related to income, addictions and mental health still need to be addressed when services that cannot be offered inside the single-occupancy dwellings need to be accessed.

Supplemental Literature

During the review of single-occupancy dwellings and health-related research, a number of important studies were found, that although not specific to single-room accommodation and health, relate to housing and health. It is relevant to include these studies as they highlight the importance of housing research as part of nursing and health research. It is also helpful to include literature on the definition of homelessness to provide context and help to define single-occupancy residents as sometimes homeless, and sometimes housed, depending on the interpretation of the definition of homelessness.

Housing and Health

Housing is a key social determinant of health, and a great deal of research has captured the significant role that housing plays in overall health and well-being. The structure itself can directly impact health, such as how dampness, mould and infestations lead to respiratory disease (Mendell et al., 2011). The neighbourhood and surrounding resources can impact health, such as when neighbourhood violence leads to isolation (Graif et al., 2017) and lack of self-care behaviours (Smalls et al., 2015). Housing is more than just physical space and shelter. Safe, comfortable, affordable, private accommodation in a friendly environment will lead to a sense of

belonging and social opportunities that may help vulnerably housed individuals remain stably housed (Ecker & Aubry, 2016). The financial expenses of maintaining housing can affect health, such as how the chronic stress created by housing costs has been associated with worse self-reported health conditions, and a higher likelihood of postponing medical services (Meltzer & Schwartz, 2016).

The stability of housing also affects health. People who are in more stable housing have better adherence to medication, fewer emergency care visits and improved measures of chronic disease (Chartier et al., 2012; Stanic et al., 2021). Residential moves are significantly associated with higher acute care utilization, unmet healthcare needs, and problematic substance use (Harris et al., 2019). People who were unstably housed were also found to participate in high-risk sex behaviours than stably housed individuals (Dolwick Grieb et al., 2013).

Reviews. Krieger and Higgins (2002) reviewed eighty-nine studies of the evidence linking inadequate housing conditions to health, specifically infectious diseases, chronic illnesses, injuries, poor nutrition and mental disorders. The authors found substandard housing adversely affects physical, and mental health in a number of ways, and people of colour and people with low income are disproportionately affected by the health effects from poor housing. The authors provided suggestions for public health to improve housing codes, create community assessment reports, collaborate cross-sectorally and suggested that public health front-line service providers should take the lead on advocating for housing policy to ensure access to affordable, healthy housing stock and eliminate or improve unhealthy housing stock. Jacobs (2011) provided a narrative review of forty-six studies of the evidence linking health disparities to the physical infrastructure of housing, and highlighted the association of segregation, lack of housing mobility and homelessness with adverse health outcomes. Bambra et al. (2010)

analyzed 30 systematic reviews on the effects on health and health inequalities of interventions that address the social determinants of health and found that reviews about housing were more developed than other social determinants, reporting on nine reviews related to housing and health. These reviews of housing interventions focused on social changes (i.e., rental assistance to improve distress and mental health) (Acevedo-Garcia et al., 2004; Anderson et al., 2003), environmental changes (i.e., change of physical infrastructure to reduce falls and injuries, renovations or rehousing to improve health)(Chang et al., 2004; McClure et al., 2005; Nilsen, 2004; Saegert et al., 2003; Thomson et al., 2001), and two were of wider area-based initiatives (i.e., urban regeneration and firearms restrictions which had mixed results)(Hahn et al., 2005; Thomson et al., 2006). The authors concluded that housing interventions can positively impact health inequalities especially for disadvantaged groups.

In a synthesis of systematic reviews linking housing and health, Gibson et al. (2011) grouped housing and neighbourhood conditions that influence health into three pathways: area characteristics, internal housing conditions, and housing tenure. The authors reviewed five systematic reviews containing 130 publications evaluating the health impacts of housing interventions and found that health can be improved by moving to an area of lower poverty, or improve high poverty areas, and multiple levels of housing and neighbourhood interventions may be needed to positively impact health. The authors noted that more research is needed to understand the pathways linking housing and health and recognized from the review that most insight on mechanisms and pathways has come from the qualitative research conducted alongside the surveys. The authors suggested future research using mixed methods to investigate specific mechanisms linking interventions to health outcomes.

In examining the evidence on the association between housing status and medical care and health outcomes for people living with HIV, Aidala et al. (2016) reviewed 152 studies which focused on HIV clinical outcomes, health care utilization, medication adherence, access to medical care and risk behaviours. The authors found strong evidence for the association between a lack of stable, secure, and adequate housing and HIV risk behaviours, unsuppressed HIV viral load, lack of adherence to HIV medications, and barriers to accessing appropriate medical care. For unstably or inadequately housed individuals living with HIV, receiving housing assistance or other services that improved housing had a direct impact on health outcomes.

Fenwick et al. (2013) provided an economic analysis of the health impacts of housing improvement, reviewing 45 studies covering four domains: general health, mental health, respiratory health and other/illness symptoms. The authors acknowledged the lack of long-term health impacts limited the potential for economic analysis but advocated to include an economic analysis as part of health and housing studies. The reviewed studies suggested that investment in housing as public policy has the potential to improve population health and reduce health inequities.

The evidence for investment in ensuring safe, affordable, quality housing in inclusive neighbourhood environments to reduce health inequities and improve health outcomes is substantial and conclusive. However, many of the studies noted that there is a lack of standardization of how health is measured, and how it may be easier to focus on individual behaviours than try to measure policy changes and larger structural changes that would require working with other sectors.

Definition of homelessness

In reviewing the single-occupancy dwelling literature, for some time there has been a strong message to include single room accommodation-residents as homeless (Cohen & Sokolovsky, 1983). Kinzel et al. (1991) entitled their study "Self-identified health concerns of two homeless groups" which compared homeless people living outdoors to SRO residents. The authors based their decision to group SRO residents as homeless on previous studies that highlighted when gentrification changes a neighbourhood, SRO residents were the first to be moved onto streets and shelters (Brickner et al., 1986). Today a person described as 'unstably housed' could be someone at risk of losing housing or a person who is staying at shelter, or likely someone who has transitioned between the two places. It is not uncommon once a person experiences homelessness to have repeat occurrences (Parker et al., 2018). This can create pockets of hidden homelessness as estimates of homelessness are methodologically challenged to reach people who are not connected to traditional systems of homelessness (Brush et al., 2016)

Internationally, the definition of homelessness is broad and varied, and therefore to describe a subset of the homeless population presents a challenge. The definition can change dependent on history, culture and geography. A comparison of definitions frequently referenced in the literature on homelessness is presented in Table 1. The Australian Bureau of Statistic's definition of homelessness recognizes the core elements of "home" as a sense of security, stability, privacy, safety and the ability to control living space (Australian Bueau of Statistics, 2012). The European Typology of Homelessness and Housing Exclusion details legal, physical and social domains which constitute home (FEANTSA European Federation of National Associations Working with the Homeless AISBL, 2005). The typology then identifies four concepts of homelessness including: rooflessness, houselessness, insecure housing and

inadequate housing. Homelessness is defined as the absence of any one of these domains. The United States Department of Housing and Urban Development (HUD) outlines four categories of homelessness including literally homeless, at imminent risk of homelessness (within the next fourteen days), homeless under other federal statutes (including unaccompanied youth and families with youth) and fleeing or attempting to flee domestic violence (HUD Exchange, 2021).

Table 1

Comparison of Concepts and Definitions of Homelessness

	Australian Bureau of Statistics	Canadian Observatory on Homelessness	European Typology of Homelessness	United States Department of Housing and Urban Development (HUD)
Domains/Elements Considered	Security Stability Privacy Safety Adequacy Ability to control living space	Current living place Violence Emergency situation Security of tenure Institutionalization Recent immigration Affordability	Legal Physical Social	Current living place Violence Security of tenure Instability (defined by frequency of moves) Age
Concepts/Categories	Lack of one of the elements not by choice Youth Transitional housing Overcrowding Domestic and family violence Aboriginal and Torres Strait Islander	Unsheltered Emergency sheltered Provisionally accommodated At risk of homelessness	Rooflessness Houselessness Insecure housing Inadequate housing	Literally homeless Imminent risk of homelessness Homeless under other federal statutes Fleeing/attempting to flee domestic violence

Weather produces a phenomenon of homelessness that changes the definition when dealing with homelessness in Canada as it may lead to people moving indoors to find any accommodation that provides shelter (Eberle et al., 2009). The Canadian Observatory on Homelessness (2012) has developed four typologies of homelessness, including: unsheltered, emergency sheltered, provisionally accommodated and at risk of homelessness. This definition recognizes that for many people homelessness is a fluid experience, with sheltered circumstances shifting frequently and sometimes dramatically. Under this nationally-recognized definition, people living in rooming houses are included in the subset of provisionally housed and would therefore be considered homeless.

Housing and homelessness exist on a continuum, and where homelessness starts and housing ends can have different interpretations. At the time of this study, the City of Ottawa did not consider individuals living in a rooming house, or people staying outside as homeless, and only considered people staying at an emergency shelter as homeless. From a large multi-city study about health and housing that included Ottawa, the authors found the divide between participants who were vulnerably housed and homeless misleading, as through multiple housing transitions, the group of vulnerably housed people in the study had spent almost as much time sheltered or absolutely homeless as the people considered homeless (Hwang et al., 2011). The authors suggested that the populations should be considered as one large severely disadvantaged group that transitions between two housing states. The concept of social exclusion helps to better understand the complexities of the domains that influence how groups of people continue to be disadvantaged and may continue to move between housed and homelessness on a housing continuum. The definition of homelessness is not static; it continues to evolve as governments recognize the influence and complexity of social context and adverse social conditions, and less

focus on only the absence of shelter (Mabhala et al., 2017). Based on my experience working with marginalized populations the definition of homelessness should not be a static concept that focuses on place. I propose instead the definition of homelessness to be flexible recognizing housing is on a continuum, and base homelessness on level of vulnerability that is created by social position, cultural acceptance, political power and economic resources to enjoy and sustain life and ability to make change when needed.

Overview of the Research Project

In a manuscript-based thesis, each of the manuscripts provide a brief description of the project design, including sample, setting and methods. However, because of limitations of the word-count, it is helpful to provide a more detailed description of the project.

Setting

The setting for the case study was the urban core of Ottawa, specifically defined within the Sandy Hill and Centretown catchment areas (Coalition of community health and resource centres of Ottawa, 2018). Site selection, and bounding a case, is important in the case study approach to determine the scope of data collection and differentiating phenomenon from context (Pope & Mays, 2006; Yin, 2018). For this case study, the case was the licensed rooming houses within Ottawa's urban core, and the subjects of the case study were the residents and the rooming house buildings. The context of the study included the neighborhood, supports for people who are homeless, municipal social supports and the City of Ottawa political climate at the time of the study that supported gentrification while declaring a housing crisis. To help with the single embedded case study design, five rooming houses were selected with the direction and assistance of the Community Advisory Group (CAG) from the list of licenced rooming houses in

the city of Ottawa. As one participant moved shortly after the study started, a total of six rooming houses were involved in the case study.

Most people have seen a rooming house, even if they did not recognize it at the time. In Ottawa the buildings are usually converted old homes, but sometimes large stand-alone buildings can be identified as rooming houses if they have many mailboxes or bicycles in front, a network of wires on the side of the building, and sometimes people lingering outside. In this study, one of the six rooming houses appeared to be a historic older home beside an office building, with a beautiful sweeping staircase that could be seen through the front door, and only once inside could the numbered doors be seen. Two of the six rooming houses were each part of a row of rooming houses, joined on the inside with a dizzying number of stairs, corridors, fire doors, and an overwhelming odour of smoke and stagnant air. One of the six rooming houses appeared to be an apartment building at first glance, but like all the other rooming houses had a locked front door with no buzzer system or doorbell making entry through a backdoor more common. More detail of the rooming houses is provided in Chapter 2.

Sample and Recruitment

This case study was informed by both rooming house residents and rooming house front-line service providers. There were two groups of rooming house residents who participated in the study; one group who took photos, participated in observations, and a focus group, and a second that only participated in a focus group. The project also involved a CAG that had both rooming house residents and rooming house front-line service providers, different from other project participants.

Community Advisory Group

One of the first steps in this study was to develop a CAG from two existing rooming house committees in Ottawa. A CAG is part of Community Based Participatory Research (CBPR), which is a collaborative approach to research partnering with community members (Coughlin et al., 2017). CBPR is particularly relevant when cultural and socioeconomic differences between community members and academic researchers potentially impede identification of problems and discovery of their root causes (Springer & Skolarus, 2019). This project did not fully follow CBPR methods which would have the researcher and CAG partner before developing the research question and research methodology together. As a PhD project, a CAG was formed as a first step after ethics approval to recognize the expertise of the community around this topic and involve community members in how the project was implemented.

After presenting to the groups about the proposed research, three former or current rooming house residents, one landlord, one housing front-line service provider and two harm reduction front-line service providers expressed interested in forming the CAG. The advisory group met as a group four times throughout the study: before recruitment of participants, during data collection from photos, during data collection from interviews, and to participate in the final focus group. Not all members were able to attend all meetings, and individual members were contacted intermittently as needed for guidance. CAG members were fundamental in identifying rooming houses and recruiting participants, as well as helping to locate participants for follow-up, and suggesting how best to engage rooming house participants (i.e., timing, location, language).

Group 1: Photo-taking Participants

Purposive and snowball sampling were used to recruit participants. The CAG helped to identify an initial rooming house resident purposively sampled from five different regulated rooming houses in Ottawa's urban core. To avoid selection bias, CAG members were asked to identify five random, typical rooming house residents who, based on a description of the study, knowledge of the study's inclusion criteria, and identification of participants in buildings, could give voice to the facets of the social exclusion framework and the resources available to rooming house residents. Once an initial resident from the five different rooming houses were identified, they were asked to recruit one other participant in their rooming house (to make a total of two participants per rooming house). Recruitment postcards were provided, and potential participants were asked to contact the principal investigator (Appendix A). Snowball sampling has been used successfully with vulnerably housed people (Fowler et al., 2004). The use of snowball sampling in this study was successful enough that it precluded the need to recruit at drop-in centres, which was originally proposed. Participants were over-recruited in expectation of some attrition because of the involvement of photo elicitation methods (Seitz & Strack, 2016). The aim was for a minimum of six participants, and ten were initially recruited.

Group 2: Rooming House Non-Photo-taking Participants

Following the completion of data collection, photo-taking rooming house resident participants were asked to recruit another person from their rooming house. Ten additional rooming house residents were recruited using snow-ball sampling, who did not take photos but participated in a focus group. This group was originally envisioned to help provide another perspective and a way of member-checking initial results and ideas.

Rooming House Front-Line Service Providers

Due to the diversity of roles of rooming house front-line service providers, a focus group was not optimal. Instead, front-line service providers were purposely sampled to participate in individual 25–60-minute semi-structured interviews. I recruited front-line service providers who expressed interest after my presentation at the two community rooming house meetings. At the end of the interview, participants were asked, "Is there anyone else that you would recommend that I speak with?" The front-line service providers' employment put them in regular contact with rooming house residents, with roles in health care (mental and physical health), food security (lunch club, food bank), housing support, Housing First case management, and community agencies (community health centre, legal support programs).

Inclusion/Exclusion Criteria

Rooming house participants were current rooming house residents in the City of Ottawa and were excluded if they did not live in a regulated rooming house in the designated urban core. Participants were recruited based on interest in the topic, ability to converse in English, and ability to participate in a focus group. Considering the high prevalence of substance use, physical and mental health issues among the rooming house population, none of these health issues were grounds for exclusion, but at each meeting with participants, there was an assessment for continued informed consent. Rooming house residents who took photos needed to have the additional ability to participate in the photo-elicitation training and implementation, Participants were excluded if a participant was known to the principal investigator in her role as a primary care provider, but this concern did not arise.

Front-line service providers needed to be familiar with rooming house residents, and work in some capacity with rooming house residents in the City of Ottawa and be able to converse in English.

Compensation

Rooming house resident participants completing the photo elicitation process were compensated $25 for their time in attending the training session, $25 for taking photos at the one-week check in, another $25 for review of photos and photo description at 2 weeks, $25 for their time in the community "walk-about" and finally $50 at completion of the focus group for a total of $150 over the course of the study. Rooming house residents participating only in the focus group were compensated $25 for their time. Meals were provided at each of the three focus groups, as well as bus tickets if requested, to assist with transportation. CAG members when attending meetings or the focus group were offered $25 compensation, but many of the participants who attended the meetings during hours of work declined this money.

Protecting human rights: Ethical considerations

Ethics approval was received from the University of Ottawa's Health Sciences and Science Research Ethics Board. The original application was approved on July 24, 2019 (H-05-19-3008 – ANNI-3008). A modification to the original application was submitted to obtain additional information from photo-taking participants. This modification was approved March 27, 2020. A recruitment protocol approved by ethics that detailed recruitment strategies was used to ensure that recruitment of participants was voluntary, free of coercion and participants understood the expectations of participation and their ability to withdraw from the study at any time without penalty.

Four different consent forms were created: one for rooming house participants taking photos, engaging in participant observation and attending a focus group; one for rooming house participants only attending the focus group; one for rooming house front line service providers participating in interviews; and one for members of the CAG who attended meetings and the final focus group (Appendix B). To prevent overwhelming participants with paperwork they needed to read and sign, consents were read aloud, questions were answered, and oral consent was documented. Confidentiality was maintained by using initials or a handle on any written documents (i.e., during the writing phase, in the field notes), instead of a given name. Data were kept in a locked file cabinet in the principal investigator's home office and electronic photos and documents were kept secure with password protection.

The benefits of participation were explained to participants by the principal investigator as part of the informed consent process. The research project aimed to increase the understanding of rooming houses in hopes of improving the health of people who live in them, and participants could share their expertise and contribute to informing the project. For the participants who took photos, the project presented an opportunity to highlight their community's strengths, challenges, and opportunities, while also using photos to provide a visual representation of ideas that words may not capture. Research with vulnerable individuals needs to represent the best interests of these groups (Shivayogi, 2013). The project design endeavored to keep the interests of rooming house residents at the forefront in several ways. The community advisory group involved rooming house residents in some of the research project design and implementation, case study methodology ensured data were collected from multiple perspectives (rooming house residents, front-line service providers who work directly with rooming house residents, the City of Ottawa's perspective of where residents are situated on the housing continuum), and the project

used multiple methods to collect data (photos, surveys, observations, documents, interviews, persona co-creation). Every effort was made to ensure the rooming house residents who chose to take part in this project had a positive experience with being involved with research, which involved compensating them for their time, meeting at times and places requested by participants if possible, and to respectfully discuss ideas, opinions and photos with participants.

The risks of participation were also reviewed as part of the informed consent process. It was made clear that information provided during focus groups could not remain anonymous, but respect and confidentiality of group participation was expected, and this was reviewed at the beginning of each focus group. For rooming house residents taking photos the potential risks and discomforts associated with taking photos were reviewed and every attempt was made to mitigate any additional stressors. For one participant who had never used a smart phone, explaining how to charge it was at first overwhelming, but this was addressed with an additional individual meeting. Consent was assessed at each meeting with participants. Topics encountered during the project, discussed at focus groups and addressed in photos, had the potential to trigger a need for mental health support. A page of community mental health resources was attached to the consent form and each participant received a copy of the entire consent form including the resources. Participants were reminded that they had a right to ask questions and report any concerns about the project to either the principal investigator, or to the University of Ottawa Office of Research Ethics and Integrity, and the contact information for both parties were provided. As very few of the rooming house participants had telephones, email addresses were provided, and the study email was checked regularly[1].

[1] Of the ten rooming house resident photo-taking participants, only four had a working phone during the study period.

Methods

This single embedded descriptive case study was developed using data collection techniques described by Yin's (2018) approach to developing instrumentation and case study methodology. Unlike other research methodologies, the descriptive case study does not consist of a standard approach to methods. In an effort to provide a more complete account of the components and mechanisms contributing to the phenomenon of the health of rooming house residents, both qualitative and quantitative methods were included (Pratschke, 2003). Appendix C is a schematic representation of the case study methodology. Five data sources contributed to meet the study objectives.

Data Collection Methods

Case study methodology uses sources of evidence as data collection methods and each source is associated with an array of data (Yin, 2018). The sources of data aim to provide different prospective of a phenomenon to better inform the case. Five sources of evidence informed this case study. The primary data of this case study came from informal direct observation, photo elicitation with focus groups and persona co-creation, individual interviews, and document review. The fifth source of data was a secondary data analysis of the tool used by the City of Ottawa to triage homeless resources.

Direct Observations. Approximately ten hours of informal direct observation took place as "walk-abouts" with rooming house photo-taking participants in their home and surrounding community to document and analyze physical attributes of rooming houses and accessible community resources. A field note template was used to separate out observations from reflections (Appendix D) (Hellesø et al., 2015). Direct observation, a form of participant observation, is a tool to capture a particular type of data for a social phenomenon, such as non-

verbal expression of feelings, how much time is spent on certain activities, or observing events that participants may be unwilling or unable to share (Kawulich, 2005).

Photo Elicitation, Focus Groups, Persona Co-Creation. Following a training and information session for rooming house resident participants (n = 10) that introduced the study objectives, ethical photo-taking and the social exclusion framework, participants were asked to take two photos per day over a two-week period, using smart phones provided to them through this project, of how living in a rooming house related to their health. After the two weeks of photo-taking, participants selected their top three photos with minimal guidance from myself. When requested, there was some discussion with individual participants about which photo to choose to minimize duplication, alert for blurred photos that may be difficult for others to view, and feedback as to which photos participants had spent the most time describing when photos were presented to the researcher. The three photos from each of the ten participants were presented at focus groups held in a private space of an urban community health centre.

Three different focus groups took place: a photo-taking rooming house resident participant focus group (n = 8), a non-photo-taking rooming house resident focus group (n = 10), and the Community Advisory Group (CAG) (n = 6). A brief questionnaire was completed by all focus group participants (Appendix E). Focus groups were facilitated using a structured tool used with photovoice projects that was meant to encourage meaningful dialogue about the significance behind the photographs (Wang & Burris, 1997). As each focus group progressed, the structured tool was modified and minimized, to maximize group interaction and discussion. The health of rooming house residents, through the photos, was further explored using prompts from domains of the social exclusion framework and the development of personas facilitated at the end of the focus groups. The development of personas allowed participants to provide a

detailed description of issues affecting health without the personalization of stories in an effort to reduce stigma and encourage dialogue (Valaitis et al., 2014). The co-creation of personas is discussed in more detail in Chapter 4.

Interviews. Individual semi-structured interviews were conducted with rooming house front-line service providers (n = 11), lasting between 25 and 60 minutes. The interviews were transcribed verbatim. The intention was not to speak for rooming house residents but provide another source of information from the perspective of people who had direct regular contact with rooming house residents and the buildings in which residents live. Front-line service providers were able to speak about building issues without fear of repercussions and provided a unique perspective. Two interviews took place before the photo elicitation part of the study, and nine interviews were completed after the photos were taken. Saturation was not the goal of the interviews, as this sampling logic should not be used to inform case studies, but instead interviews provided another source of evidence to help inform the case (Amerson, 2011).

There were also four phone interviews with four of the rooming house resident participants involved in taking photos. These interviews were completed after the focus groups and transcribed. The additional interviews helped to capture further detail on why residents had selected their photos and to expand on ideas and information presented at the focus group.

Document Review. A review of documents collected over the course of the study and during direct observations was used to corroborate and augment evidence from other sources (Yin, 2018). Several flyers, a program brochure, a map, and some media articles pertaining to rooming houses were reviewed. These were collected over the course of the study from participants, or on the walk-about. There were several photos of posters, taken by participants, that were considered documents for the review.

Secondary Data Analysis. A secondary analysis using descriptive statistics provided a comparison with the needs and resources of rooming house residents with the sheltered homeless. Further description of this is analysis presented in Chapter 3. Data from the Vulnerability Index-Service Prioritization Decision Assistance Tool (VI-SPDAT) collected from people living in emergency shelters and data from both the VI-SPDAT and the Prevention/Re-Housing Pre-screen Tool for Single Adults (PR-VI-SPDAT) collected from rooming house residents provided a picture of the burden of chronic health conditions, physical or mental health disabilities, or addictions (Winetrobe et al., 2017). These tools are key instruments the City of Ottawa uses to allocate housing resources, and the secondary data analysis provided a further source of evidence to inform the case.

Data Analysis

Multiple sources of data needed to be analyzed for this case study. In order to clearly understand and appreciate the different perspectives, data from rooming house residents and front-line service providers were analyzed separately. Chapter 2 provides the analysis of evidence collected from the perspective of rooming house residents, using photos, documents, interviews, and field notes of participant observation from the walk-abouts. The transcript of the focus group with the rooming house residents who took photos was also part of this analysis. Thematic analysis described by (Braun & Clarke, 2006) guided the inductive qualitative analysis. Participants helped with initial identification of themes by selecting and prioritizing photos, but the analysis was completed by the principal researcher, with direction from the theoretical framework, and feedback from committee members. Chapter 3 provides further detail of the qualitative analysis of the front-line service provider interviews. This analysis again followed the steps of thematic analysis (Braun & Clarke, 2006) but the social exclusion framework was

used to deductively guide analysis. Chapter 4 provides detail of how the secondary data sets were analyzed using descriptive statistical analysis of the nominal data. The case study was further informed by an analysis of the co-creation of personas from all three of the focus groups. More detail of this analysis is presented in Chapter 5.

Rigour

Different research paradigms consider different approaches to establish quality research (Rolfe, 2006). The measures of rigor for a case study guided by Yin would be construct validity, internal and external validity and reliability (Gibbert & Ruigrok, 2010; Yin, 2018). Construct validity refers to how we ensure what we claim to be measuring is what is actually being measured, reducing subjective judgements (Yin). Three tactics are available to increase construct validity during case studies: using multiple sources of evidence, establishing a chain of evidence and having a draft of the report read by a key informant (Yin). The test of construct validity in this case study was met by informing the research using multiple sources of data: focus groups, persona co-creation, interviews, a document review, photos and participant observation with field notes. A second technique suggested by Yin, is to have key informants review a draft of the case study report. Although I did not have the case study report reviewed, I did discuss early themes used in the development of the final document during the four additional interviews with photo-taking rooming house residents, and three focus groups were conducted as opposed to one focus group to reduce the likelihood of introducing the researcher's own judgements.

Internal validity is not relevant in this study as we are not making causal inferences; this was an exploratory case study. External validity refers to the problem of knowing whether a study's findings are generalizable (Yin, 2018). In the present study, external validity was

addressed by using a theoretical framework, the social exclusion framework, and relating findings back to the theory. This can support a theory being generalizable, but the specific results of the case study are not generalizable outside the study setting; asking how questions not what questions leads to better understanding of one case in depth (Yin). Finally, reliability, as a test of rigour, aims to ensure that if a researcher followed the same procedures, they would arrive at the same findings and conclusions (Yin). This case study addressed reliability by using a research protocol, maintaining a database of all data collected using online software, ATLAS.ti (Version 8.4.4, 2019) to help organize and analyze narrative and nonnumerical data and having a second reviewer and feedback from committee members verify the coding and check the level of abstraction in the analysis.

Houghton et al. (2017) offers an alternative measure of rigour for qualitative case studies that includes credibility, dependability, confirmability and transferability. Thinking in terms of traditional qualitative measures of rigour, triangulation with multiple sources of data and member checking would ensure credibility. The research protocol and research database acts as an audit trail, and the reflective journaling of challenges, decisions, and progress helped to meet the test of dependability and confirmability (Moser & Korstjens, 2018). Weekly meetings with the thesis advisor also strengthened dependability and confirmability, as a level of academic accountability. Describing the context of data collection and including quotations and photos from the raw data, contributed towards transferability.

Organization of the Thesis

This thesis is organized using the manuscript-based format. There are four manuscripts, with an introductory chapter and a final chapter to integrate the findings. Chapter One introduces the research question and topic of the case study, provides background and clinical

significance of the issue, provides the research question and propositions, and situates the researcher in the context of the case study. It also provides a summary of the literature, an overview of the research project including the methods, and a brief review of each manuscript. Chapter Two is the manuscript *Photo Elicitation to Explore Health and Social Exclusion with Rooming House Residents*. This chapter comprises findings of the case study with data from the photos, the participant focus group and field notes from participant observations. Chapter Three is the manuscript *Health and Social Exclusion of Rooming House Residents: A Descriptive Qualitative Analysis of Front-Line Service Providers' Perspectives.* This chapter comprises a qualitative analysis of the interviews with participants who work closely with rooming house residents. Chapter Four is the manuscript *Rooming Houses vs Sheltered Homeless in Ottawa, Canada: A Secondary Data Analysis of Select Health Indicators.* This chapter comprises the results of a secondary comparative data analysis from a sample of rooming house and sheltered homeless people in Ottawa focused on the health needs of the two groups. Chapter Five is the manuscript *Personas Facilitate Integration of Vulnerable People's Voice in Photo-Elicitation Research.* Using the rooming house case study as an example, this chapter is written as a research brief to highlight the benefits of using personas with a photo elicitation project. Chapter Six provides an integrated discussion of the case study methodology focusing on strengths, limitations, and implications for nursing practice and future research.

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Transition to Manuscript One

The first manuscript presents qualitative findings from the photo-elicitation component of a single embedded descriptive case study, guided by the Social Exclusion Framework (Popay et al., 2008). Findings for this manuscript draw on data collected from participant observation, document review, photo elicitation and a focus group with rooming house residents. A subsample of residents completed follow-up telephone interviews.

The idea for this manuscript came from the desire to use photos to capture data, and include rooming house residents in the data collection. Photos can both provide a way to elicit information in a way that words cannot communicate and have the ability to capture the interest of a wide audience.

"Photo Elicitation to Explore Health and Social Exclusion with Rooming House Residents" (to be submitted to *Health and Place*) presents the main findings of the case study describing from the rooming house resident perspective, how the rooming house, the residents that live there, and the surrounding resources affect their health. Rooming house residents took photos, informed by the social exclusion framework, participated in a community walk-about where field notes were made, and then participated in a focus group to discuss some of the photos as a group. Two broad themes were identified: *housing is health care,* and *just managing today.* The dimensions of social exclusion highlight how the rooming house context contributes to the health outcomes of rooming house residents, and the chronic stress of managing poverty can lead to invisibility and creative coping of rooming house residents. Structural inequalities contribute to health inequalities, suggesting that health care providers need to broaden the lens through which we conceptualize health to consider the social determinants.

Chapter Two

PHOTO ELICITATION TO EXPLORE HEALTH AND SOCIAL EXCLUSION WITH ROOMING HOUSE RESIDENTS IN OTTAWA, CANADA

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Highlights

- A social exclusion framework was used to explore rooming house residents' perception of their health
- Photo elicitation methods included data from field notes, photos telephone interviews, and focus groups
- The rooming house environment can be considered a form of health care
- Residents of rooming houses live with considerable stress when the alternative housing option is homelessness

Photo Elicitation to Explore Health and Social Exclusion with Rooming House Residents in Ottawa, Canada

Abstract

Little is known about how rooming house residents perceive how housing influences their health, despite higher morbidity and premature death compared to other Canadians. The social exclusion framework was used to investigate how rooming houses are linked to health among ten rooming house residents from six rooming houses in Ottawa, Ontario, Canada. Study activities included taking photos to show how living in a rooming house affects health, a community walk-about with the principal investigator, a focus group, and individual interviews. Thematic analysis revealed two broad themes: *Housing is Health Care*, and *Just Managing Today.* Findings suggest that structural inequalities and siloed care contribute to the health of rooming house residents, including the balance between poverty and desire to maintain housing, and how residents cope with this stress. If health care providers want to help alleviate the disparities in rooming house residents' health, they need to broaden the lens through which health is conceptualized.

Keywords: Rooming houses, social inclusion, photo elicitation, social determinants of health, social environment, housing

Photo Elicitation to Explore Health and Social Exclusion with Rooming House Residents

Residents of rooming houses experience a higher burden of chronic health conditions and increased mortality compared to the general population (Barbic et al., 2018, Rowe et al., 2019, Vila-Rodriguez et al., 2013). Single room accommodation is associated with poor functioning (Zhou et al., 2019), lower quality of life (Shannon et al., 2006), food insecurity (Brown et al., 2020), isolation and stigmatization (Minkler et al., 2005, Oriole Research & Design Inc, 2008). Despite potential negative health consequences, many people have no other affordable option for rental housing, and rooming houses play a unique and pivotal role. Without rooming houses, the transition into sheltered homelessness would be precipitous and the exit from sheltered homelessness more problematic (Lottis et al., 2014). Little research specific to rooming house residents exists, and even less from the perspective of residents about how rooming houses are linked to their health. If we are to address health disparities, we need to know more about rooming houses, rooming house residents, accessibility of resources, and how they affect health from the perspective of the residents themselves.

Background

Housing and Health

Housing is a key social determinant of health and many studies have linked poor health to several factors associated with sub-optimal housing (Sylvestre et al., 2018, Gibson et al., 2011). A narrative review of the research related to disparities in housing and the associated health outcomes highlighted factors, both physical (i.e., infestation, sanitation, ventilation) and social (i.e., poverty, crowding, neighbourhood deprivation) as contributing to poor health outcomes (Jacobs, 2011). The authors of this review noted that surveys focus on housing or health and

advocated for integrated housing and health population-based surveys to recognize the important relationship between the two sectors.

In a large survey of community health centre patients in the United States divided by levels of housing instability, researchers found that participants with any housing problems were more likely to report health problems, emergency department use, and delays in care (Baggett et al., 2018). The authors of a systematic review and meta-analysis of 37 studies involving people who inject drugs noted that HIV and hepatitis C acquisition was much higher for individuals who were unstably housed compared to people who were stably housed, and the risk for HIV acquisition for unstable housing was higher than for homelessness (Arum et al., 2021). Although the literature shows the influence of housing on health issues, there is a gap in understanding how the social, cultural, economic, political and physical environment contribute to the health of rooming house residents.

Rooming Houses[1]

Regulations defining and managing rooming houses vary across municipalities. In Ottawa, a rooming house is defined as a private accommodation regulated by the municipality where there are more than four rooms in a building, each of which is rented individually, and residents share a bathroom and/or kitchen (By-law & Regulatory Services, City of Ottawa, February 2016). Rooming houses tend to be occupied by persons on social assistance or with limited earned income (Maclaren Municipal Consulting Inc., 2019). Rooming houses are an important part of the housing continuum, providing low barrier, independent housing that is

[1] Single room occupancy (SRO) hotels are like rooming houses in terms of physical structure, and rooming houses are a form of SRO. The characteristics of people living in SROs are similar to people living in rooming houses, and the two housing terms are often used interchangeably SCHLOMING, L. M. & SCHLOMING, S. 2003. Comment on Chester Hartman and David Robinson's "Evictions: The hidden housing problem". *Housing Policy Debate,* 14**,** 529-540.

rented at a rate lower than an apartment. This form of housing can be an option for people considered 'hard to house' (Gurstein and Small, 2005, Shannon et al., 2006). Often referred to as housing of last resort, rooming houses are diverse, with building conditions that range from well-managed, clean and safe to poorly managed, dilapidated and dangerous (Skemp et al., 2014).

As vulnerably housed people, rooming house residents have equally poor self-reported physical and mental health problems and unmet health needs when compared to people living in emergency shelters and in some cases worse health status than people with no housing at all (Gadermann et al., 2014, Hwang et al., 2011). Research specific to rooming house residents is scarce, often owing to difficulties accessing this population (Argintaru et al., 2013, Parkdale Neighbourhood Land Trust, 2017, Mifflin and Wilton, 2005). The research that is available has provided a demographic profile of residents' health issues, such as a study of mortality-related to treatable illnesses (Jones et al., 2015), the physical, mental and social health characteristics of young adults (Barbic et al., 2018), the characteristics and patterns of health care access (Cunningham et al., 2005), and the neurocognitive profiles of residents living with concurrent disorders (Gicas et al., 2019). Other authors have highlighted the complexity of health and social issues intertwined with this type of housing, touching on the need to consider health issues within the housing context: the mental health risk environment for women (Knight et al., 2014), the relationship of the landlord in assisting vulnerable residents (Green et al., 2016), the effects of displacement and fear of eviction of rooming house residents due to up-scaling and gentrification (Parkdale Neighbourhood Land Trust, 2017), and the differences in outcomes of providing social services and support on site at the rooming house (Grace et al., 2016).

Housing in Ottawa

Ottawa, Canada's capital city, was the first city in Canada to declare a housing emergency in 2020 (Osman, 2020). The City's rental housing vacancy rate is well below 2% placing significant social and economic pressure on homeless shelters and increasing their use (Alliance to End Homelessness Ottawa, 2018). Crowded shelters contribute to greater demand for low-income housing options and low vacancy rates have increased the cost of rental housing (Canada Mortgage and Housing Corporation, 2018).

Rooming houses are an important option for single-person households with limited income. Ottawa has over 1300 licensed rooming house units and an unknown number of unlicensed units (Somerset West Community Health Centre, 2017). The city's rooming house stock is composed of mostly aging homes and buildings, and several rooming houses are at risk of being repurposed as the urban core is gentrified. Although rooming houses provide a low-income housing option, several issues with regulations and enforcement has made rooming houses in Ottawa a less desirable housing option for landlords to own, and for residents to consider long-term (City of Ottawa, 2017). Nevertheless, there is little chance of finding a more affordable option as a single person, with the only alternative being a homeless shelter.

Considering the potential negative impact on health associated with living in a rooming house, there is a need to understand from the perspective of rooming house residents how living in a rooming house affects their health. Using a social exclusion framework to guide analysis, the aims of this study were to investigate how aspects of a rooming house, the behaviours and characteristics of the people who live in a rooming house, and the resources that are accessible to people who live in a rooming house, influence health.

Methods

This paper was part of a larger qualitive case study research project examining the health of rooming house residents from multiple perspectives and data sources. Ethical approval was obtained from the University of Ottawa's Health Sciences and Science Research Ethics Board (H-05-19-3008 – ANNI-3008) . This manuscript describes the qualitative findings of data collected using photo elicitation techniques, specifically photos taken by participants to inform a focus group with them, field notes from participant observation, and a subsample of follow-up telephone interviews (Figure 1).

Photo elicitation is a qualitative study methodology that involves using photos to describe an issue and engage with participants to determine how they understand and interpret the issue within their social world (Tinkler, 2013). In this project photos were taken by residents that reflected how they felt living in a rooming house affected their health. Consideration was given throughout data collection and analysis to reflexivity; the ways in which interactions with participants might be influenced by the professional background, experiences and prior assumptions of the principal investigator (PI). This project was part of a PhD thesis, and the PI, a female, middle-class nurse with experience providing outreach in rooming houses needed to continually question and critically examine research processes, and interpretation of data. The use of prolonged contact with participants during data collection, and the multiple sources of data (photos, documents, observations, interviews, focus group interactions) helped to mitigate the influence of the PI on any particular participant, interaction, or step of analysis. Data were not collected in an area of the city where the PI had provided nursing outreach, and potential participants were excluded if they had a prior relationship in a professional capacity. As part of an academic project, the research benefited from weekly meetings with an advisor with expertise

in qualitative research, and discussion with a thesis advisory committee to optimize transparency and minimize bias.

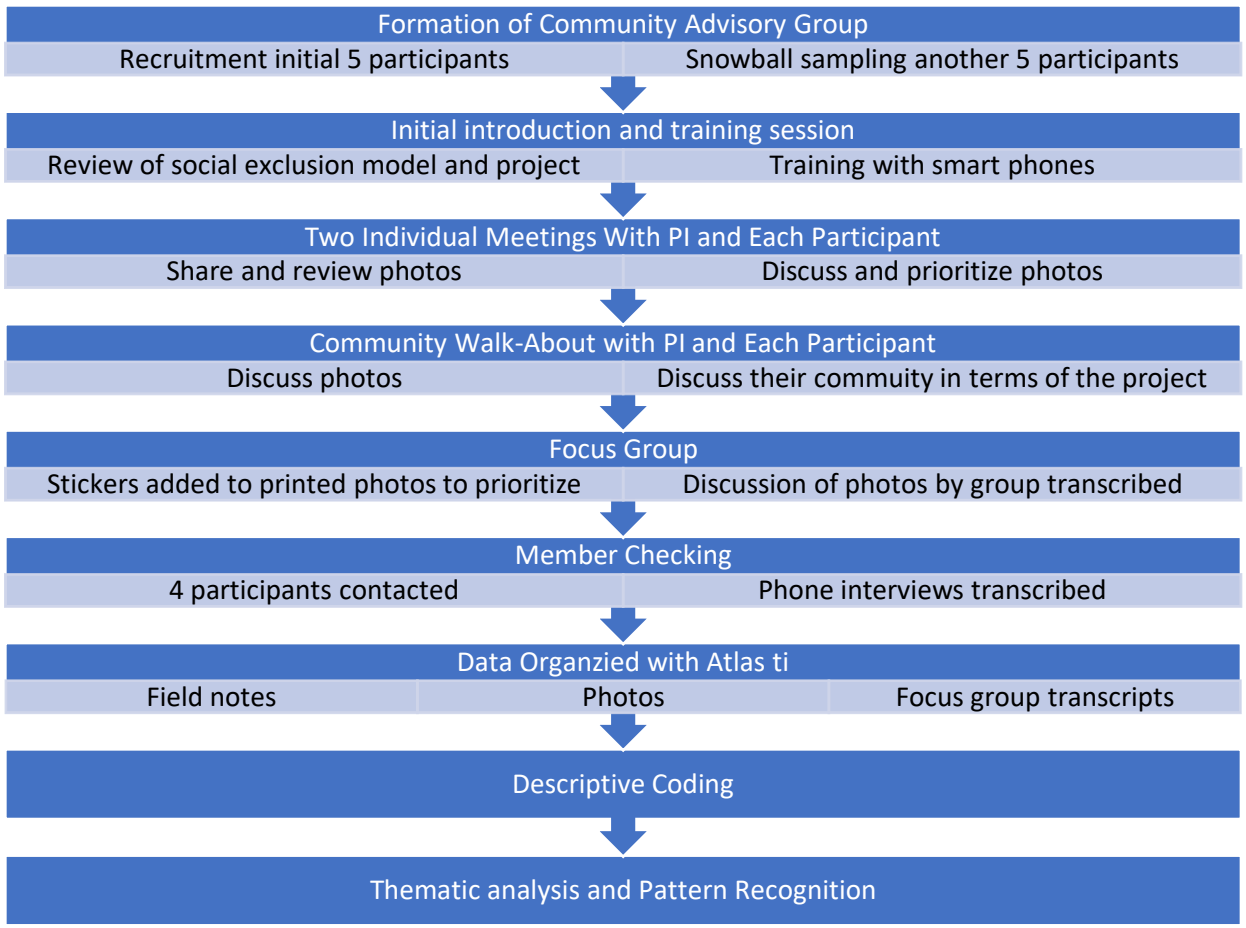


Figure 1: Summary of Methods: Recruitment, Data Collection and Analysis

A social exclusion model was used to guide participants in how they conceptualized health. Social exclusion refers to the process by which marginalized groups are restricted in opportunities and resources by the economic majority resulting in material and immaterial consequences (Zulu, 2018). The framework of the Social Knowledge Exchange Network (SEKN) conceptualized by Popay et al. (2008) was used to develop the aims of the study and

was discussed with participants throughout all aspects of the study. The framework provides a way of interpreting health in degrees of health inequality and to comprehensively examine the processes that hamper access to certain rights, resources and capabilities as well as the extent to which certain policies or interventions could modify those processes (Adam and Potvin, 2017). There are four dimensions of the framework: social, economic, cultural and political. These dimensions recognize the social structures that modify the biologic determinants of health, contributing to inequality and ultimately health outcomes.

Participants

Participants were recruited in July and August 2019, from five Ottawa rooming houses with help from community advisory group (CAG) members and by word of mouth. Purposive sampling was then used to recruit an additional participant from each of the five rooming houses for a total of 10 participants. One resident moved to another rooming house owned by the same landlord, a sixth rooming house for the study, shortly after being recruited. Participants were eligible for inclusion in the study if they were current rooming house residents who could understand English, were capable of informed consent, and were able and willing to operate a smart phone to take photos. People who had an existing relationship in the primary care practice of the PI (JB) were excluded from the study as a safeguard against perceived or actual coercion. Participants were compensated $25 for each contact for a total of $200 over the course of the project for their continued participation.

Data Collection

Participants were provided smart phones and asked to take two photos they perceived were related to health per day for a two-week period. At a training session, a retired photographer provided instruction on ethical photo-taking including the requirement that no

identifying information be collected, including no photos of individuals and no photos of anything specific that could identify a rooming house address.

After the first week, participants met with the PI individually to check in and briefly discuss photos. Shortly thereafter, the PI scheduled a community walk-about with each participant. The researcher made field notes during each of these interactions. At the end of the second week, photos were discussed, and participants chose three photos to present at the focus group facilitated by the PI. During the focus group, photos were projected onto a screen and the SHOWED technique developed by Wang and Burris (1997) was used to guide a discussion of each photo. This technique involves asking participants in a focus group a series of questions about each photo: What do you See here? What is really Happening here? How does this relate to Our lives? Why does this situation, concern, or strength Exist? What can we Do about it? With the participant's consent, focus groups were recorded and transcribed verbatim. Notes were made during the focus groups by a trained observer to record non-verbal communication, as well as a summary of comments to reduce loss of information and nuanced innuendos that could be missed from the recording. Focus group participants completed a short demographic questionnaire. Four participants were contacted after the focus group for a brief phone interview and with consent, these interviews were transcribed and added to the dataset. These participants offered further detail about their selection of photos, further clarified ideas, and reflected on the emerging themes captured during the focus group.

Data Analysis

Data analysis started from the first interactions with participants after they began taking photos. During the community walk-about, participants discussed their individual photos, and their community in terms of social exclusion and health. At each meeting participants were

asked to select the photos that held the most significance, or to highlight any photo they felt was representative of the study objectives. Participants were aware that each person would have only three photos presented at the focus group, from all the photos taken. Participatory analysis continued during the focus group as printed photos were passed around and stickers were added to the photos that without any description participants felt they could relate to, or which elicited a reaction. This prioritization of the printed photos was used to build a discussion about the photos.

Field notes, photos, the focus group transcript, and the four phone interview transcripts were imported into ATLAS.ti (Version 8.4.4, 2019) to help organize and analyze narrative and nonnumerical data, including photographs. The first author transcribed the focus groups and interviews, immersing in the data, and developing initial codes deductively, considerate of the dimensions of the SEKN framework. As a first cycle of coding, descriptive coding was used to highlight the substance of the message (Saldaña, 2013). Thematic analysis was used to further code and organize data and look for patterns within the data, while focusing on the ways participants derived meaning from their experiences, and the ways the broader social context influenced those experiences (Braun and Clarke, 2006). Themes were reviewed at weekly meetings with one of the authors (JCP). A graduate student familiar with the study reviewed the interpretation of photos based on field notes, photos and quotes. These were then vetted by an expert panel (CB, ED, LL), who provided feedback and further articulated the themes. The final themes were determined by consensus.

Results

A total of 212 photos were taken by 10 participants over a two-week period. Each participant was a resident of a licenced rooming house in the City of Ottawa. One participant

sold their smart phone and only provided photos at the one-week check in. Each participant directed a community walk-about, touring each of the rooming houses, local drop-in centres, stores and/or neighbourhood. Only one resident chose not to show the inside of the rooming house where they lived because they were concerned for the PI's safety due to threat of violence.

Of the ten participants who took photos and participated in the community walk-about, eight participants took part in the focus group; one participant arrived on the wrong date, missing the focus group and another participant did not attend. The focus group was held in the evening at a community health centre in central Ottawa. Four participants took part in a follow up telephone interview. Participants' demographics are summarized in Table 1. At the time of the study, the mean length of time a participant had lived in their current rooming house was 2.7 years (the median was 2.6 years).

Participant	Name[a]	Age[b]	Income	Length of Time at the Rooming House[c]
1	Max	59	OW	1 year, 6 months
2	Dion[c]	65	OAS/CPP	3 years
3	Ann	59	OW	2 years, 3 months
4	Tamara[d]	43	ODSP	9 years, 1 month
5	Ahmed[d]	47	ODSP	3 years 4 months
6	Keith	44	ODSP	3 years
7	Nathalie[d]	58	ODSP	6 months
8	Derick	60	ODSP	1 year
9	Clarence[d]	67	OAS/CPP	3 years
10	Chris[c]	44	OW	9 months

Table 1: Demographic Data of Participants (n = 10)

Note. CPP: Canada Pension Plan; OAS: Old Age Security; ODSP: Ontario Disability Support Program; OW: Ontario Works; RH: Rooming house.

[a] Names changed to protect the identity of participants.

[b] The average age of participants was 54.6 years (the median was 58.5 years).

[c] Did not attend the focus group

[d] Participated in a follow up telephone interview

The perspective of rooming house residents was drawn from six buildings (one resident moved to another rooming house owned by the same landlord shortly after being recruited into

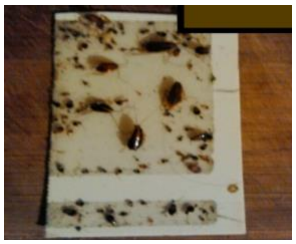
the study). All buildings were in the downtown core of Ottawa and had between 12 and 42 units. One rooming house operated as a women's only rooming house and all the rooming houses were privately-owned by four different landlords. Using an iterative process based on the rooming house residents' selection of photos, and an analysis of the field notes and transcripts of the focus group and telephone interviews, two broad themes were identified and defined: *Housing is Health Care* and *Just Managing Today*. The first theme reflects how the rooming house environment – the physical building, the social connections, how resources were accessed – affected the health of rooming house residents. The second theme reflects participants comments about living with constant thoughts about money and daily survival, about having very few alternative housing options because of their level of poverty, and the ensuing powerlessness and fear of losing their housing if they complain about their building, landlord or neighbours. Participant quotes captured during the focus groups and interviews, as well as photos taken by participants, are presented to better illustrate the two main themes.

Housing is Health Care

The silos of health care and housing are inherently intertwined. Health care is often seen as a service provided by professionals, but participants convincingly showed how the rooming house itself, as a building and part of a larger community, is a form of health care. Poor housing acts like poor health care by contributing to adverse health outcomes. Health can be optimized with housing that provides a structurally sound, clean-living environment, and that offers opportunities for community, and social and economic support. There were three subthemes that were clearly identified: physical space, social network and neighbourhood resources, and these contributed significantly to participants real and perceived perceptions of health.

Physical Space. Physical space refers to the impact of the physical environment of the rooming house on health. The presence of multiple sets of stairs, infestations or building maintenance had significant ramifications for participants' mental and physical health. Participants described fear for their safety related to broken locks, and dented doors, and risk of fire from missing fire extinguishers. Participants described isolation from not being able to have friends or family visit because they were embarrassed by the level of building disrepair or lack of common area, necessitating guests to meet in their room dominated by a bed. Participants selected several photos of stairs, air quality (i.e., air conditioner, multiple doors), evidence of building disrepair, and photos of various infestations (i.e., bed bugs, cockroaches, rats). During discussions about the physical spaces of rooming houses, participants expressed fear of these spaces meeting their needs as they aged. They also expressed feelings of mistrust and powerlessness in dealing with by-law officials, superintendents and landlords which for some residents led to feelings of depression, apathy or hopelessness.

Clarence stated, "when I first moved into the room, I didn't have a bug in this room... it just got worse and worse and worse and the cockroaches ... got bad, bad, bad...that picture I took was after a month" (P9). This photo shows a piece of sticky material used to capture household infestations and appears to have several bed bugs, cockroaches and perhaps other insects. This participant described his initial anger, then his waning energy to try to make changes in the building after going through multiple steps to have his room assessed and treated. He described his futile interactions with the City when the landlord failed to take action.



Social Network. The social network refers to the social connections made between other rooming house residents, and staff of community organizations, who play a critical role for

rooming house residents in both helping to manage, and in creating economic, physical and mental health challenges. Participants described how poverty associated with anyone who lives in a rooming house necessitated accessing community agencies, and how on a regular basis staff at agencies, or fellow rooming house residents, would help with food, clothing, furniture, transportation, mediating relationships, access to a telephone, legal advice, appointment reminders, emotional support, and companionship. Many connections involved food; either feeling good about being able to share extra food, or appreciation for the comradery and assistance provided by agencies or other residents while sharing food. This photo shows a T-shirt with the words "Helping others never goes out of style." Max (P1), when describing how his photo related to health, discussed how his role as building super meant he felt responsible for checking on residents, going so far as to cook holiday meals for the residents and coordinate occasional BBQs in the backyard to encourage comradery amongst the residents. He felt that both providing food, checking on residents, and connecting residents together, helped improve health. Although Max (P1) took this photo, many participants at the focus group could relate to the sentiment he captured about helping others. Ahmed described how rooming house residents share bathrooms and sometimes kitchens, forcing interactions with other residents. "So, like life in the room house, you know, the way like living, there's 19 guys in each house. So, you get to know everybody and almost become like a family" (P5).

The social network, inherent in this type of housing, also created challenges for rooming house residents in needing to rely on community agencies for support, and by having such close quarters with a diverse group of people who may be experiencing their own struggles. In response to a photo that was taken of a poster asking residents to clean up after themselves that

was posted in a kitchen, at the focus group when asked what the photo was really saying, Natalie (P7) responded, “Not everyone is operating on the same level, or even on the same page.” Natalie’s comment reinforced sentiments expressed by other participants who alluded to the risk of and victimization that some residents experienced at the hands of fellow residents. Behaviours that created a concern for other residents were often tied to substance use. Participants discussed the role of substance use as a short-term distraction, reason for socializing and way of coping, but recognized in the long term it had many negative health implications, such as further poverty or malnutrition. When Keith (P6) first explained his photo of naloxone, he tied it to the negative influence of his rooming house as a hub for people living with addictions, and using drugs as a way of escape. Later when reviewing his photos, Keith spoke less of the isolation, and more of how seeing the naloxone kit gave him hope for connection and caring for each other in the rooming house.

Neighbourhood Resources. Photos and field notes captured how the proximity, availability and accessibility of agencies and resources in the neighbourhood influenced overall health. Placement and access to some neighbourhood resources residents perceived could negatively influence health, such as the absence of a close bus route, or the proximity of a rooming house to places residents could buy addictive substances, such as the liquor store. At the focus group, participants discussed a photo taken by Max (P1) of the liquor store near his home, and when participants were asked “What do you see here?” Max responded, “I was thinking breakfast,” Ann added, “I would think a bad day,” and Natalie (P7) responded “The party is always close at hand” to which several others vocalized their agreement. The sentiment at the focus group seemed to be that regardless

of whether someone had positive or negative feelings about alcohol, it was readily available in the neighbourhood and in the rooming house.

Neighbourhood resources were overwhelmingly seen as having a positive influence on health, represented in photos of drop ins (P2, P4), a soup kitchen (P6) and a community health centre (P5, P6). Ahmed (P5) took this photo of a community fridge at the local community health centre, and he explained it had helped him meet a need for food. He also spoke about other services at the health centre, including a supervised consumption site and bike clinic, explaining how the staff and services helped him to look after his health. Residents reported how they needed to seek help and care outside of the rooming house because financially they could not afford everything they needed . Most community services are not specific to rooming houses, such as food banks, shelters or community health centres, but all the individuals at the focus group described the necessity of accessing community resources in their neighbourhood in order to help meet their basic needs.

Just Managing Today

Poverty was pervasive for rooming house residents, and they thought about money, and the consequences of not having enough, nearly constantly. Participants described how they could reach a crisis level by the end of the month before they received their "cheque." [2]. Rooming house residents have become invisible as they have become powerlessness to the process of housing loss and design of community resources. Rooming house residents' health can be affected by the chronic stress of poverty and navigating resources, as well as the

[2] Cheque is a term several participants used to denote the monthly funds they received from social services regardless of the format. Current practice is for direct bank deposit, but if someone does not have enough identification for a bank account, a cheque is still issued. At the time of the study for a single person, OW provided $733/month ($390 max shelter allowance); ODSP provided $1169/month ($497 max shelter allowance). The rents paid by participants ranged from $500-$650/month.

prioritization of health and health care among the activities necessary to just manage today. Participants have learned how to creatively cope to manage their chronic stress. There were three subthemes that were clearly identified: never enough money, becoming invisible and creative coping. These subthemes captured participants perceptions of how their health was affected by living in a rooming house.

Never enough money. Most residents described paying most of their income to rent and needing to look at alternative sources of income for all other expenses.

Keith (P5) photographed himself pan-handling, but other participants took photos or discussed bottle-collecting, bicycle theft, hustling or drug sales as sources of income. Participants were very matter of fact when discussing alternative sources of income; rooming house resident culture of not having enough money from social services was normalized and pursuit of alternative sources of income was expected and necessary. The preoccupation and energy involved with the daily struggle to ensure enough funds to manage bus fare, rent, food, and basic necessities paralyzed and overwhelmed some participants, often restricting their ability to plan for a future. This was evident in the length of time that participants had lived in their rooming house despite almost everyone reporting that their current living situation was only temporary.

Becoming invisible. Participants described their process of becoming invisible as both intentional and unintentional. Intentional invisibility incorporates how residents described actively trying not to draw the attention of supers, landlords or other residents fearing they could be perceived negatively and thus increase their risk of losing their housing. "…If you bother them too much, that could be bad for us, too. They could, you know, if somebody did complain about us, they might take it more seriously…" (P4).

Many residents described a fear of making complaints about the building maintenance or other residents because they didn't want to be seen as a "problem tenant" which could risk them losing their housing. Natalie's photo of the ceiling water damage started a discussion where her fellow rooming house resident admitted that the landlord may have taken advantage of their silence, as the residents complained to each other, but were unsure if anyone had complained to the landlord.

Externally, residents described the process of becoming invisible as a powerlessness in attempting to navigate resources that were not considerate of their day-to-day reality. Participants discussed feeling trapped in the rooming house housing-stream because, with their limited income, there were few or no alterative housing options in the City. Participants described feeling marginalized because of their poverty, then further excluded because of their living environment. Many participants described their appreciation for outreach to their building, because using community resources often took a lot of time, and many were difficult to navigate. There were two photos taken of worn-out footwear (P6, P7) and residents talked about how much someone must walk as a resident of a rooming house. Chis (P10) provided a story that describes how he and his needs were made to feel invisible by bureaucracy. Chris arrived home one day shortly after the study had started and found a poster at the door advising he needed to use his key (which he no longer had) instead of a fob to enter his rooming house. Without a phone it took Chris weeks to prioritize, plan his route, save for the bus fare, and go to the remote housing head office to replace his key. During this time he needed to wait for neighbours to come along to let him in to his own building so he avoided leaving his building for fear of not being able to get back inside. The expectation that rooming house residents can navigate mainstream services does not consider people who

struggle with mental health, physical health or substance use issues, and people living in poverty who don't have easy access to a phone, internet or transportation. The silos of how services are provided contributed to making rooming house residents feel invisible, and facilitate them in becoming invisible, as they encountered barriers to connecting to needed resources.

Creative coping. Participants discussed how living in poverty and shared accommodation was difficult and how finding meaning, connection and purpose was achieved in creative ways. Several photos depicted items representing how residents worked to find meaning in their sometimes isolated and desperate life situation. Dion (P2) related his photo of his wall art to health by saying it provided an escape and a way of finding meaning in how his life circumstances led him to be in a rooming house. Participants took photos of their writing (P8), a bible (P4), and outdoor gardens (P1, P3) each participant describing how these creative outlets related to health as ways to cope with the daily stress they faced. When the photos and topic of pets was brought up in the focus group, other participants were keen to enter a discussion showing the important role animals played in their lives, "I've got a squirrel living with me" (P1). One participant (P8) described how feeding racoons every night improved his health by giving him a purpose, and a way of coping with a long-standing verbal and physical conflict with the superintendent by finding companionship.

Discussion

This qualitative study exploring the health of rooming house residents, as part of a larger case study, provided the rooming house residents' perspective of how the rooming house, the people living there, and the community resources influence the health of rooming house residents. Data collected using photo elicitation methods including a focus group, observations,

interviews and photos, identified two broad themes: *Housing is Health Care,* and *Just Managing Today.*

The theme *Housing is Health Care* reflected how, for rooming house residents, health cannot be considered separate from housing because the structure of the dwelling, the social isolation and the need to use neighbourhood resources, are connected to both health and housing. Our political structures have funded housing and health sectors separately, but for rooming house residents, a housing problem immediately impacts prioritization of health needs, and to address a health problem, the context of the rooming house needs to be thoughtfully considered. Barocas and Choo (2021) reviewed the positive outcomes from innovative solutions for homeless and vulnerably housed individuals needing alternative care sites because of Covid isolation and concluded that we need to "…begin to transform the national mindset among health care practitioners that housing is health care" (p. e210635). The authors described how the pandemic has made it apparent that housing is a critical public health response. This study's findings support the idea that housing is a form of health care.

In the present study, participants connected the deterioration of the physical space of the rooming house to their mental health. This link between mental health and housing has been well established (Daiski, 2007, Evans et al., 2003, York et al., 2019). However, the harms associated with poor living conditions was worsened by residents' perceived betrayal by the municipal agencies that are responsible for upholding the standards of housing. This further contributed to feelings of apathy and hopelessness and connects to the theme of invisibility, as bureaucratic channels to challenge or access services are not within the reach of many rooming house residents. The political dimension of the social exclusion model (Popay et al., 2008) describes how health is affected by power dynamics that create unequal patterns of formal and

informal rights embedded in policies and practices leading to unequal distribution of opportunities to participate. Rooming house residents felt powerless to challenge landlords or superintendents for fear of the repercussions, including losing their housing. Wacquant (2019) illustrates how disciplinary social policy contributes to the role of the state in maintaining and managing urban marginality. An example of this is the complaints-based system to report rooming house issues with the City as opposed to placing the onus on landlords to consistently demonstrate their building meets standards (City of Ottawa, 2016). Wacquant also describes how marginalized groups are economically undermined and politically overdetermined and challenges the role of the state in maintaining urban marginality; it is institutional mechanisms that produce the network of vulnerable urban groups (Crane, 2016). This study suggests that we need to advocate for improved living conditions for rooming house residents, recognizing the impact on health, but we also need to critically evaluate current mechanisms that are in place to support residents to navigate and access neighbourhood resources.

The second theme, *Just Managing Today* reflects how rooming house residents live on the cusp of a precipitous drop. Living in a rooming house can accelerate momentum towards poverty and homelessness analogous to an oxygen saturation curve; there is a cut-off point after which emergency shelter and absolute homelessness is the alternative to living in a rooming house, and the placement of rooming houses is at a critical point along that continuum. Participants described how the daily struggle with poverty and stigma about their living conditions causes a level of perpetual fear and stress that has led to creative coping strategies. The daily stress requires either finding a distraction and escape from the day-to-day struggles or looking for meaning in their lives by making connections with pets, gardening or art. Residents found mechanisms to avoid the precipitous drop or to slow the momentum at the edge including

becoming invisible, but in so doing, they may be hiding the extent of the issues that rooming house residents face in terms of physical living conditions or trying to navigate resources to make ends meet. Providing outreach would increase access to health care and provide a better understanding of the context in which individuals are managing their health (Hardill, 2007). For rooming house residents, providing outreach in the rooming house acknowledges the difficulties residents face in prioritizing health care and the need for low-barrier resources in their neighbourhood to help support health.

It is important to understand that residents normalized the necessity of finding alternative sources of income, describing their impossible situations of making ends meet. This is especially troubling considering the number of resources and the largely affluent surroundings of the City of Ottawa. There is increasing recognition that resources and support structures for homelessness and vulnerably housed individuals have become a business and bureaucratic processes are actually keeping resources from the people they are meant to help. As an example, advocates have calculated that over the next seven years, the City of New York will spend more on operating shelters than the amount of subsidy required to create new housing for every single homeless household in the city (Picture the Homeless Research Committee, 2018). This study saw participants trying to make the best of a situation of poverty by living in the only affordable option for a single person but continuing to struggle every day. This suggests there is an immediate need for health care providers to advocate for affordable housing and also for a livable basic income as health interventions. Ontario currently spends five billion dollars annually on publicly-funded drug programs, with the total provincial health care expenditures over 67 billion dollars (Financial accountability office of Ontario, 2019). More research is

needed with economic analyses of the impact of including housing as a health intervention, and possible global savings to healthcare.

There is a growing wave of interest by health care provider organizations in the United States to invest in the social determinants of health, including housing, housing improvements, and food security, as a way to decrease emergency healthcare visits, invest in preventative care and decrease costs associated with chronic illness (Gottlieb et al., 2019) Findings from this study suggest that the provision of safe, clean, well-resourced and affordable housing, would decrease morbidity and premature mortality of rooming house residents, potentially leading to a cost-savings in the health care system. More and more, health care providers are being guided to consider the social determinants of health and larger structural factors as necessary in the provision of good care for homeless and vulnerable populations (Pottie et al., 2020).

Strengths and Limitations

There were several strengths and limitations of this study. Multiple methods enriched the data to inform the research study, and photos were particularly effective in engaging participants. It was important to gain the perspective of rooming house residents, and this was unique to this study, as much of the research that includes rooming houses is extracted from studies that sampled from a mixed population of homeless and vulnerably housed. The CAG also positively contributed to the study by providing an opportunity for community participation in some of the planning and much of the implementation of the study. Participation in the study was described as rewarding by several participants, who each independently indicated their interest in take part in any future similar research opportunities.

This study had several limitations. Participants were engaged to independently take photos of their health but expressed difficulty with the lack of specific focus. Participants'

confidence in taking and analyzing photos may have grown with a longer data-collection time period and more check-ins, which may have yielded different results than those presented. Smart phones were used as a step towards a more contemporary approach to photo-elicitation compared to disposable cameras, however participants expressed that it was challenging not to take blurred photos if they had any health condition that contributed to difficulties with fine motor movement. Some individuals were reluctant to share in the group setting, and offering photo elicitation interviewing instead of a focus group may have gathered more information that participants would not share in a communal setting (Padgett et al., 2013). The study's findings are not generalizable due to the small sample size and the methodological approach of the study. The findings presented are part of a larger case study and not all data from the research project has been included in this analysis.

Implications for Research and Practice

The findings of this study suggest the unique conditions of the rooming house environment contribute directly to the health of its residents, and research about who and how best to provide care to rooming house residents would be valuable. Photo-elicitation, and the use of a CAG helped to involve the community in the research process and ensure the voices of participants were reflected in the study findings. It is worth considering these methodologies and research strategies in future studies with rooming house residents or vulnerable populations. Snowball sampling was an effective method of engaging with participants who may not respond directly to recruitment efforts, and this allowed access to a group of people who may not be as engaged in community resources or as connected to social networks. Rooming houses can be difficult to access for the purposes of research, and there needs to be a certain level of comfort in entering the rooming houses (from the perspective of infestations, access, and safety). Future

research is encouraged to be conducted by front line health care providers or researchers partnering closely with people who are already engaged with vulnerable populations.

Health care providers may be able to provide more holistic care and have a better experience by using the social determinants of health and the dimensions of social exclusion to inform their clinical practice (Andermann, 2016). This would move clinical care targeting individual factors and individual-focused interventions, towards a greater acknowledgement of the influence of social and structural factors (Krüsi et al., 2009).

Conclusions

The two broad themes identified in this study, H*ousing is Health Care*, and *Just Managing Today* framed the health of rooming house residents to consider health inequalities as due to structural inequalities. Health care providers need to urgently advocate for affordable housing and an adequate income as health interventions. The mechanisms that lead to social exclusion and vulnerability need to be explored if we are to improve the health of rooming house residents.

Acknowledgement

I would like to recognize the participants for actively participating and supporting this PhD research project and agreeing to share their photos and insights. Unfortunately, shortly after data were collected, one of the participants was found deceased in the rooming house. I hope his contributions and those of his fellow rooming house residents contribute to the body of research on the health of rooming house residents.

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Transition to Manuscript Two

Both the first and second manuscripts were guided by the social exclusion framework (Popay et al., 2008) and helped support the propositions of the study to document the needs and resources of rooming house residents in Ottawa that contribute to health as well as document the contextual factors (political/social/cultural/economic) that contribute to the social exclusion of rooming house residents. Manuscript One provided the perspective of rooming house residents, to suggest that a social exclusion lens may help recognize disparities in rooming house residents' health as a first step to developing health interventions. Manuscript Two provides the perspective of front-line service providers to complement the expertise of rooming house residents in how they felt living in a rooming house contributed to health.

The original idea to interview front-line service providers was hoped to capture the unique experience of people who work closely with rooming house residents, who could inform the case study without fear of repercussions for any negative comments. When the study was initially conceptualized, there was some concern that rooming house residents may not feel that they could speak freely, especially in a group setting, about the sensitive topic of housing.

"Health and Social Exclusion of Rooming House Residents: A Descriptive Qualitative Analysis of Front-Line Service Providers' Perspective" *(*to be submitted to *Cities*) presents the findings of eleven semi-structured interviews with service providers who work with rooming house residents. In the community, front-line service providers from many disciplines are needed to optimize residents' health and address the inequities residents experience, and it was important to capture the varied perspectives. Two broad themes: *There is a cost associated with living in a rooming house*, and *rooming house front-line service providers wear many hats* add to the understanding of the rooming house context, the available resources (or lack thereof) and

how living in a rooming house, and the associated poverty, negatively impacts residents' health. Nurses can partner with front-line service providers and work with other disciplines to complement each other's diverse knowledge and strengths to optimize the interaction between housing and health.

Chapter Three

Health and Social Exclusion of Rooming House Residents: A Descriptive Qualitative Analysis of Front-Line Service Providers' Perspectives

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Highlights

- A social exclusion framework can effectively frame factors affecting the health of rooming house residents
- Font-line service providers of diverse disciplines need to work together to address health inequities
- There are tensions in the shared spaces of rooming houses that need to be addressed to ensure the health of residents

Abstract

Objective: To document and understand the economic, political, social, and cultural factors that impact the health of rooming house residents.

Design: Qualitative descriptive study of rooming house front line service provider interviews.

Sample: Purposive sampling of front-line service providers who provide care or services to rooming house residents in Ottawa, Canada.

Measurement: Semi-structured interview guide used to conduct 11 interviews.

Results: The social exclusion framework was used to organize subthemes of the two broad themes that emerged: *There are many costs to living in a rooming house*, and *rooming house front-line service providers wear many hats*. Participants reflected on the vulnerability created for residents by living in poverty, and how community health front-line service providers from many disciplines are needed to optimize resident's health and address the inequities residents experience.

Conclusions. To improve the health of rooming house residents, a social determinants of health perspective is needed. Partnering with front-line service providers with diverse knowledge and strengths can help nurses interpret health issues with a wider lens. This study enhances understanding of the inequities in health for rooming house residents by providing nurses with a better understanding of the housing context and how living in a rooming house relates to health.

Keywords: social inclusion; social isolation, community health workers; vulnerable populations; housing; social determinants of health; health workforce; health status disparities

Health and Social Exclusion of Rooming House Residents: A Descriptive Qualitative Analysis of Front-Line Service Providers' Perspectives

There has been a sixty-five percent increase in homelessness over the last decade which has placed a greater need on affordable housing (Richard et al., 2019). For low-income single people in Canada, a rooming house may be the only available and affordable housing option. Rooming houses offer private single-occupancy accommodation where rooms are rented individually, and residents share a bathroom and/or kitchen. In Ottawa, rooming houses are regulated if they have four or more rooms (City of Ottawa, 2016). There are over 1300 licensed rooming house units in Ottawa and an unknown number of unlicensed units (Somerset West Community Health Centre, 2017). If housing is conceptualized on a continuum that spans from absolute homelessness to safe and secure stable housing, rooming houses play a unique and pivotal role. Without rooming houses, the transition into sheltered homelessness would be precipitous and the exit from sheltered homelessness more problematic (Lottis et al., 2014).

The inability to find adequate affordable housing has pushed many low-income people into substandard and unhealthy housing, which in turn adversely impacts resident health and safety (Tilburg, 2017). Compared to the general population, rooming house residents are disproportionately affected by treatable and chronic illnesses that contribute to premature mortality (Hwang et al., 2011; Jones et al., 2015; To et al., 2017; Vila-Rodriguez et al., 2013).

Rooming Houses

Historically, rooming houses have provided affordable housing for various groups of people. It was acceptable, and even expected, for young married couples who moved to urban centers and travelling laborers during increased urbanization, to live in rooming houses

(Campsie, 1994). More recently, rooming house residents are single people with a low-income for whom rooming houses provide an alternative to sheltered or absolute homelessness. Rooming houses are a form of single room occupancy (SRO) dwelling, but SRO hotels often rent by the week, and rooming houses rent by the month. Residents of both forms of single-occupancy dwellings share a similar social position and level of poverty with people considered homeless (Argintaru et al., 2013; Clemenzi-Allen et al., 2019). Rooming house residents have been described as the hidden homeless (Canadian Observatory on Homelessness, 2012; Crawley et al., 2013). It can be difficult for health care providers and researchers to recognize and gain access to this group of people, leading to further marginalization (Hwang et al., 2003).

Living in a single-room accommodation dwelling should be considered a marker of high risk for poor health (Bowen & Mitchell, 2016). Living in these dwellings is associated with premature mortality (Barbic et al., 2018; Rowe et al., 2019), poor neurological functioning (Gicas et al., 2014; Zhou et al., 2019), disengagement from the health care system (Vila-Rodriguez et al., 2013), lower quality of life, and increased use of emergency health care resources (Shannon et al., 2006) If nurses would like to improve the health of rooming house residents, they need to better understand the contextual and structural factors that influence the health of rooming house residents,

Social Determinants of Health

Nurses have been educated to use a social determinants of health lens to better understand the complexity and the multiple facets that contribute to health of people living in poverty who are unstably housed, and can be used to examine the health of rooming house residents. Social determinants of health are the conditions in which people are born, grow, live, work and age, shaped by the distribution of money, power and resources at the global, national and local levels

(Solar & Irwin, 2010). A broad perspective that captures structural elements that influence health deviates from the current North American medical paradigm which continues to emphasize individual behavioral modifications as the main strategy for disease prevention (Andermann, 2016). The current medical paradigm concentrates on providing information to act as a motivator or deterrent, often without consideration of context, and recognition of broader social determinants that are beyond the control of an individual's conscious or unconscious decision (Hollands et al., 2016). However, having a better understanding of social problems and how best to address the social determinants of health leads to better care (Naz et al., 2016).

There is a gap in understanding how the rooming house context and available community resources contribute to poor health outcomes. This paper presents findings from interviews with rooming house front-line service providers. The interviews were conducted as part of a larger case study that investigated how rooming houses are linked to health. The study objective was to document and understand the economic, political, social and cultural factors that impact the health of rooming house residents.

Methods

The perspectives of rooming house front-line service providers were obtained through personal semi-structured interviews. Ethical approval was obtained from the University of Ottawa's Health Sciences and Science Research Ethics Board (H-05-19-3008 – ANNI-3008).

Participants

Participants were purposively sampled from front-line service providers in regular contact with rooming house residents from the following sectors: health care (mental and physical health), food security (lunch club, food bank), housing support (outreach, Housing First case manager), and community agency (city liaison, legal support programs). Participants were

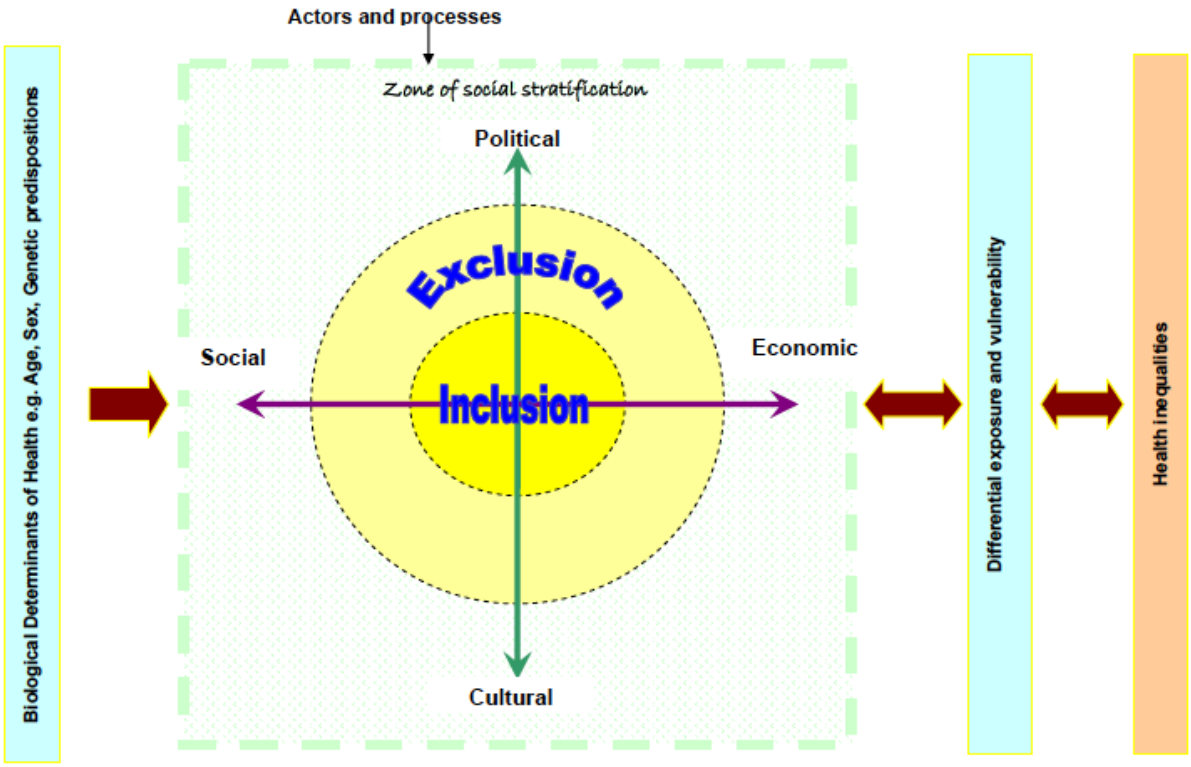
recruited through a presentation to the local rooming house network. Participants were asked for recommendations of any other front-line service providers that should be contacted; there were no other participants or agencies recommended beyond people initially selected.

Data Collection

Semi-structured interviews were conducted using an interview guide with questions guided by the economic, political, social and cultural dimensions of the social exclusion framework conceived by Popay et al. (2008) (Figure 1). The social exclusion framework is derived from the social determinants of health, but provides a method of interpreting health in degrees of health inequality, critically examining the role of broader societal structural dimensions and contextual conditions that influence individual health (Adam & Potvin, 2017). The social exclusion framework applies four dimensions which modify the biological determinants of health: economic, political, social, and cultural. The *economic* dimension includes income, housing, and access to material resources to sustain life. The *political* dimension includes access to adequate housing, and health care and power dynamics that generate unequal patterns of formal rights in practice. The *social* dimension includes relationships that generate a sense of belonging within social systems. The *cultural* dimension includes values and norms free of stigma and discrimination. Any unequal access to power and resources defined within these four dimensions can lead to differential exposure to health-damaging circumstances, thus creating greater biological, social, psychological and economic vulnerabilities and poor health outcomes (Popay et al.).

Figure 1

Conceptualization of the SEKN Framework



Note. The SEKN model of social exclusion. Reprinted from Understanding and Tackling Social Exclusion (p. 38), by Popay et al., 2008, Lancaster, UK: World Health Organization. Permission for use under licence: CC BY-NC-SA 3.0 IGO.

Interviews took place in a mutually agreed upon location, often at the front-line service provider's place of employment. With the participant's informed consent, interviews were digitally recorded and then transcribed verbatim by the principal investigator. There was no financial compensation as the participants chose to meet during their hours of work. The interview began by asking about the front-line service provider's role and experience working

with rooming house residents, and from those experiences, what aspects of a rooming house they perceived as impacting the health of residents. Participants were asked about how the rooming house context influenced health, and for people who had worked at a shelter how the resources were similar or different to the resources accessible to rooming house residents. All interveiws were conducted by the principal investigator, a nurse with several years of experience providing outreach to rooming houses, who aligned with an epistemiology of critical pragmatism.

Data Analysis

Thematic analysis described by Braun and Clarke (2006) guided the data analysis using six phases of analysis. Interview transcripts were imported into ATLAS.ti (Version 8.4.4, 2019). The principal investigator 'immersed' in the data by transcribing the interviews, reading and re-reading the data, and noting initial ideas in the qualitative software. Initial codes were generated, then these codes were collated into early themes focusing on the ways participants derived meaning from their experiences, and the ways the broader social context influenced those experiences (Braun & Clarke). The social exclusion framework (Popay et al., 2008) helped to guide and organize codes, and interpret the context and relationships captured in the themes. Themes continued to be refined in relation to the entire data set, finally generating a clear definition for each theme. A second reviewer helped ensure reliability during the coding process, analysis, and interpretation of the results. An expert committee vetted the final themes.

Results

Sociodemographic characteristics of the front-line service providers are described in Table 1. The front-line service providers had a variety of life experiences including lived experience of poverty, education and career backgrounds, such as corrections, addictions, social work, and nursing. Four of the 11 participants had previously worked in the homeless shelter

system. The average length of time working with rooming house residents was 13.4 years (the median was 8 years).

Table 1

Demographic Data of Rooming House Front-Line Service Providers (n = 11)

Interview	Age	Years of experience [a]	Role
William	45	21	Community agency
David	57	32	Community agency
Stephanie	28	5	Food security
Catherine	60	8	Food security
Darrin	53	25	Housing support
Trevor	37	2	Housing support
Jason	35	5	Housing support
Mary	42	24	Housing support
Michelle	46	6	Health care provider
Joyce	57	8	Health care provider
Katie	58	11	Health care provider

Note. Roles have been simplified and names changed to maintain confidentiality. The average age of the front-line service providers was 47 years old (the median was 46).

[a] Years working with rooming house residents

All the front-line service providers had regular direct contact with rooming house residents, most often in the rooming house itself. Two broad themes were identified: *There are*

many costs to living in a rooming house, and *rooming house front-line service providers wear many hats*. Subthemes were interpreted by the dimensions of the social exclusion framework (Table 2).

There are Many Costs to Living in a Rooming House

The first broad theme, *There are Many Costs to Living in a Rooming House*, showed how structural variables, not just individual attributes contribute to differential exposures and ultimately health inequities. The subthemes are organized by the dimensions of the social exclusion framework: *Poverty together* is associated with the economic costs for residents. *Powerless and vulnerable* represent the political costs of living in a rooming house. *Isolation can worsen with shared accommodation* relates to the social costs to residents. *Assimilation stress* is linked to the cultural costs to rooming house residents.

Poverty Together (economic)

The economic costs of living in a rooming house are reflected in the economic dimension of the social exclusion framework which includes income, employment, access to and distribution of material resources to sustain life, and housing (Popay et al., 2008). Rooming house front-line service providers observed how the financial costs associated with living in a rooming house meant residents never have enough money, even though it is the only "affordable" accommodation available.

> If they are on Ontario Works, they get only $384 for rent, so it is not very much. And the rent in a rooming house will be well over, at least $500, so they need to use part of their Basic Needs to cover their rent. And they have no choice. They have to live in a room if

> they are single. You can't afford an apartment if you are on welfare or ODSP. (Mary[1], housing support)

This quote by one of the housing support front-line service providers describes how rooming house residents receiving Ontario Works social assistance use more than the shelter allowance to afford the rent of the rooming house, leaving very little money to cover basic needs. A previous study in Ottawa found that 91% of rooming house residents were on some form of social assistance (Somerset West Community Health Centre, 2017).

Residents were observed by front-line service providers to work together to ensure they were able to look after basic needs.

> There is a level of generosity when folks do get money, you know. It's kind of strange, like people, like they really, really want money, but it's like as soon as they get it, it's sharing the wealth…like Margo on cheque day I know she buys chocolate for everybody in her rooming house, you know? Or Steve will buy pizza to share…it's like you want to share as soon as you get it because you know how bad the next guy is. (Stephanie, food security)

This quote illustrates how front-line service providers observed how money, food and resources were shared when rooming house residents recognized that fellow residents struggle with the same level of poverty. They would help each other to manage in the moment, essentially negotiating how to live in poverty together. However, there was recognition that living in poverty together did not always result in comradery and working together could create tension if debts were not paid or resources not shared equally. This quote by a health care provider highlights the stressors from living in shared spaces when struggling with poverty.

[1] Names have been changed to maintain confidentiality

> There is that sense and people do look out for each other. Like I said, sometimes it goes the other way too where there's a lot of conflict too because they borrow things from each other …and they're still neighbors or living right above you and getting aggressive with you that kind of stuff. So yeah, there's just like any family, right? There's good and bad. There's support. And then there's the negative that comes along with it. (Joyce, health care provider)

Powerless and vulnerable (political)

The political costs of living in a rooming house are reflected in the political dimension of the social exclusion framework which includes power, access to adequate housing, social protection, power dynamics in relationships which generate unequal patterns of formal rights, policies and practices (Popay et al., 2008). Rooming house front-line service providers reflected on the position of a rooming house resident as someone without much power, which could result in illegal evictions.

> There are some houses that are phenomenal, they're really well taken care of … and then you have other [landlords] … who know that because the tenants are dysfunctional they can evict them and they won't proceed... either they have addictions issues, or mental health issues, so they won't pursue their rights, so then they can just get away with anything. (David, community agency)

During this interview, David explained that in his role, he rarely saw rooming house residents complete all the necessary steps to see a landlord complaint process through to completion.

Front-line service providers expressed how they felt residents lacked any power to advocate for the changes to their housing that would be needed to improve their health. Katie (health care provider) discussed how even she felt powerless in the overwhelming situation. "I

don't think it is fair that tenants are charged so much for a room that is infested, or has mould, or no lock, no heat, broken windows, no ventilation, no area to cook. It is just not fair…" In this situation the front-line service provider could see how rooming house residents lacked any attainable political recourse, leaving residents to fall through the cracks, increasing their vulnerability.

Isolation Can Worsen with Shared Accommodation (social)

Social costs of living in a rooming house are reflected in the social dimensions of the social exclusion framework which include friendship and family relationships that generate a sense of belonging within social systems and neighbourhood (Popay et al., 2008). Rooming house front-line service providers frequently discussed the level of isolation people experience in the rooming house environment and the impact this could have on health, describing residents as, "outside of mainstream society, they're very much outcasts or socially isolated" (Joyce, health care provider).

Rooming houses by definition have shared spaces such as hallways, washrooms, sometimes kitchens, and these create the potential for interactions, but there is a juxtaposition between forced interactions with the shared space and the opportunity to make connection. Front-line service providers shared how the shared accommodation exacerbated the need for some residents to retreat further, isolating, for their own safety, or for self-preservation.

> Somebody may owe some money and it could be a series of misunderstandings and five people get punched out upstairs that had nothing to do with it. So random violence can be a big part of the rooming house. You are minding your own business and just 'cause you live near somebody... (Darrin, housing support)

This quotation illustrates an experience that had been brought to Darrin to help. He was one of several front-line service providers who expressed a concern for the risk of violence in the shared space that could culminate for a variety of reasons such as integrating different age groups, the constant stress of poverty, mental illness, or different expectations of cleanliness. For some residents this perceived threat resulted in attempting to isolate themselves from other residents, something that could be challenging considering the shared spaces.

Front-line service providers described how a typical room was very small, approximately four-feet by five-feet with a bed often providing the only seating area. The front-line service providers noted how most residents would rarely have outside guests, and how residents would often become isolated because of the lack of available space to meet friends or family.

> But in a rooming house, you can't just do what you want when you want. . . there's limits because of the space you share, the privacy. . . there is so much you are limited to. So the social part of it, I don't really know how you can be social. (Trevor, housing support)

This quotation illustrates how rooming house residents may become isolated despite sharing accommodation.

Assimilation Stress (cultural)

There are cultural costs associated with living in a rooming house. These are reflected in the cultural dimension of the social exclusion framework, which includes the values and norms accepted and respected, stigma and discrimination (Popay et al., 2008). Stigmatization based on poverty and gender was described by the rooming house front-line service providers. "That's the kind of attitude I sense from people, you know, you are there because you deserve it and I don't think that we apply that to other people… a single man is kind of mistrusted a little bit" (Darrin, housing support). As residents internalize this stigmatization, they form certain values and

norms. Without many or any housing alternatives, rooming house residents live with the stress that they could lose their housing.

> Usually, tenants have lost their apartments and are forced to be in a rooming house which is [a] really …difficult environment and if they get evicted from there the next step is a shelter. So there is a tremendous amount of pressure of "you gotta fit in" but "I hate it." (David, community agency)

This quotation illustrates how accepted and expected behaviours "to fit in" could translate into added pressures and stress for rooming house residents. "In order to be social in a rooming house you can either be part of the group dynamic there or you have to go out somewhere to get it." (Trevor, housing support). This quote illustrates how rooming house residents may lose the supports of others in the house if they do not assimilate into the rooming house cultural group.

Rooming House Front-line service providers Wear Many Hats

This broad theme, organized by the dimensions of the social exclusion framework (Popay et al., 2008), captured the various ways that the health of rooming house residents is impacted by rooming house front-line service providers and the roles they fulfill. The subthemes are organized by the dimensions of the social exclusion framework (Popay et al., 2008). *Direct and indirect help* represents the front-line service provider's role related to the economic dimension; *navigating bureaucracy* represents the impact as a political dimension, *social contact amid isolation* represents connects the role of the front-line service provider as a social dimension, and *helping on the inside, living on the outside* reflects the front-line service provider's role as part of the cultural dimension.

Direct and Indirect Help (economic)

Rooming house front-line service providers play a significant role in helping residents meet basic needs and access material resources to sustain life. Front-line service providers directly helped residents access resources for basic needs, as well as worked behind the scenes to liaise with housing providers to check in on residents or to advocate for programs, housing or services. Front-line service providers described how they helped obtain a multitude of items including work boots, haircuts and food for residents, and the positive impact these things could have on overall health.

> If there some kind of an emergency and they need bus fare or they need shoes or they are having trouble with the landlord, or they need a new housing situation, or they need to talk to somebody… often they come to see me. (Catherine, food security)

This front-line service provider described how they are ideally positioned to offer both immediate, tangible assistance, but to open a conversation about how to offer and advocate for longer-term resources that could impact health.

Health care providers described communicating with building superintendents or landlords to inquire about specific health concerns of residents, then attempting to connect with those residents to offer support and referrals.

> I think it was important to go knocking door to door, even putting a card, even just letting them know who we are and what we do, or we came by, I think that means a lot to people. And seeing a nurse practitioner at the door means a lot to them too. (Michelle, health care front-line service provider)

This front-line service provider discussed the importance of outreach into the rooming house, and the value in a regular presence of health care providers in the building.

Navigating Bureaucracy (political)

Rooming house front-line service providers play a role in helping rooming house residents navigate systems and bureaucracy. Many community resources are uncoordinated thus requiring someone with expertise to help residents obtain items needed to make ends meet as well as navigate more complex or intimidating processes.

> I mean eighty or ninety percent of your money goes to rent, so, everything else is whatever you can access. Honestly, it's how good you are at navigating systems and making a good case for yourself… it depends how hooked in you are, or if you have a support worker, or if you're able to negotiate all these different policies, then you can get a bed, you can get sheets, you can get winter boots, you can get a winter coat, but you have to know and figure out how to actually do that. And most people don't. (William, community agency)

This quote alludes to the complex needs and how a front-line service provider can act as a liaison between residents and the necessary complex silos of services.

However, rooming house front-line service providers expressed how they often felt stuck in the middle of this bureaucracy, how they experienced guilt that they were unable to do more, or frustration that the part they played in the greater system did not make a significant enough impact on sustainable changes to improve the health of residents.

> The politics is bullshit as far as I'm concerned, because it is not a lack of knowledge. They know the problems. And it is not a lack of resources, it is a lack of willingness to change, right? … it might affect the people who are causing the problem. I hate politics. (Trevor, housing support)

This front-line care provider expressed his frustration with the entrenched status quo. Several front-line service providers acknowledged that they were busy in helping residents with crises with limited time, and they perceived that expending efforts to make systems-level changes would not produce results.

Social Contact Amid Isolation (social)

Rooming house front-line service providers were sometimes the only social contact that rooming house residents had. Rooming house residents might express to front-line service providers how their visit had a positive social impact, but oftentimes front-line service providers felt that their visits were not enough to mitigate the negative effects of isolation.

> There's probably a good percentage of people, maybe ten to twenty percent, who I'm the only person they probably talk to once a month. And that's why when I go and someone starts chatting, I'll give you at least five or ten minutes because I realize I might be the only person that you actually have a conversation with. (William, community agency)

This front-line service provider expressed how part of his contribution was just making contact with individuals during outreach to the rooming house oftentimes to people who were incredibly isolated. Katie (health care provider) discussed the importance of her role when she was listed as next of kin, "most people don't have family. Most don't have anybody. Not even a friend. So often we are the "go to" person." Mary (housing support) felt that sometimes residents purposefully isolated, while others were waiting for a social opportunity. "Some people are very isolated and closed off and they don't want to talk. Some people are more than happy to talk and I believe are lonely and would like to talk some more."

Several front-line service providers also described when residents had no other supports, their role could become crisis manager, regardless of their job title.

> The contract states that I need to be, you know, doing long term case planning with them, but in practice, it's, it's, it's very difficult to get to that point of long-term case planning because I'm heavily preoccupied with what's happening now. (Jason, housing support)

This front-line service provider expressed how the lack of social supports left him as the one social contact having to manage both small and large crises.

Helping on the Inside, Living on the Outside (cultural)

Rooming house front-line service providers might help residents feel ownership of their rooming house, but ultimately, they are outsiders. Even though front-line service providers do not live in the rooming houses, they worked towards improving conditions for residents.

> I remember one time a guy had been sleeping on the floor and I had found him a double mattress. . . and I was all excited I got this double mattress and box spring for him. And he said, "Oh, Catherine, I can't have that. My room is only that big, like I wouldn't be able to open my door." And there has been so many times in the last seven years that I realized that I am a privileged white woman and I think how stupid am I? How stupid to think that a room would be bigger than a double bed. (Catherine, food security)

This front-line service provider acknowledged she remained outside of the cultural group of rooming house residents, occasionally making blunders that made the division clear.

Although rooming house front-line service providers tried to combat stigma, the front-line service providers themselves sometimes made assumptions that showed they were outside residents' cultural group.

> You know some folks with limited or not a lot of experience working with individuals who have just dire needs you just think it's a quick fix to assume get up and go because

> we have that security of always having somewhere to stay with a meal. (Stephanie, food security)

This front-line service provider discussed the assumption of food security made by front-line service providers but highlighted how front-line service providers do not share the same starting point in addressing needs.

Discussion

Rooming houses fill a gap for low-income individuals to have an affordable housing option but living in a rooming house can negatively influence the health of residents. This qualitative descriptive study of rooming house front-line service provider interviews provided the perspective of service providers to explore the health of rooming house residents. Using a social exclusion framework that incorporated the context and broader structural issues that influence health, two broad themes were identified: *There are Many Costs to Living in a Rooming House*, and *Rooming House Front-Line Service Providers Wear Many Hats*.

The economic costs of living in a rooming house consist of more than rental housing costs which led to impoverishment, but also the compromises that residents need to made when working with others to make ends meet. In a rooming house the shared spaces and the negotiation of material resources can lead to conflict, creating a risk environment. Rhodes (2002) proposed a "risk environment" framework for understanding drug-related harm which uses a socio-ecological lens to assess risk in terms of the social situations and places in which harm is produced and reduced. Rhodes advocates for better understanding of the primary determinants of harm, in order to target remedies along the same determinant (i.e., if the cause of the harm is primarily economic, interventions should not be targeted as individual interventions but at the macro level). This is in keeping with the economic dimension of the present study that interprets

how access to resources creates relationships and situations that are greater than individual income, and interventions benefit from a broad approach to encompass these connections. From this interpretation, an example of an intervention to address the risk environment for rooming house residents would be the provision of a guaranteed basic income, as opposed to hiring a security guard for the building. Knight et al. (2014) used this framework to explore how single room occupancy dwellings (SROs) can operate as "mental health risk environments." They used the elements of the framework, overlapping environments (physical, social, economic and policy) defined across multiple levels, to assess contributors to drug-related harms within SROs. They used the example of how the physical layout of the SRO, including crowding, contributed to worse health effects when added to the social environment of drug use, requiring many people to request sleep medication.

In the present study, the risk environment both contributed to and was compounded by isolation. The social connections that helped residents to manage poverty were acknowledged, but front-line service providers highlighted the tension created by the shared spaces such as bathrooms. Most rooming houses had limited areas to have friends or family visit which alone could contribute to isolation, but front-line service providers discussed how they saw some residents limit their social interactions with other residents to avoid any misunderstandings with neighbours as a way to prevent victimization, theft and threat of physical harm. Isolation has been associated with negative health outcomes. and is garnering increased attention as we see the negative health consequences attributed to isolation caused by the current COVID-19 pandemic (Cecchetto et al., 2021; Mei et al., 2021; Seyfzadeh et al., 2019). Some of the comments made by front-line service providers took on greater significance shortly after data were collected when a rooming house resident was murdered by another resident in one of the neighbouring rooming

houses (Egan, 2020). This is an extreme example of the tensions that front-line service providers described. For rooming house residents, the risk for conflict and violence can lead to greater isolation.

The physical space of housing has been linked to health. A Cochrane review found that improving physical elements of housing improved general health, physical health, mental health and promoted social relationships (Thomson et al., 2013). Rooming house front-line service providers associated the poorly maintained dwellings with the political cost of powerlessness and inability to make sustainable change. This is different from the finding of a photovoice project where participants documented deterioration and run-down buildings and associated this with individual hopelessness (Grieb et al., 2013). In the present study front-line service providers described the potential for engagement of rooming house residents when a rooming house was well maintained. When a building was poorly maintained, front-line service providers described the unfairness for residents who would start a complaint process but could not complete it because the practice and procedures for making complaints assumed a certain capacity and ability to be present at a certain time, and to be able to be contacted by phone (which many residents did not have). The complaints process ignores the power differential of residents who feared consequences or retribution from the landlord.

The powerlessness described by front-line service providers was associated with the limited alternative housing options in the City, increasing the need for rooming house residents to find a way to function in their current living situation. Residents either isolated or assimilated with the group in the rooming house, including taking part in behaviours of the group that could have negative health consequences. This relates to study findings of social networks contributing to increased mortality of SRO residents due to drug overdose, and increased rates of acquisition

of HIV and hepatitis C (Arum et al., 2021; Rowe et al., 2019). There may be an increased cost of vulnerability and marginalization in becoming part of the rooming house cultural group.

The second theme, *Rooming House Front-Line Service Providers Wear Many Hats*, showed the many critical roles rooming house front-line service providers play in connecting with residents and optimizing their health. Underscoring the importance of front-line service providers, a recent study of the impact of professional helping relationships on the trajectories of housing stability for people facing severe disadvantage found the quality of the client-worker relationship made a significant contribution to the participants' housing stability (Sandu et al., 2021). This study found that front-line service providers play a significant role in helping to increase residents' housing stability which contributes to health, but they also contribute directly to improving health.

In the present study, front-line service providers tried to mitigate the effects of residents' poverty by providing resources or advocating with landlords for building upkeep to benefit residents. Navigating resources was recognized as a primary role of front-line service providers who saw the effort needed to move between silos of community agencies to acquire necessary resources such as food, furniture, clothing, transportation, and support. The navigation of resources by rooming house residents assumes a level of physical and cognitive ability as well as a prioritization of health over other things such as substance use and competing activities needed for survival (i.e., pan-handling). Front-line service providers noted that residents fared better if they were proficient and knowledgeable about navigating resources, but health would be optimized if a resident had the capacity and ability to recognize a need, plan, then execute how to meet their needs. Rooming house front-line service providers played a role in attempting to fill in the gaps rooming house residents may have in terms of ability to navigate systems (such as

advising of tenant rights), as well as make up for shortcomings of available resources and services (such as food, or appointment reminders).

Rooming house front-line service providers discussed the level of isolation, vulnerability, and seclusion they saw in the rooming houses, and recognized the benefit of outreach. There is a potential personal cost to front-line service providers who provide care in rooming houses, such as exposure to second-hand smoke and the risk of bringing home bed bugs. To address the negative health effects of isolation, but mindful of the capacity of the current service providers, further study and thoughtful consideration needs to be given as to how best to continue to provide outreach to rooming houses. A study utilizing peers to address overdose risk in SROs in Vancouver described multiple barriers to their ability to provide care, including challenges related to gender, space, and the social environment (Collins et al., 2020). If rooming houses continue to be risk environments, front-line service providers need to consider how to continue to safely provide the essential care and services in the buildings to continue to be able to help residents navigate community services, acquire resources, and address social isolation. It is important for front-line service providers to share experiences with decision-makers to advocate for rooming house residents to have an adequate income, food and housing security which would contribute to diminishing risk when providing outreach.

Front line service providers described moral distress in working with people living in poverty when they could never fully appreciate the situation of rooming house residents. They too felt powerless to make structural or policy changes that would have an impact on health. Front-line service providers recognized how they may approach care of this marginalized group given their place of relative privilege, and they needed to be creative in their approach to address issues and situations that impact the health of residents. Care providers who ask about the social

determinants of health and social problems are most likely to feel like they have helped an individual (Naz et al., 2016). The social exclusion framework (Popay et al., 2008), based on the social determinants, may offer front-line service providers a way to better understand how the dimensions of exclusion contribute to the health of rooming house residents, and where and how best to target interventions. More research is needed on how to effectively build community capacity and to engage community members equitably to focus on policy reform and systems change.

Strengths and Limitations

There were several strengths of this study. We aimed to build on the knowledge of factors that contribute to the health of rooming house residents by eliciting the contributions of rooming house front-line service providers from a variety of disciplines. The limited number of nurses who provide care to rooming house residents provided an opportunity to include other front-line service providers in this analysis, emphasizing the diversity of professionals who contribute to the health of rooming house residents. Although nurses have been encouraged to challenge policies that contribute to health inequities and poverty (Delvin et al., 2018), this study suggests that we need to work with other disciples to engage in discussions with communities to make any meaningful progress. The use of the social exclusion framework (Popay et al., 2008) may have led to findings based on structural variables that may not otherwise have been highlighted.

There were several limitations to this study. As one component of a larger case study, the purpose of undertaking interviews was to provide additional data on the relationship between rooming houses and the health of the residents. It would be important in future research to gain the perspective of rooming house residents. Data collection for this study was conducted by a

nurse who had worked in rooming houses, and although the researcher engaged in critical reflection, there is a risk of bias and responses of participants may have been influenced. The social exclusion framework (Popay et al., 2008) guided data analysis, and using a different framework or no framework at all may have produced different results.

Conclusion

There are few affordable housing alternatives for a segment of the population, and the factors that affect the health of rooming house residents needs to be addressed to minimize the social exclusion of residents. Rooming house front-line service providers have contributed to increasing our knowledge of how rooming houses are linked to health. Even the highest quality rooming houses have residents that have difficulty accessing the material resources needed to achieve optimal health and an acceptable quality of life because of pervasive poverty, powerlessness, isolation and stigma. Rooming house front-line service providers play critical roles in ensuring the health and safety of rooming house residents, navigating systems and providing direct and indirect help.

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Transition to Manuscript Three

Manuscript One and Two provided the perspectives of rooming house residents and rooming house front-line service providers in trying to understand how rooming houses are linked to health. Manuscript Three addresses the third proposition of the study, to situate rooming house residents along the housing/homelessness continuum. This manuscript analyzes data from the City of Ottawa and provides the perspective of the City in describing what resources are accessible to rooming house residents, specific to how the municipality defines rooming house residents along the housing continuum.

The idea for this manuscript came from my clinical practice when a former rooming house resident moved back into the shelter to be able to "keep his place" on the wait list for a housing subsidy provided by Housing First funding that was only accessible to people living in the shelter for six months or more (City of Ottawa, 2015). At the time, this gentleman felt he would be unable to manage financially in the rooming house. I learned about the Housing First strategy adopted by the City that triaged financial and housing resources based in large part on health indicators (mental health, physical health, addictions). It made me curious about how similar or different rooming house residents and homeless shelter residents were in terms of the health indicators used by the City. The definition of who is considered homeless has implications for social policy, resource allocation, service delivery, and ultimately the health of people included and excluded in the definition.

"Rooming Houses vs Sheltered Homeless in Ottawa, Canada: A Secondary Data Analysis of Select Health Indicators" (to be submitted to Health and Social Care in the Community) presents the findings of a secondary data analysis of two service prioritization tools on measures of health comparing rooming house residents to a group of sheltered homeless. As

Housing First programs continue to receive the bulk of funding to help address homelessness, one approach to ensure adequate resources for rooming house residents is to make a comparison of the health needs of rooming house residents to sheltered homeless. This manuscript provides a comparison of data, using the same tool that is currently in use in many municipalities to assess and triage housing resources for sheltered homeless.

Chapter Four

Rooming Houses vs Sheltered Homeless in Ottawa, Canada: A Secondary Data Analysis of Select Health Indicators

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Abstract

The City of Ottawa uses a vulnerability assessment tool to prioritize who would benefit from the scarce housing support resources to improve long-term housing outcomes. Municipalities currently make a distinction between rooming house populations and sheltered homeless populations, despite the argument that housing is on a continuum and drawing the line at who is considered homeless is somewhat arbitrary. The adoption of a Housing First approach to homelessness and the exclusion of rooming house residents from the municipal definition of homelessness directly impacts the health of rooming house residents through access to resources and housing supports. The purpose of this manuscript was to assess select health indicators of the existing measure for resource allocation of housing services and compare how the needs and resources of rooming house residents differ from sheltered homeless people in Ottawa to help situate rooming house residents on the housing continuum. Descriptive statistics were used to compare select health indicators from the tool used to screen housing and support needs (VI-SPDAT, PR-VI-SPDAT) between a sample of rooming house residents (n = 52) and a sheltered homeless sample (n = 60) from Ottawa, Canada, collected between November 2018-November 2019. The data were collected as part of a larger case study on the health of rooming house residents. The study results indicate that rooming house and shelter residents are more similar than different when several health indicators are compared, including frequency of care received in the emergency room, number of times hospitalized as an inpatient, number of nights in jail and if drinking or drug use made it difficult to stay housed or afford housing. We may need to redefine homelessness to include those on the housing continuum who share similar health challenges, and secure adequate resources, if we are to improve the health of rooming house residents

Keywords: housing, right to heath, social inclusion, social determinants of health, vulnerable populations, health status disparities, homeless persons

What is known about this topic and what this paper adds?

- Rooming house residents are excluded from Housing First funding because they do not meet the definition of homeless
- This secondary data analysis found similar health needs among people living in rooming houses compared to those who are sheltered homeless
- One way of preventing rooming house residents from slipping further along the housing/homelessness continuum which would negatively impacting their health, is to expand the definition of homelessness to ensure rooming house residents are provided equitable supply and access to needed resources

Compared to the general population, residents of single-occupancy dwellings, such as rooming houses, live in greater risk environments and have a greater burden of disease and can therefore expect to die prematurely (Barbic et al., 2018; Rowe et al., 2019). Rooming house residents have been considered as hidden homeless people who live in temporary or provisional accommodation or in a situation that is not sustainable (Crawley et al., 2013). People experiencing hidden homelessness tend not to access traditional services, or identify as homeless, so they become invisible to the service system and ultimately become further excluded from services and supports (Kauppi et al., 2017).

Housing First as an approach to homelessness has been successful in many countries, including Canada, with its initial steps of moving people experiencing homelessness into housing and then providing customized services and supports (Gaetz et al., 2013). As part of the implementation of Housing First, the City of Ottawa, like several municipalities provincially, nationally, and internationally, uses a vulnerability assessment tool to prioritize who would benefit from the scarce housing support resources to improve long-term housing outcomes (Brown et al., 2018; OrgCode, 2015) and subsequently improve health. The tool assesses mental health, medical, and social vulnerabilities to screen and triage who can access community housing supports and resources (Brown et al., 2018). According to the limited definition of homelessness used by most municipalities in Ontario originating from the Federal Homelessness Strategy, rooming house residents are currently excluded from the benefits of Housing First supports, including rent subsidies, supportive and subsidized housing prioritization, and case management supports (Government of Canada, 2018; Homeless Hub, 2019). There are potential missed opportunities to improve the health of rooming house residents through access to Housing First resources, but there is a gap in understanding the extent of the overlapping health

issues and needs for housing supports and resources of people who meet the current municipal definition of homeless and rooming house residents.

Background

A rooming house is private accommodation regulated by the municipality if there are more than four individually rented rooms in a building where residents share a bathroom and/or kitchen (City of Ottawa, 2016). Similar to single room occupancy (SRO) hotels, and houses of multiple occupation (HMO), rooming houses are a type of single-occupancy dwelling that have been called 'housing of last resort' for poor individuals living in poverty in search of affordable housing as an alternative to emergency shelter (Dum, 2014). While there is a need for affordable housing for single adults, rooming house residents often struggle with inadequate physical housing conditions and rely on many food and support services to meet the basic needs of daily life (Somerset West Community Health Centre, 2017). Most often rooming houses are considered provisional or transitional housing by the housing and homelessness sectors, suggesting these accommodations are temporary, but there is disagreement where rooming houses fit on the housing continuum (Canadian Observatory on Homelessness, 2012; Tanner, 2019). Housing is not a static concept, rather we can conceptualize housing and homelessness on a continuum, a model of linear progression that visually depicts different segments of housing (Elver, 2019). The continuum ranges from absolute homelessness to stable housing and has an area of unstable housing that includes rooming houses. Figure 1 shows the proposed placement of rooming houses on the housing continuum.

Where we situate rooming houses on the continuum is important as it dictates how we define homelessness, who is considered homeless, and subsequently who is able to access resources for the homeless.The authors of a longitudinal study in San Francisco describe "true

homeless" as people who live in streets and shelters, and the "marginally housed" as people who live in low-cost single room occupancy (SRO) hotels, and together these groups make up the urban homeless population (Hahn et al., 2004). The authors of the Health and Housing in Transition (Hhit) study found it was a false division between the definitions of homelessness and vulnerably housed, because vulnerably housed people had spent almost as much time homeless as the homeless group did (Hwang et al., 2011). The authors proposed instead to define the concept not as two distinct groups, but one large severely disadvantaged group that transitions between two housing states. In calculating the probability of survival to age 75, compared to the general population residents of shelters, rooming houses and hotels were grouped together in the analysis, and found to have a considerably shorter life expectancy, with only about a third (31%) expected to live until age 75 (Hwang et al., 2009; Tjepkema & Wilkins, 2011).. One study assessing differences between perceived mental and physical quality of life found no differences between people living in a rooming house and people who are homeless (Magee et al., 2019). The authors concluded that the concept of housing status does not fully capture an individual's needs and experiences. It is not uncommon to include rooming house residents in studies of homelessness, because the samples are often drawn from places where people who are homeless or unstably housed frequent. Gadermann et al. (2014) used the acronym HVH to represent their sample of homeless and vulnerably housed participants who were recruited at homeless shelters, meal programs, rooming houses, and a supervised injection site.

It would stand to reason that rooming house residents and individuals living in an emergency shelter would have similar health indicators, and therefore similar health needs, suggesting a health benefit in having access to the same resources and supports. One of the ways this could be accomplished is to consider how homelessness is defined, and where rooming

houses are situated on the housing and homeless continuum, as it dictates how resources are shared.

Defining Homelessness

There is no single definition of homelessness and the definition continues to evolve considerate of time, culture, population groups, and geography. The Canadian 2016 point-in-time count of homelessness showed a more diverse picture of homelessness than any previous time in history (Gaetz et al., 2016). For instance, a youth may have a different experience of homelessness, from a veteran; a transgender person may have a different experience of homelessness depending on if they live in a rural or urban location; experiences of homelessness are different between Indigenous and non-Indigenous peoples. These complexities make defining homelessness a delicate and difficult task.

The definition of Indigenous homelessness in Canada, based on twelve typologies, brings in the idea that homelessness should be considered in a social and historical context; not based on a structure of habitation, but through a lens of generational trauma and the effects of colonization (Thistle, 2017). One change that resulted from engagement with Indigenous Peoples to help recognize the distinct homeless experiences of Indigenous Peoples in Canada has been the inclusion of the definition of "having no home" in the Federal Homelessness Strategic Directives (Government of Canada, 2019) to include:

> Those who alternate between shelter and unsheltered, living on the street, couch surfing, using emergency shelters, living in unaffordable, inadequate, substandard and unsafe accommodations or living without the security of tenure; anyone regardless of age, released from facilities (such as hospitals, mental health and addiction treatment centres,

prisons, transition houses), fleeing unsafe homes as a result of abuse in all its definitions, and any youth transitioning from all forms of care (3rd definition)

By recognizing the effects of colonization, trauma and social exclusion in the definition of Indigenous homelessness, homelessness is interpreted more broadly, ensuring more people encounter fewer barriers and have access to support and housing resources.

There is increasing acknowledgement in the homelessness and academic communities that homelessness is more than a lack of roof, but a concept with different dimensions (Batterham, 2018). Homelessness is less about the accommodation, and instead shifts focus to the social context, including adverse social conditions, as more useful in planning successful interventions (Mabhala et al., 2017). This broad systems-level conceptualization of homelessness is in keeping with systematic reviews that found not only does the physical structure of housing impact health, but so too do the social resources (Jacobs, 2011; Krieger & Higgins, 2002) and economic burden of housing costs (Bambra et al., 2010). Moving away from a static narrow definition of homelessness provides an opportunity to consider the health implications if rooming houses were to be considered in the Canadian definition of homelessness.

Ottawa Example

The emergency shelters in Ottawa have become a hub of resources available to shelter residents, including a dental clinic, hospice, managed alcohol program, short-term rehabilitation unit, and outreach (Ottawa Inner City Health, 2020). In 2014, Ottawa adopted a Housing First approach in order to address increased numbers of people waiting on the subsidized housing list, an increase in the number of individuals using emergency shelters, and the growing demand on too few housing resources (City of Ottawa, 2019). This was part of a federal government funding change in 2015, where sixty-five percent of federal funding in Canada's ten largest communities,

including Ottawa, were mandated to be allocated through Housing First programs (Government of Canada, 2018). Rooming house residents were not included in the definition of homelessness. To access Housing First supports, an individual had to have a measurable 180 days of homelessness over the past year, or recurrent homelessness in the past three years with a cumulative duration of at least 18 months (City of Ottawa, 2020). When the Housing First approach was implemented, the Housing Loss Prevention (HLP) model was de-funded resulting in catastrophic losses to many programs that targeted the prevention of homelessness for vulnerably housed individuals (Taylor & Stephenson, 2018). With the adoption of Housing First, there was an immediate loss of staff and reduction in programs and outreach to rooming houses because these residents were considered housed and therefore would not qualify for any Housing First money, supports or programs.

As part of the Salvation Army's Housing Response Team one rooming house case manager position was re-established approximately a year after funding cuts, and this person has helped to assess the health and housing needs of rooming house residents in order to connect them to resources (The Salvation Army, 2017). This rooming house case manager administered one of the screening tools used by Housing First for vulnerable adults to rooming house residents on the outreach caseload, originally with the idea that changes may be made in the City of Ottawa to include rooming house residents in Housing First triage streams (T.Evans, personal communication, November 29, 2019). There was a change made to federal funding of municipal homelessness resources in 2019 as part of Reaching Home: Canada's Homelessness Strategy, that removed the Housing First targets and encouraged communities to cater programs based on annual community reports and outcomes (Government of Canada, 2019). The City of Ottawa (2020) did change their definition of homelessness to include people who, "…spent time in

different contexts including staying temporarily with others without guarantee of continued residency as well as individuals discharged into homelessness from transitional housing or public institutions" (p.124). Even after the new Federal Homelessness Strategy, rooming house residents were not included in the City of Ottawa's data collection and reporting on homelessness and were not eligible to access Housing First resources.

The data from the tools collected by the rooming house outreach case manager has never been analyzed. It would be reasonable to hypothesize that sheltered homeless individuals and rooming house residents are similar in acuity, but it is worthwhile to provide a comparison considering municipalities currently make a distinction between rooming house populations and sheltered homeless populations, and there are far-reaching implications for money, support and services. The purpose of this paper is to present the findings from an assessment of the existing measure for resource allocation of homeless services (VI-SPDAT) and resource screening (PR-VI-SPDAT) and compare how the needs and resources of rooming house residents differ from sheltered homeless people in Ottawa to help situate rooming house residents on the housing continuum.

Methods

We conducted a secondary data analysis using a sample of rooming house residents (n = 52) and a sample of emergency sheltered individuals (n = 60) comprised of adult males over the age of 18. This data analysis is one part of a larger case study exploring the health of rooming house residents. This study received ethics approval from the Health Sciences and Science Research Ethics Board of the University of Ottawa (H-05-19-3008 – ANNI-3008).. Permission for the administrative data was received from the Salvation Army and City of Ottawa.

Samples

Information was drawn from two data sets. For the first data set, the City of Ottawa provided anonymized information from shelter residents (n = 60). The respondents were chosen by a computer-generated random selection of shelter residents who had completed the Vulnerability Index-Service Prioritization Decision Assistance Tool (VI-SPDAT) Canadian Version 2.01(OrgCode, 2015) between November 2018-2019. These respondents comprised the sheltered homeless grouping variable for data analysis. The second data set (n = 52) was provided by the community agency contracted by the City of Ottawa to provide outreach case-management services to rooming houses and included data from two related tools. For rooming house residents referred to their program, the agency used the VI-SPDAT Canadian Version 2.01 but later used the Prevention/Re-Housing Pre-screen Tool for Single Adults (PR-VI-SPDAT) Version 1.0 Canadian Edition (OrgCode, 2016). All available PR-VI-SPDAT and VI-SPDAT tools completed by rooming house residents at the time of data collection (November 2019) comprised the rooming house grouping variable for the data analysis.

Service Prioritization Decision Assistance Tools

The VI-SPDAT and PR-VI-SPDAT are the tools used to decide resource allocation with Housing First by isolating variables that can impact housing and level of beneficial support. According to the developers, the VI-SPDAT is a tool that can be used by organizations and municipalities to assess acuity, help to prioritize who to serve, and to identify areas where support is necessary to avoid housing instability (OrgCode, 2015).

The PR-VI-SPDAT tool for single-adults is a 35-item questionnaire organized by two domains and six sub-domains: Safety (e.g. “Have you experienced violence or threats of violence in the last six months that has had an impact on feeling safe where you live?”), Long-Term

Housing Stability (e.g. Do you have any legal stuff going on right now that may…make it more difficult to stay housed?"), History of Housing and Homelessness (e.g. "At any point in the last three years have you stayed in a shelter, in your car… or any other place not fit for people to live?"), Personal Administration & Money Management (e.g. "Is there any person, landlord….that thinks you owe them money?"), Meaningful Daily Activity (e.g. "Do you have planned activities, other than just surviving that makes them feel happy and fulfilled?"), Self-Care and Daily Living Skills (e.g. "Are you currently able to take care of basic needs like bathing, changing clothes, using a restroom, getting food and clean water, and other things like that?"), Interactions with Emergency Services (e.g. "In the past six months, how many time shave you… received health care at an emergency department?"), and Wellness (e.g. "Have you ever had to leave an apartment residential program or other place you were staying because of your physical health?") (OrgCode, 2016).

The VI-SPDAT tool for single adults is a 26-item questionnaire organized by four domains: History of Housing and Homelessness (e.g. "In the last year how many times have you been homeless?"), Risks (e.g. "In the past six months, how many times have you… been hospitalized as an inpatient?", Socialization & Daily Functioning (e.g. "Are you currently able to take care of basic needs like bathing, changing closes, using a restroom, getting food and clean water and other things like that?", and Wellness (e.g. "Do you have any chronic health issues with your liver, kidneys, stomach, lungs or heart?") (OrgCode, 2015).

Both tools assess risks of housing stability and vulnerability and overlap by using the same wording to assess 19 items that relate to health. Training is needed to administer the tools, as responses to the PR-VI-SPDAT and VI-SPDAT rely on the assessor's ability to interpret and corroborate responses. Responses from these tools provide a picture of the burden of chronic

health conditions, physical or mental health disabilities, or addictions (Winetrobe et al., 2017). Although for rooming house residents two different tools were used, the items, or variables chosen to analyze were the same from the domains related to *risks, socialization and daily functioning, and wellness* (Canadian Alliance to End Homelessness, 2018). Questions ($N = 19$) are a mix of categorical data ($n = 13$) (i.e., are you currently able to take care of basic need…?) and interval data converted to scale data ($n = 6$) (i.e., how many times you have received health care at an emergency department…?). In practice, scores for variables in each of the two domains and six sub-domains of the PR-VI-SPDAT, and each of the four domains of the VI-SPDAT are combined (i.e., if the total number equals 4+ then score 1; if "yes" then score 1) so each variable on its own is not scored; instead it contributes to the weight of the domain and results for each domain are totalled to provide a scoring summary that gives a recommendation of level of support or housing intervention.

Statistical Analysis

Chi square tests were performed to examine the relationship between grouping variables (type of housing, rooming house or shelter) and the descriptive health items, or variables from the VI-SPDAT and PR-VI-SPDAT, the assessment tools adopted by the City of Ottawa for triaging Housing First services. Fisher's exact test was used when more than 20% of cells of the contingency tables had expected frequencies less than 5. Statistical tests were 2-tailed, and $p \leq 0.05$ was considered statistically significant for the descriptive statistics. All statistical analyses were performed using SPSS statistical software version 26.

Results

Based on data analysed, rooming house and shelter residents were similar in respect to ability to take care of basic needs, frequency of ER visits, number of times they have used an

ambulance, number of hospitalizations, frequency of use of crisis services, police contact, number of nights in jail and being kicked out of housing because of drinking or drug use. Rooming house and shelter residents were similar in respect to drinking or drug use causing difficulty with housing, maintaining housing because of a mental health issue, maintaining housing because of a head injury, maintaining housing because of a learning impairment, living independently, compliance with medications and diversion of medications (Table 1).

Based on analyses, rooming house residents differ from shelter residents in respect to leaving housing because of physical health, chronic health issue affecting housing, physical disability affecting housing and avoiding help when sick.

Table 1

Correlation Analysis of VI-SPDAT and PR-VI-SPDAT Variables between Shelter and Rooming House Residents

Variable[1]	Shelter			Rooming House			x^2	*p*	*df*	*phi*
	n	%	*N*	*n*	%	*N*				
Unable to self-care	7	11.7	60	10	19.2	52	1.238	.27	1	.266
Received care in ER			60			52	2.933	.57	4	.162
0 visits	41	68.3		29	55.8					
1-3 visits	15	25.0		16	30.8					

[1] Variable descriptions abbreviated. Full variable description available from the first author upon request.

Variable[1]	Shelter			Rooming House			x^2	*p*	*df*	*phi*
	n	%	*N*	*n*	%	*N*				
4-6 visits	2	3.3		3	5.8					
7-9 visits	0	0.0		1	1.9					
10+ visits	2	3.3		3	5.8					
Taken ambulance			60			52	4.709	.319	4	.205
0 times										
	47	78.3		35	67.3					
1-3 times	11	18.3		13	25					
4-6 times	0	0.0		1	1.9					
7-10 times	0	0.0		2	3.8					
10+ times	2	3.3		1	1.9					
Hospitalized as an			60			52	2.612	.455	3	.153
inpatient										
0 times	50	83.3		38	73.1					
1-3 times	9	15.0		11	21.2					
4-6 times	0	0.0		1	1.9					
7-10 times	0	0.0		0	0.0					
10+ times	1	1.7		2	3.8					
Used crisis service			60			52	6.230	.183	4	.236
0 times	48	80		48	92.3					
1-3 times	10	16.7		3	5.8					
4-6 times	1	1.7		0	0.0					

Variable[1]	Shelter			Rooming House			x^2	*p*	*df*	*phi*
	n	%	*N*	*n*	%	*N*				
7-10 times	0	0.0		1	1.9					
10+ times	1	1.7		0	0.0					
Talked to police			60			52	.188	.980	3	.041
0 times	37	61.7		30	57.7					
1-3 times	19	31.7		18	34.6					
4-6 times	3	5.0		3	5.8					
7-10 times	0	0.0		0	0.0					
10+ times	1	1.7		1	1.9					
Incarceration			60			52	6.874	.032	2	.248
0 times	50	83.3		51	98.1					
1-3 times	9	15.0		1	1.9					
4-6 times	1	1.7		1	1.9					
7-10 times	0	0.0		0	0.0					
10+ times	0	0.0		0	0.0					
Left housing	0	0.0	59	8	15.4	52	-	.002[a]	1	.297[b]
Chronic health issue	10	16.9	59	29	55.8	52	18.277	.001	1	.406
Physical disability	3	5.1	59	20	38.5	52	18.744	.001	1	.411
Avoid help	8	13.6	59	24	47.1	51	14.882	.001	1	.368
Use eviction	13	22	59	16	30.8	52	1.093	.296		.099
Substance use	3	5.1	59	6	11.5	52		.301[a]	1	.118[b]
housing problem							-			

Variable[1]	Shelter			Rooming House			x^2	*p*	*df*	*phi*
	n	%	*N*	*n*	%	*N*				
Mental health eviction	11	18.6	59	12	23.1	52	.331	.565	1	.055
Head injury eviction	3	5.1	59	3	5.8	52	-	1.00[a]	1	.015[b]
Learning/Develop-mental eviction	6	10.2	59	7	13.5	52	.290	.590	1	.051
Live independent	6	10.2	59	11	21.2	52	2.571	.109	1	.152
Should take meds	8	13.6	59	9	17.3	52	.299	.584	1	.052
Adherence/Diversion	3	5.1	59	7	13.5	52	-	.185[a]	1	.146[b]

[a] Fisher's exact (2 sided)
[b] Cramer's V

Variables with No Statistically Significant Difference

Shelter residents are no more likely than rooming house residents to self-report inability to provide self-care (X^2 (1, N = 112) = 1.24, p = .27). There is also no statistical difference (at a .05 level) between shelter residents and rooming house residents in the last six months in terms of frequency of care received in the ER, number of times an ambulance has been taken to the hospital, number of times hospitalized as an inpatient, frequency of use of crisis service, police contact, or number of nights in jail. Shelter residents and rooming house residents are equally likely to be kicked out of housing because of drinking or drug use ($p < .05$); 22% of shelter respondents and 30.1% of rooming house respondents had previously been kicked out because of drinking or drug use.

There was no significant difference between respondents who were asked if drinking or drug use made it difficult to stay housed or afford housing ($p < .301$). There was also no difference between rooming house residents and shelter residents in terms of maintaining housing because of a mental health issue (X^2 (1, N = 111) = .331, p = .565), because of a past head injury (p = 1.0), or because of a learning impairment (X^2 (1, N=111) = .290, p = .590). When asked if a brain or mental health issue make it difficult to live independently, over 30% of respondents reported "yes" they did find it difficult to live independently, but there was no difference between shelter residents and rooming house residents (X^2 (1, N=111) = 2.571, p = .109). There was no significant difference between rooming house and shelter residents in terms of self-report of noncompliance with medication (X^2 (1, N=111) = 0.299, p = .584), or mishandling of prescribed medications (p =.185).

For the majority of the variables in three domains, there was no significant difference between rooming house residents and shelter residents; the two groups shared the same risks, burden of illness and level of disability affecting housing need.

Rooming House and Shelter Resident Differences

Rooming house residents were more likely than shelter residents to report they had to leave the place they were staying because of a physical health issue (p = .002). Rooming house residents were more likely than shelter residents to self-report a chronic health issue that affects accessing appropriate care or difficulty in staying housed (X^2 (1, N = 111) = 18.27, p = .001). Rooming house residents were more likely than shelter residents to self-report a physical disability that limits their housing type (X^2 (1, N = 111) = 18.74, p = .001). Rooming house residents were more likely than shelter residents to avoid medical help when sick (X^2 (1, N = 110) = 14.882, p = .001). There were differences in four variables, all in the wellness domain,

where rooming house residents showed a greater burden of illness and disability that would affect housing needs.

Discussion

This secondary data analysis found that rooming house residents share a high burden of health concerns, similar to that of shelter residents, and in some cases rooming house residents fare worse on health indicators. The secondary data analysis highlights the ways in which rooming house residents may have similar or increased risk for adverse health outcomes when compared to shelter residents. The results suggest that there is no difference between the two populations for many health issues, and in some cases rooming house residents have a higher level of acuity. The results support the idea that housing and homelessness exists on a continuum and that rooming house residents, as a very disadvantaged population, are more similar than different from shelter residents in terms of health and housing need. These results are in keeping with the HHit study (Hwang et al., 2011) that found that the division between those vulnerably housed and people who are homeless was indistinct. However, unlike the HHit study that focused on the transience of the vulnerably housed to contribute to this false division between the two groups, this secondary analysis showed that the two groups had similarities based on their health needs.

Differences between the two groups can partially be explained by housing history and resource availability. The variables that showed rooming house residents as being more likely to leave housing because of a health issue or have a chronic health issue that prevents access to appropriate housing could be explained by rooming house residents having a more recent experience with housing. It is not surprising that rooming house residents are more likely not to seek health care when they are sick, because for shelter residents, the city is fortunate to have the

services of an extensive shelter-based health care network with programs at every emergency shelter site (Ottawa Inner City Health, 2020).

In order to improve the health of rooming house residents, we need to look where rooming house residents are situated on the continuum of housing and homelessness. The Canadian Observatory on Homelessness (2012) provides a definition of homelessness that includes four typologies of homelessness, including: unsheltered, emergency sheltered, provisionally accommodated and at risk of homelessness. This definition recognizes homelessness is not a static state but a fluid experience, with sheltered circumstances shifting frequently and sometimes dramatically. Under this definition, people living in rooming houses are included in the subset of provisionally housed and would therefore be considered homeless. The definition of homelessness has implications for social policy, resource allocation, service delivery, and ultimately the health of people included and excluded in the definition of homeless. If the City of Ottawa used the Canadian Obervatory's definition, rooming house residents would be captured within the official municipal definition of homeless, and they would be eligible for the same resources that can be accessed through Housing First funding. The funding mechanisms may change over time, but by changing the municipal definition of homelessness, residents of rooming houses would be included in future considerations for resource distribution.

Changing the definition may fit better with other jurisdictions that look at homelessness and poverty as mechanism of social and econominic participation (Saunders, 2003). This is in keeping with a social exclusion lens which views measures of inadequate income and material resources as only one dimension of the complex phenomena of exclusion, and instead advocates for a range of indicators of living standards such as level of empowerment, cultural acceptance, and sense of social belonging (Abrams et al., 2007). The level of exclusion defined by these

dimensions influences biological determinants to create different exposures to vulnerabilities that ultimately leads to health inequalities (Popay et al., 2008)

Rooming house residents may be reluctant to consider themselves homeless, and for people living in vulnerable housing, the change in status from housing to homelessness may be meaningless because it does not affect their health (Sylvestre et al., 2018). However, if municipalities moved away from a static, narrow definition of homelessness and included rooming house residents, it would give attention to the needs of vulnerable populations, such as rooming house residents, as deserving of the same resources, such as Housing First supports, that may positively influence health. However, there needs to be increased funding and resources to capture all groups of people along the housing and homelessness continuum rather than simply expanding the demand but keeping the supply the same.

Strengths and Limitations

There were several limitations of this study. There is an assumption that data were drawn from a normally distributed population of measurement. However, considering the small sample size, this would be difficult to ensure. In theory, if a person had been living in a shelter for six months, then moved to a rooming house, we could be sampling the same person. The length of time a resident lived in the rooming house before completing one of the tools was not indicated, and therefore it is possible that findings indicate health issues related to transience or multiple moves rather than conditions affected by housing, although this is unlikely, considering the timeframes and the referral wait time to complete an assessment tool. There may be sampling bias as the rooming house respondents were all referred to case management in theory because they have high needs. And although the sample of shelter residents would have been homeless for a minimum of six months, we may not have the same representation of high need from the

sample. Ideally the data set would have been presented with basic demographics, but because the rooming house responses were accessed and transcribed from paper and considering the authors' familiarity with many of the population, it was deemed most ethical to open to the second page of the tool, thus omitting date of birth and age. It is important to consider how to collect this information in future studies, considering the intersection of an individual's age, gender, and race influences their level of vulnerability, and a person with multiple positions of disadvantage may not be captured in our quantitative assessment tools (Cronley, 2020) The SPDAT does not analyze each question individually, but instead weights a section of questions, so this analysis is more specific than that which would be presented by groupings.

Importantly, use of the VI-SPDAT tools have been criticized for reliability and validity in practical use (Brown et al., 2018). Although service agencies may continue to use the tool, OrgCode has recently released a statement that it will no longer support the tool citing concerns with fidelity with administration of the tool and wanting to reduce the distraction of debates about it (De Jong, 2021). The emphasis on Housing First methods as the mechanism to determine need and prevent homelessness has also been criticized, suggesting instead a prevention framework recognizing the merits of multiple strategies to act along multiple pathways that contribute to homelessness (Oudshoorn et al., 2020). Although concerns with the SPDAT tools are widely recognized in practice, and the tool is no longer used with Indigenous persons in Ottawa, these tools were chosen to be evaluated because at the time of the study the City based funding decisions and resource allocation on the outcome measures of these tools.

One of the strengths of the study is the use of health indicators, and health status in helping to situate rooming house residents on the housing/homelessness continuum. The rooming house data for this study had not been analyzed previously. It is useful to understand the

perspective of the municipality and how resources accessible to rooming house residents are determined, as this has implications for the health of rooming house residents.

Implications for Research and Practice

In 2019, Canada implemented Reaching Home: Canada's Homelessness Strategy which provides support and funding for designated communites, and has an aim to reduce chronic homelessness in Canada by 50% before the end of the next decade (Echenberg & Munn-Rivard, 2020). This is problematic for rooming house residents as they are currently defined on the housing continuum. They will again be overlooked in municipal counts of homelessness, and therefore programs and funding, just as they had been before the federal homelessness strategy. This manuscript argues for the supports of Housing First for rooming house residents- which include access to workers, rent supplements, and specialized housing programs- and to prioritize people living with housing instability. However, we also need to look at what other resources rooming house residents require to meet their cultural, social, and economic needs to achieve a quality of life that has lasting positive health implications. We need to address the needs of rooming house residents and other peoples along the housing and homelessness continuum from a health equity perspective (Srinivasan & Williams, 2014).

Ideally, we would evaluate the risks and benefits of Housing First implementation, not just for those sheltered homeless populations that are currently being followed, but with vulnerable populations who have been affecteed when municipalities adopt an exclusively Housing First approach. However, rooming house residents can be a difficult population for researchers to identify and to gain physical access to dwellings to garner study participation (Hwang et al., 2003; Vila-Rodriguez et al., 2013). If recruiting outside of the rooming house, residents do not always know or admit that they live in a rooming house (Freeman, 2017; Oriole

Research & Design Inc, 2008). It may also be difficult for a resident to know if they are living in a regulated or unregulated rooming house. There is a need for further research involving rooming house populations considering their high burden of illness and increased mortality compared to the general population and in keeping with sheltered homeless individuals (Hwang et al., 2009).

The onus to advocate for adequate resources for rooming house residents cannot fall only to nurses and health care providers, but also needs to fall to policy makers and people in decision-making positions. However, there is increasing recognition from health care providers that to improve the health of vulnerable groups, we need to develop strategies to address inequities, ask about social determinants of health, and advocate for wider social change (Naz et al., 2016). The recognition that housing is a social determinant of health with implications for individuals, families and communities has fueled a growing movement to change legislation to make not just housing, but adequate, affordable housing a human right (Amnesty International Canada et al., 2018; Crowe, 2011; Hale, 2016). In future, other measures of validated tools should be considered to compare and evaluate the effectiveness of current approaches to addressing and preventing homelessness, such as quality of life measures (Hubley et al., 2014).

Conclusion

Municipalities need to reflect how we define homelessness and where rooming houses are situated on the housing and homelessness continuum. The implications for those who do and do not have access to social and financial supports and housing programs that are currently only available to anyone who has been defined as “homeless” can have far-reaching health implications. Nurses and policy-makers need to advocate for the definition of homelessness to be flexible enough to include people on the housing continuum who share similar health needs (such as rooming house residents) to ensure equitable supply and access to needed resources

ultimately to improve health.

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Figure 1

The Adapted Housing Continuum

Note. Adapted from Canada Mortgage and Housing Corporation, Housing Continuum, 2018. This does not constitute an endorsement by Canada Mortgage and Housing Corporation this product.

Permission From CMHC to use Housing Continuum Figure

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Transition to Manuscript Four

This last manuscript provides another perspective to inform the case study, and an additional data source. Manuscript Four addresses both the proposition to document the needs and resources of rooming house residents in Ottawa that contribute to health, but also the proposition to document the contextual factors (political/social/cultural/economic) that contribute to social exclusion of rooming house residents.

The original idea to have multiple focus groups that were involved in interpreting photos was to provide multiple perspectives, with the knowledge that meaningful involvement of vulnerable populations as part of focus groups may be challenging. Focus groups have been suggested as an alternative to individual interviews as a way to member check, or verify the interpretation of data and minimize researcher bias (Birt et al., 2016). Co-creating personas at the end of the traditional focus group acted towards member checking, as participants were asked to verify the ideas that came through in the focus groups, but in another data collection format. The co-creation of personas further documented the needs and resources of rooming house residents in Ottawa that contribute to their health, describing complex mental and physical health challenges, including substance use, and the struggle to cope with isolation, inadequate housing, and an inadequate income.

"*Personas Facilitate Integration of Vulnerable People's Voice in Photo-Elicitation Research*" (to be submitted to *Qualitative Research*) presents the findings of the personas developed as part of the photo-elicitation part of the case study. Four personas were created in three focus groups, and this added rich description to how participants experienced the negative impacts of rooming house conditions on their health. This manuscript encourages researchers to

consider persona co-creation in photo-elicitation projects with vulnerable populations, as complimentary to focus groups.

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Chapter Five

PERSONAS FACILITATE INTEGRATION OF VULNERABLE PEOPLE'S VOICE IN PHOTO-ELICITATION RESEARCH

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Personas Facilitate Integration of Vulnerable People's Voice in Photo-Elicitation Research

Abstract

One challenge of completing a research project using photo-elicitation, is how to engage participants in discussions about the photos in a meaningful way. Conducting research that involves populations considered vulnerable or exploring sensitive topics can add another layer of complexity when analyzing photos associated with these projects. Researchers often use either individual interviews or focus groups to engage participants; we propose persona co-creation to integrate vulnerable people's voice in research with them. The purpose of this manuscript is to discuss the benefits and challenges of individual interviews or focus groups when conducting photo-elicitation projects with people who are unstably housed, to describe persona co-creation and how personas are useful in mitigating some of the challenges of gathering and analysing data using focus groups and individual interviews, and to illustrate the use of personas by providing an example of how personas were used successfully as part of a case study about the health of rooming house residents. Persona co-creation empowered rooming house residents to share details about their lives that may not have been shared through traditional qualitative methods. We contend the use of personas optimizes the voice of rooming house residents in qualitative research about their health.

Keywords: Vulnerable populations, clinical nursing research, rooming houses, photo-elicitation, focus groups, interview, qualitative research

John Collier (1957) introduced photo-elicitation to anthropological research as an impactful way of collecting data. Prior to his work, photographs were used mostly for illustrative purposes. He used photographs in his research to initiate conversations about cultural differences, identifying the added dimension that photos could provide to initiate a dialogue. The use of photos in research can create a more intimate and delicate situation than other methodological approaches, especially when the participant has taken the photos without the assistance of the researcher and then joins the researcher to have their work analyzed (Clark-IbáÑez, 2012). This intimacy provides the richness that photo-elicitation elicits, but it can also be difficult for researchers to decide how to analyze the photos in a way that best translates into words the context, insight and meaning that the photo seeks to capture in the participants' voice.

There are additional measures that need to be considered when working with vulnerable populations. The location where research with people who are homeless and vulnerably housed takes place can impact the power differential and thus the information shared by participants (Ecker, 2017). In selecting methods for research, the researcher needs to be cognisant of the potential vulnerabilities of their participants and themselves so they can choose a way of conducting research that adequately protects participants and researchers from potential emotional risk and physical harm (Bashir, 2019). Researchers have a responsibility to design and execute projects that ensure every effort is made so that results of the research reflect the true intentions of the participants. For example, using pre-determined questions may unintentionally insert the researcher rather than the participant into the 'driver's seat' (Valaitis et al., 2019), and researchers may unintendedly focus on photos of "visually arresting images" as opposed to those that might be meaningful to the participant (Clark-IbáÑez, 2012). Most often photos are analyzed either with individual interviews with participants, or sharing opinions of the photos as

a group, using focus groups. The purpose of this manuscript is to discuss the benefits and challenges of individual interviews or focus groups when conducting photo-elicitation projects with people who are unstably housed, to describe persona co-creation and how personas are useful in mitigating some of the challenges of gathering and analysing data using focus groups and individual interviews, and to illustrate the use of personas by providing an example of how personas were used successfully as part of a case study about the health of rooming house residents.

Individual interviews

Photo-elicitation interviewing (PEI) involves interviews, usually individual interviews, which together with photos help to explore a topic of interest (Clark-IbáÑez, 2012). Padgett et al. (2013) individually interviewed 13 formerly homeless and recently housed individuals living with mental illness after they were directed to take photos of positive and challenging aspects of their lives. The PEI project was part of a longitudinal study that had previously only included interviews, but the authors found they wanted to give participants more opportunity to share information about abstract concepts such as hope, or concrete topics, such as goals, or sensitive topics such as past traumatic events. The authors found the combination of both interviews and photos yielded deeper and more elaborate accounts of participants' lives compared to verbal-only-interviews. The use of PEIs can also engage participants to be more verbose than strictly oral interviews (without photos), and make the research more meaningful (Samuels, 2012). There is some safety offered by having to only show photos to one person. Tran Smith et al. (2015) felt their topic of study of the role of place in recovery with 17 formerly homeless adults with co-occurring disorders was best explored through individual interviews instead of as a group. The authors found that PEI methods allowed participants to re-story their lived

experiences exploring, dimensions of homelessness, substance use, and mental health, allowing for an open dialogue . Interestingly, the participants took and arranged their photos, but the researchers independently analyzed the photos and interviews Using PEI methods, imagines can be either researcher-generated or participant-generated, and the analysis of the photos can be assumed by either the researcher or the participant. The flexibility of approaches using PEI can appeal to researchers working with diverse populations who need to balance varying levels of strengths of participants in taking photos and analyzing them. The use of PEI provides the researcher with a method that has the potential to simultaneously gather data and empower the interviewee when participants are encouraged to direct the collection and analysis of the data (Boucher, 2017).

There are several challenges to using individual interviews. One critique of PEI is the lack of standardization and variety of methods used (Padgett et al., 2013). Interviews may be conducted while the researcher takes the photos, or only engage participants to review photos taken by the researcher, or the participant will be fully engaged by taking the lead in taking and analyzing the photos; all approaches qualifying as a PEI project. Individual interviews may not allow for peers to engage in a respectful critique or dialogue of another participant's photo interpretation and choice, a process that provides an opportunity to explore tensions or alternative views (Clark-IbáÑez, 2012). Because only one interviewer is involved, care needs to be taken to cultivate a relationship with participants while reviewing their work, paying close attention to word choice and the message projected with non-verbal communication.

Focus Groups

Data gained in focus groups is not only from each individual, but the potential exists for richer more robust data gained from the interplay between individuals in the group and the

exchange of information about points of view (Stalmeijer et al., 2014) The most common use of focus groups with photo-elicitation projects is photovoice developed by Wang and Burris (1994) who created a standardized approach to using photos in research. A strength of photovoice projects is the use of focus groups to provide an opportunity for participants to co-facilitate the group and become engaged in a dialogue directed by visual data (Sutton-Brown, 2014). The authors of a photovoice project that engaged nine men affected by incarceration and/or substance abuse in a study about housing and health described the steps involved to adhere to the principles of photovoice to empower participants using a participatory action research (PAR) approach (Dolwick Grieb et al., 2013) Participants took photos, participated in focus groups, analyzed the transcripts of the focus groups, and disseminated the results about community-level redevelopment efforts. The results of photovoice projects are intended to be used to advocate for political and social change (Wang and Burris). Applying the photovoice methodology, photos are critically reflected on by group members using a set of structured questions used to facilitate discussion with the SHOWED technique (Wang & Burris). This technique involves asking participants a series of questions about each photo: What do you See here? What is really Happening here? How does this relate to Our lives? Why does this situation, concern, or strength Exist? What can we Do about it? (Wang & Burris). The specific questions direct the discussion of the photos, transcripts of which can be analyzed and used by communities and groups to advocate for change.

There can be challenges to using focus groups with vulnerable populations. A review of seven public health photovoice projects with people experiencing homelessness shows a large variation in photovoice methodology due to the difficulty in conducting on-going research with people with challenging lifestyles who were difficult to contact or struggled with transportation

(Seitz and Strack, 2016). In a study organized by a health clinic that used photovoice with homeless youth in Australia, the authors found social interaction and commentary was difficult during focus groups and the expectation to share opinions as a group needed to be made explicit by the researchers at the onset of the project (Dixon and Hadjialexiou, 2005). When working with vulnerable populations, trust may be an important issue for the group, and participants may be reluctant to share personal opinions when there is no way to guarantee confidentiality once the group is finished.

Personas

Personas co-creation has the benefit of group interaction and offers a method of collecting and analyzing data that is complementary to traditional focus groups or individual interviews. The process of co-creating personas offers participants the safety of discussing the meaning of photos with the option to depersonalize comments of individual participants (Phillips et al., 2016). Personas are detailed representations of fictional people that are created with enough detail to not be considered a stereotype, but to move away from the tendency to be self-centred when describing an issue (Adlin and Pruitt, 2010). Derived from the Greek word ‘mask’ the development of personas allows participants to assume the mask of the other, making it possible to become familiar with their needs, wishes, and desires and how they use and navigate the world around them. Creating personas has been successful in engaging participants to better develop an understanding of the cultural aspects of a population while honoring the expertise of the participants as co-researchers (Phillips et al., 2016).

Traditionally, personas were used in business and advertising, but this engagement technique has been suggested as an innovative exercise for the development of health care interventions (Valaitis et al., 2014). Al Awar and Kuziemsky (2017) used personas developed

from eight semi-structured interviews with eight informal caregivers to better understand the educational needs of informal caregivers. The authors developed personas from participant characteristics, then matched the educational needs and how they differed according to the personas. The personas helped the authors plan a health information technology design intervention that could be tailored to meet the needs of each of the personas representing typical informal caregivers. In addition to helping inform and validate health interventions, personas have also been used to better understand behaviours and attitudes. Huh et al. (2016) developed four personas based on 16 interviews to better understand participation in online health communities for people dealing with a chronic illness. The authors developed an online survey to systematically investigate the developed personas to better inform online heath community values and patterns of use. Personas can also compliment focus groups, as suggested by the example of persona co-creation to investigate the health of rooming house residents. This manuscript presents the personas created following the three focus groups of the larger case study and suggests how persona co-creation can complement research with vulnerable populations.

Example: Personas to Inform a Rooming House Case Study

A rooming house is a type of single room accommodation where rooms are rented individually, and residents share a bathroom and/or kitchen. People living in rooming houses face enormous challenges concerning health, safety, accessing basic services, and social inclusion (Author A et al., 2018). It can be difficult to physically access dwellings and then once inside recruit people willing to participate in studies (Vila-Rodriguez et al., 2013; Hwang et al., 2003). Recognizing that the rooming house population carries a high burden of substance use, mental illness, social stigma and isolation, the methodology of the research study needed to keep

participants engaged while being mindful of participants' strengths and vulnerabilities. A case study was conducted to help answer the question of how rooming houses were related to health. Specifically, what aspects of a rooming house, the behaviours and characteristics of the people who live in a rooming house, or the resources that are accessible to people who live in a rooming house, influence health outcomes? Data were collected from several sources including photos, focus groups and interviews. The co-creation of personas provided another perspective by de-personalizing the question posted to participants to offer the opportunity to provide examples from their experiences and interactions with other rooming house residents.

The study was framed with a social exclusion lens that was used to guide participants in the conceptualization of health (Popay et al., 2008). Ethics approval for this study was received from the University of Ottawa's Health Sciences and Science Research Ethics Board (H-05-19-3008 – ANNI-3008) . Consideration was given to reflexivity and the ways in which interactions with participants might be influenced by the professional background, experiences and prior assumptions of the principal researcher. This project was part of a PhD thesis, and the principal investigator, a female, middle-class nurse with experience providing outreach in rooming houses continually questioned and critically examined research processes, and data analysis decisions. One strategy to mitigate the influence of the principal investigator on participants and findings is the use of multiple perspectives, and data sources. This manuscript reports on another perspective to inform the larger case. study, and provides another data source from persona co-creation which offers a complimentary way for participants to engage in analyzing photos as part of focus groups. As an academic project, the research benefited from weekly meetings with an advisor who had expertise in qualitative research, as well as input from a thesis advisory committee, the combined expertise helping to optimize transparency and minimize bias.

Summary of Methods

The photo elicitation portion of the case study involved the recruitment of ten rooming house residents, from six different rooming houses to take photos of what they perceived influenced their health using a smart phone gifted to them by the researcher. Participants were asked to take two photos each day for a two-week period, and the principal investigator met with each participant individually after the first week to review photos and trouble shoot any issues or concerns about the smart phone or study. After two weeks, a final individual meeting took place to review the remaining photos, and participants chose three photos to present during a focus group with other participants.

A total of three focus groups were conducted; the first with the rooming house residents who took photos; the second with rooming house residents who did not take photos and were recruited by the participant photographers; the third with the project's community advisory group (CAG) which consisted of a landlord, three current or former rooming house residents, a housing front-line service provider and two harm reduction front-line service providers. At each focus group, photos were projected onto a screen and the principal investigator promoted discussion of each photo using the SHOWED technique (Wang and Burris, 1997). As the focus group progressed, in consideration of the group dynamics, the SHOWED questions were adapted. Instead of using all the prompts, only the first two were used: What do you See here? What is really Happening here? (How does this relate to Our lives? Why does this situation, concern, or strength Exist? What can we Do about it? were omitted). With the participants' consent, all three focus groups were recorded and transcribed. Notes were made during the focus groups by an observer to record non-verbal communication, as well as a summary of comments to reduce information that could be missed on the recording.

After all photos were reviewed by the participants, each group was asked to create a persona of a typical rooming house resident based on their years of experience as residents, from participating in the project and reviewing photos, or as someone who works closely with rooming house residents. Participants worked together to develop one persona per group. Participants were referred back to the original research question about what aspects of living in a rooming house affected health, and they were provided with guidance on how to develop a persona.

Steps for Developing Personas

Nielsen (2019) described ten steps to developing personas to create scenarios with a business focus, that help to describe solutions to problems. These steps describe an interactive process that starts with an idea, develops the persona(s), and establishes the persona by using scenarios. Using Nielsen's persona development tool as a guide, we modified the ten steps to better fit qualitative research in a nursing and health context. The steps and modified tool are described in Table 3. The modifications allowed for a less formal approach to co-creating personas that provided a structure to facilitate group members to explore multiple dimensions of the topic of health. The final step to plan for dissemination of findings derived from the persona co-creation was not used in the study but is included here to reflect an opportunity suggested by Nielsen.

Table 1

Ten Steps of Persona Co-Creation for Research in Nursing and Health

Step	Description
1. Collection of data	• Collect as much knowledge about the population group as possible. • Data can come from many different sources (e.g., previous research, individual experience, review of photos from the project).
2. You form a hypothesis.	• Based on the first data collection, build an idea of population group. • Including how they may differ from one another (e.g., how rooming house residents and apartment-dwellers differ).
3. Everyone accepts the hypothesis	• Support or reject the first assumptions about the differences within the population group by confronting project participants with the hypothesis and comparing them to existing knowledge.
4. A number is established	• Decide on the final number of personas the group will create. • Too many personas may dilute the ability to draw from personas
5. You describe the personas.	• Prepare persona descriptions that express enough understanding and empathy to ensure understanding of the participant's descriptions. • Consider what the purpose is for the personas to ensure this is captured (e.g., how the health of rooming house residents is captured in the description of the persona)
6. You prepare situations.	• The situations are precursors to scenarios; every situation is the basis of a scenario. • Describe a list of specific situations and contexts that each can trigger different aspects of the population group under study (e.g.,

Step	Description
	where does a rooming house resident eat, what happens when they run out of money for basic necessities, who helps? Use the context of the photos for a guide).
7. Acceptance is obtained from the organisation.	• It is vital to obtain the acceptance of the various steps; everyone should contribute to and accept the situations. • Ask participants about their opinion or facilitate participation in the process.
8. Everyone prepares scenarios.	• Personas have no value in themselves; they need to be part of a scenario to have real value. • Each person develops an integrated persona within a scenario.
9. Ongoing adjustments.	• Personas should be revisited and revised as new information, or technologies change, that could affect the descriptions. • Decide if there is a need to rewrite the descriptions, add new or eliminate developed personas.
10. You disseminate knowledge.	• At an early stage, decide how knowledge is to be disseminated to both people who have not participated directly in the process, and to possible external partners. • The dissemination of knowledge also includes how the project participants will be given access to the underlying data.

Note. Adapted by permission from Springer Nature: "Personas-user focused design. In Human-computer interaction series (2nd ed.)" (p. 11-12), by L. Nielsen, 2019, London, UK: Springer.

Findings

Eighteen participants took part in three different focus groups. Eight of the ten participants who took photos attended the first focus group and divided into two groups to create personas one and two. Ten rooming house residents attended the second focus group and created persona three. Six of the seven CAG members attended the third focus group and created persona four. Demographics of participants are presented in Table 1. Traits for each of the four personas created during the three focus groups are presented in Table 2.

Table 2

Focus Group Participant Demographic Information

Description	Focus Group		
	Rooming house residents (photo-taking)	Rooming house residents (non photo-taking)	Community Advisory Group (CAG)
Number of participants	8	10	6
Age (in years)	Average 54.4 Median 49.5	Average 49.7 Median 53	Average 47.3 Median 57
Gender	*n* = 5 male *n* = 3 female	*n* = 9 male *n* = 1 female	*n* = 5 male *n* = 1 female
Length of Time in Rooming House (in years)	Average 2.52 Median 1.625	Average 1.425 Median 2.0	n/a
Income	OW = 2 CPP/OAS = 1 ODSP = 5	CPP/OAS = 1 ODSP = 9	Employed = 4 ODSP = 2

Note. ODSP= Ontario disability support program; OW= Ontario works; CPP= Canada Pension plan; OAS= Old age security

Table 3

Four personas

Group	Persona Description	Key Characteristics
Rooming house residents: Photo-taking participants (n=4) (Group 1 of 2)	Persona 1 is a 45-year-old male who feels his health is low because of his substance use, mental illness, criminal record and housing. He has been struggling financially, working day labour when he can, otherwise panhandling and often dealing drugs to make ends meet. He has no family or reliable friends who can help him out, so he has ended up living in a rooming house that is run down, with cracks in the walls, broken door handles and he has had many of his personal belongings stolen. With no storage in his small room, it has become messy, but he has stopped caring. He is really hoping staying at the current rooming house is only temporary, but it is difficult to plan long-term. If it were a 'good' rooming house, he would stay longer. Other people at the rooming house meet in the back yard because there is no common space. Persona 1's day has developed a bit of a pattern based around substance use: Waking up to look for money then looking for people to use drugs; going to the pharmacy to pick up daily dispensed medications; trying to make it to the local soup kitchen or shelter to have one meal a	Age 45 Male Inadequate basic income Housing is not the right fit to need (cost, repairs, safety) Temporary housing

Group	Persona Description	Key Characteristics
	day, avoiding police who ask too many questions and keep asking you to move, and then later in the day looking for food again. Currently the only thing that brings persona 1 joy is his cat, a real mouser, who he considers his best friend.	Day dictated by addiction Isolated
Rooming house residents: Photo-taking participants (n=4) (Group 2 of 2)	Persona 2 is a 60-year-old male, who has been struggling financially with his social service payments as income but trying to make some extra money by occasionally doing odd jobs: cleaning, bottle collecting, retail, the occasional sex work, and drug dealing. This helps pay for his addiction to alcohol, crack and crystal meth. He's been living in large old house that has been converted to a rooming house, recognizable by the bicycles out front and people hanging out and smoking on the porch. The landlord has put in dim fluorescent lighting and hasn't fixed the leaking roof, and with the lack of super in the building Persona 2 often feels unsafe at home. He also finds the three flights of stairs difficult with his mobility issues. This building issues have made a pre-existing mental health condition worse. His current room currently has bed bugs, and with only room for a single bed and no storage, it is awkward to have visitors	Age 60 Male Inadequate basic income Housing is not the right fit to need (mobility/age,

Group	Persona Description	Key Characteristics
	over. Instead, he tries to meet people at Tim Horton's, the soup kitchen, the library and at church meals, or when he goes to the food bank once a month. He looks forward to a monthly visit by the nurses and Housing Help and has recently connected to counselling to help his mental health. He gets quite defensive saying "some of the nicest people I know live in rooming houses" and is upset with the reputation that some people have just because of where they live.	unsafe, cannot socialize) Day dictated by addiction. Connected to community resources Stigmatized
Rooming house residents (n=10)	Persona 3 is a 40-year-old male, with no family and quite isolated, struggling with mental health and addictions. He would be embarrassed if he did have family to have them over to the rooming house. He describes his physical health as mediocre at best, poor at the worst, not helped by smoking "Native" cigarettes that don't have a filter but are cheap enough to afford.	Age 40 Male Isolated

Group	Persona Description	Key Characteristics
Recruited by participants	His main addiction is, alcohol and opiates, He is currently on parole, and just got another ticket that he can't afford for aggressive panhandling on the highway off ramp. He doesn't have enough money with only welfare, even with the diet allowance that goes towards rent, so he panhandles, steals, works at day labour or hustles for extra cash. Fortunately, he can has set up a system to borrow money for several different people at the rooming house or friends. The only romance in his life if on cheque day when he receives money from social services. Lately his mental health has gotten worse, he has an anger management issue, and he has become paranoid of others in the building at times. It is so loud in the building it is difficult to sleep. He is depressed because he is still living at the rooming house, but wants to leave, but when nothing changes, it leads to more anxiety and depression-feeling like he wants to get better but he can't. He would like the Fire Marshall to investigate current conditions at the rooming house. In a typical day, he travels to the local community health centre by stolen bike or by jumping on the back door of the bus to get the free coffee and to shoot dope. To eat, he goes to the shelter for the community meal or to the soup kitchen. Sometimes he steals food, and he goes to the foodbank as often as he is allowed. When he is out, he uses the bathroom at	Inadequate basic income Housing is not the right fit to need (unable to socialize, unsafe, mental health worse) Day dictated by addiction Inadequate basic income

Group	Persona Description	Key Characteristics
	the shopping mall or finds a secluded spot under the stairs. He has a Canadian Mental Health Association front-line service provider who helps remind about appointments, but sometimes he is just too hung-over to go. He and the are trying to find a family doctor because care currently is only at the community health centre or walk-in clinic.	Housing is not the right fit to need Front-line service provider but still work to do
Community Advisory Group (n=6)	Persona 4 is just over 40 years old and came to live at the rooming house because his relationship ended and there was a death in the family, and he needed to move. He feels he can't safely have his family visit the rooming house. Long ago he struggled with drug and alcohol addiction and lived in the shelter. He is not convinced the rooming house is an improvement. His room is too small, and he worries about the danger from the building's electrical not being up to code. The rooming house is dirty with insects and rats that are hard to get rid of, and it seems to take years to get repairs done on the building. Non-residents of the	Age 40 Male Shelter alternative Housing inadequate to need (safe, size)

Group	Persona Description	Key Characteristics
	building come and go causing trouble, but Persona 4 feels he has no control over this. In a typical day he goes to the local soup kitchen for food and to socialize, as he is otherwise often bored. It changes day-to-day but he tries to get out and socialize to help with his mental and physical health issues. He feels stigmatized by the decision to make benches in public places uncomfortable, and he has heard negative comments about the rooming house around the neighbourhood.	Unwelcome in neighbourhood

Discussion

Contribution of Personas

The personas that were co-created share some common features, such as the level of substance use, age, description of physical buildings and indication of lack of money or food that required supplementation and use of community agencies. Several aspects of the personas had a negative connotation which is different from information collected earlier during the focus group guided by the SHOWED technique. Earlier in the focus group, participants shared the information about the positive aspects of health with regards to living in a rooming house. This finding is similar to that of Padgett et al. (2013) who found their photo-elicitation project participants who were formerly homeless, were reluctant to take photos of negative aspects of their lives, but instead were more likely to speak about the negativity. The co-creation of personas enable a way that participants can interact with one another to discuss sensitive issues, perhaps providing a level of honest, personalized detail that others can relate to, but would not readily admit to experiencing directly to the group (Phillips et al., 2016). At the end of the second focus group, one participant was observed re-reading the persona he helped create and said, “Look how bad this is… but you know what? This guy is me.”

The personas revealed a typical rooming house resident to be someone who is unhealthy with details providing insight into how living in rooming houses creates and perpetuates poor health. The personas gave voice to rooming house residents and helped inform the research question of what aspects of a rooming house, the behaviours and characteristics of the people who live in a rooming house, or the resources that are accessible to those who live in a rooming house influence their health outcomes.

Several aspects of rooming houses that influence health were described by participants and included the lack of common areas, the age of buildings and degree of disrepair, shared meeting spaces in the back yard or front steps, safety concerns related to adherence to building code standards, and infestations. The physical descriptions of buildings related to rooming houses that often do not meet the needs of residents in terms of safely, security, affordability, and opportunity for social interaction. Both mental health and physical health of the rooming house resident personas were impacted by the physical structure of the building.

Participants, through the personas, provided several examples of how behaviours and characteristics of the people who live in rooming houses influence health, including characteristics of their persona. Participants described rooming house residents as having a lack of control over people coming in and trouble in the building being caused by non-residents. Residents were often described as estranged from family supports but may have friends and neighbours who help through a borrow system and comradery. The level of addictions ascribed to their rooming house resident persona created a daily routine for a resident dictated by substance use.

The type and lack of resources available to the rooming house resident persona influenced health. For example, only being able to access the food bank once a month, “Native” cigarettes (those that are without a filter sold in large bags), using a stolen bike for transportation, panhandling being made to feel unwelcome to sit on city benches. The insufficient financial resources of rooming house residents, and lack of an adequate basic income, resulted in the need to use community agencies for food and a sense that nothing changes.

The personas provided rich descriptions of how health is affected by living in a rooming house.

Evaluation of the Persona Co-creation and Focus Group Methods

Three traditional focus groups involving eighteen participants followed a photo-elicitation process that involved discussion of photos guided by the SHOWED technique (Wang and Burris, 1997). There was animated discussions and enthusiasm during all three of the focus groups when personas were co-created. This contrasted with the experience of the focus groups just prior when traditional photo elicitation methods were used to create group interaction to discuss the topic of the health of rooming house residents. While methodological scholarship on focus groups suggest that seven or eight participants is the ideal interactional group size, with an acceptable range of five to ten members (Yalom, 2005), this proved difficult for a focus group involving the rooming house participants. Several rooming house residents who were participants had significant mental health and substance use issues that made group facilitation challenging. For example, in the first focus group with the rooming house participants who took photos, while reviewing photos one participant left early after showing increasing signs of opiate over-intoxication[2], another participant known to have significant mental health challenges did not pick up on social cues and frequently interrupted or spoke over other participants, and this created the atmosphere where the remaining participants either grew quieter or became increasingly agitated. Future focus groups with vulnerable people should consist of a smaller group size of three to five participants so as to consider the health needs of the participants and to facilitate full participation.

The topic of the project, asking how rooming houses are related to health using a social exclusion lens to conceptualize health, could make for difficult conversations. During interactions with the rooming house participants who took photos, they often expressed concern

[2] There was a brief interruption of the focus group to assist this participant to connect with community health care providers.

about their tenancy if they made any complaints and felt the pressure to remain in their rooming house because there was no alterative housing option. In the second focus group, where rooming house residents had not taken the photos, the flow of conversation during the photo-elicitation portion was slightly more animated and interactional, perhaps owing to lack of ownership of the photos. However, participants remained hesitant to openly discuss concerns that would be considered sensitive by rooming house residents, such as the role of substance use related to the physical space of rooming houses and fellow residents, or the contribution of the landlord in building repairs and the effect on mental health. During the focus group conversations were often carried by one or two group members, a complication not uncommon to focus groups. The influence of group cohesiveness and compatibility can have a significant influence on how and to what extent group members participate and therefore information gathered from a focus group (Stewart and Shamdasani, 2015). Farnsworth and Boon (2010) reviewed group dynamics of focus groups from their seven years of experience doing poverty research and discussed how group relations can contribute to parallel information that is not gathered during the information-gathering process of focus groups and the authors advocate for including and analyzing non-verbal communication. In a review of photovoice projects, Evans-Agnew and Rosemberg (2016) provided a critique of focus group dynamics asking whose voice is reflected when coding of data and distributing findings and encouraged researchers who are studying sensitive topics and gathering data in focus groups, to ask whose voice is missing. Focus groups are based on the assumption that people who share a common problem will be more willing to talk amid the security of others with the same problem, and thus homogeneity is a prerequisite for meaningful exploration of a topic (Lederman, 1990). In this rooming house study, participants in the two

focus groups were all rooming house residents but the homogeneity did not necessarily outweigh trepidation when encouraged to speak freely.

During the study's focus group photos elicitation portion, the description of photos using the SHOWED technique prevented a natural flow of conversation. The questions became repetitive, and quite lengthy. This experience was similar to a study investigating health determinants with formerly homeless individuals, where the authors found the SHOWED questions to be ineffective (Cheezum et al., 2019). They found participants felt justifiably disempowered by being asked "what can be done about this?" and the line of questioning was not useful. In this study of the health of rooming house residents, it was when the groups were developing the personas that participants were able to better relate and became more animated and engaged in the research process, thereby sharing their voice and perspectives on how rooming houses influence their health.

Implications for Practice and Research

Particular thought and consideration should be given to choice of methodology when conducting research with vulnerable people who are unstably housed. Co-creating personas is a complimentary methodology to focus groups, offering an engaging and complimentary way to involve participants in of photo-elicitation projects. When using focus groups for persona co-creation and photo-elicitation projects, a small group size is crucial when working with vulnerable populations, to ensure participants feel safe, secure, and comfortable participating in group activities. How photos will be analyzed during a photo-elicitation project needs to be explicit during recruitment and reiterated during all study related activities with participants. Research methods should be attentive to people who may not typically engage in research, to ensure participants can be fulsomely included in all aspects of the research project. This will

allow participants to become an active part of generating solutions to challenges that affect their health.

Conclusion

This manuscript demonstrates the benefit of using personas as complimentary to focus groups used in photo-elicitation projects. Persona co-creation offers a method of collecting data that benefits from group interaction but provides a safer way for participants to interact when they are discussing sensitive topics. The use of personas is a promising advancement in health research that respectfully engages participants as co-researchers.

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Permission to Adapt Personas Model

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Chapter Six

Integrated Discussion

This chapter provides a discussion of the thesis as a unified piece of work. Each manuscript is briefly reviewed, with a focus on how the manuscripts link together. The strengths and limitation of the thesis, as a whole, are provided. This is followed by a discussion of the implications of the thesis for nursing practice, education, theory, policy, research, and advocacy.

Manuscript Review

The goal of this case study was to investigate how rooming houses are linked to health. Similar to research objectives, propositions are used in case studies to direct attention to something that should be examined within the scope of the study and help the study stay within feasible limits (Yin, 2018).

The propositions of the case study were to:

1. Document the needs and resources of rooming house residents in Ottawa that contribute to health.
2. Document the contextual factors (political/social/cultural/economic) that contribute to social exclusion of rooming house residents.
3. Situate rooming house residents along the housing/homelessness continuum.
4. Use and evaluate three methodologic approaches (photo elicitation methods, focus groups and persona co-creation) in conducting research with rooming house residents.

Manuscript One

The first manuscript, “Photo Elicitation to Explore Health and Social Exclusion with Rooming House Residents” investigated how living in a rooming house is linked to health from the perspective of rooming house residents and was guided by the social exclusion framework. Two broad themes were identified through photo elicitation, which included data from focus

groups, photos, and field notes: *Housing is Health Care*, and *Just Managing Today.* The findings demonstrate how the rooming house is a form of health care, as the physical building, the fragmented supports of the neighbourhood and how other residents can both help and hinder the health of rooming house residents. Residents described how they managed the stress of never having enough money and their creative ways of coping.

Manuscript Two

The aim of manuscript two, "Health and Social Exclusion of Rooming House Residents: A Descriptive Qualitative Analysis of Front-Line Service Providers' Perspectives" was to document and understand the political, social, cultural, and economic factors that impact the health of rooming house residents from the perspectives of front-line service providers providing services to rooming house residents. Eleven rooming house front-line service providers with a diverse base of experience and perspectives were interviewed. The average length of time front-line service providers had worked with rooming house residents was just over thirteen years, demonstrating that this group could provide informed insights based on their years working with rooming house residents. Two broad themes were identified: *There is a Cost Associated with Living in a Rooming House*, and *Rooming House Front-Line Service Providers Wear Many Hats*. The study findings indicated that the rooming house environment is unique from other types of housing because of the shared environment, the forced interactions within the shared spaces, and the pressures associated with a socially powerless position and poverty. This created opportunity to make connections within the rooming house and a need to navigate external resources.

Manuscript Three

The third manuscript, "Rooming Houses vs Sheltered Homeless in Ottawa, Canada: A Secondary Data Analysis of Select Health Indicators" helped to meet the proposition of the study to situate rooming house residents along the housing/homelessness continuum. Data analyses of the relationship between type of housing (rooming house or shelter) and a specified number of descriptive health variables from the VI-SPDAT and PR-VI-SPDAT found that rooming house and shelter residents were more similar than they were different in terms of their health outcomes. The samples analyzed showed no difference between the groups for the variables related to self-report of inability to care for basic needs (p = .27), emergency visits (p = .57), ambulance trips (p = .32), inpatient hospitalization(p = .46), use of crisis service (p = .18), police contact (p = .98), and if substance use made it difficult to stay housed or afford housing (p = .30). There was also no difference between rooming house residents and shelter residents with respect to compliance and diversion of medications (p = .19), and maintaining housing because of a mental health issue (p = .57), head injury(p = 1.00), or learning impairment(p = .59). This secondary data analysis found that rooming house residents share a high burden of health concerns, similar to that of shelter residents, and in some cases rooming house residents fare worse on health indicators. In terms of health-related variables, the similarities would suggest that rooming house residents should be considered homeless as a strategy to ensure equitable sharing of resources to meet similar health needs.

Manuscript Four

One of the propositions of the study was to use and evaluate three methodologic approaches (photo elicitation methods, focus groups and persona co-creation) in conducting research with rooming house residents. The fourth manuscript, "Personas Facilitate Integration

of Vulnerable People's Voice in Photo-Elicitation Research," presented the data collected from the co-creation of personas as part of the three focus groups completed during the case study. This manuscript describes persona co-creation as an example of a successful data collection strategy with the argument that this technique could be replicated in photo-elicitation studies as a way to engage vulnerable populations. Four personas provide rich detail that helped to inform the case study propositions to document and understand, from the perspective of rooming house residents, the political, social, cultural, and economic factors that impact the health of rooming house residents.

Link of manuscripts

Link between manuscripts one and two. Both the first and second manuscripts were guided by the social exclusion framework (Popay et al., 2008) and helped support the propositions of the study to document the needs and resources of rooming house residents in Ottawa that contribute to health as well as document the contextual factors (political/social/cultural/economic) that contribute to the social exclusion of rooming house residents. The findings of the perspectives of rooming house residents and front-line service providers overlapped in their description of poverty, silos of services and isolation. Front-line service providers described the situation for rooming house residents in frank terms of negativity and hopelessness compared to rooming house residents.

Rooming house residents and front-line service providers both focused on the extent that poverty influences decisions (such as bottle collecting for income instead of attending health appointments). The residents' level of poverty controls the need for and access to resources such as food and use of community agencies. The level of poverty also creates the need for rooming house residents to rely on others (such as sharing a phone or substance use with other residents

or asking a community agency for help with infestations). Both groups discussed the silos and fragmentation of housing, health and community services that for residents translated into a need to supplement their income and travel from agency to agency. Front-line service providers described how they possessed a unique skill set that included system navigation in order to help rooming house residents meet basic needs. Both rooming house residents and rooming house front-line service providers discussed isolation as a contributor to health, describing some people rarely coming out of their small rooms. Although isolation has been linked to poor health in the elderly (Seyfzadeh et al., 2019) ,isolation is garnering more attention as we see the negative health consequences attributed to isolation caused by the current pandemic (Cecchetto et al., 2021; Mei et al., 2021). The health of rooming house residents was impacted by the level of socialization or isolation created by the shared space of the rooming house. Residents could have positive coping strategies, such as having pets (manuscript 1), socializing with others in the building as surrogate family members (manuscript 1), or it could be negative, such as the networks supportive of substance use (manuscript 1) and further isolating from human contact (manuscript 2).

Rooming house front-line service providers were forthcoming about negative aspects of the rooming house, such as the physical state of disrepair, the unfairness of the cost of housing for the product and service that was provided, and the extent of residents' disability from mental and physical health issues. Rooming house residents expressed concern about the potential consequences of being too outspoken or the risk of complaints and negative interactions with other residents on their long-term tenancy, despite multiple ethical protocols that would make it virtually impossible for landlords to have knowledge of who participated in the research and what an individual participant discussed. Combined, the rooming house residents and the

rooming house front-line service providers provided a rich description of what aspects of the rooming house, the other residents and the resources accessible to rooming house residents contributed to health.

Link between manuscripts one, two, and three. Manuscripts one and two make it clear that rooming house residents are struggling. Rooming houses are often the only affordable option for low-income single people in Ottawa, and without them, the alternative is the emergency shelter system. However, by living in a rooming house, a resident's health is negatively affected, and the third manuscript compares a number of variables from the homeless services resource prioritization tool used as part of Housing First, and provides the perspective of the City of Ottawa about where rooming houses are currently placed on the housing and homelessness continuum. The high morbidity of rooming house residents is similar to shelter residents and indicates policy makers, people in decision-making positions, and health care providers need to advocate for the housing continuum to reflect rooming houses in the definition of homelessness. The third manuscript adopted a pragmatic approach of suggesting that if municipalities are using a triage tool for resources, we should look at all of the most vulnerable in our community to ensure they have access to housing front-line service providers, financial support, and priority for subsidized housing as a way to improve health. There needs to be increased funding and resources to capture all people along the housing and homelessness continuum.

Link between manuscripts one, two, three and four. The fourth manuscript provided another perspective to inform the case study, and the additional data source helped to increase credibility and rigour. The personas further documented the needs and resources of rooming house residents in Ottawa that contribute to their health, describing complex mental and physical health challenges, including substance use, and the struggle to cope with isolation, inadequate

housing, and an inadequate income. These descriptions align with the findings from rooming house front-line service provider interviews portraying a more negative picture of aspects that influence the health of rooming house residents compared to the focus group, photos, interviews and field notes from participant observation with rooming house residents.

Strengths and Limitations

Although strengths and limitations have been discussed in each of the four manuscripts, it is important to reflect on the overall strengths and weaknesses of this case study.

Strengths

The phenomenon of the health of rooming house residents is complex and employing case study methodology encouraged flexibility to use different methods which helped to explore the many facets of the issue. Case study methodology aligns with critical pragmatism, as researchers are encouraged to choose methods that best inform the research question (Yin, 2018). The use of case study methodology provided the opportunity to inform the research question from multiple perspectives. It was important to have rooming house residents participate in the research. This project followed the essence of Community-Based Participatory Research (CBPR) by developing a Community Advisory Group who helped recruit participants, provided guidance and helped reduce missteps in the research process (such as planning meetings during prime community meal/panhandling times). The research process and findings benefited from the involvement of rooming house residents as part of the CAG and as participants who took photos, but it also provided the opportunity for rooming house residents to have the satisfaction to be recognized as subject matter experts and influence the project. Rooming house photo-taking participants were also encouraged to independently take photos, rather than have photo-taking directed by the researcher, and to choose the photos to present at the focus group that held the

most meaning to the participant with consideration of the propositions of the research project. Although labour-intensive and time-consuming, the number of follow up emails, expressions of appreciation and a thank you card, attested to the importance of considering CBPR whenever possible for future research.

A strength of the study was the experience of the principal researcher in going into rooming houses, and familiarity with how to access the committees associated with the rooming houses in Ottawa. Early in the research process an ethnography was contemplated, but it was clear that a researcher would be unable to spend long periods of time in a rooming house. Even with the years of experience providing outreach, it is still difficult not to startle at seeing cockroaches on walls, worry about bedbugs travelling on clothing after visiting buildings, not become concerned about the effects of extended exposure to second-hand smoke, or feel guilty for leaving residents to go back to a home where none of these things were a worry.

Limitations

Case study methodology was a strength, but it was also a limitation. It was difficult to find a way to present the findings of the entire case study as a whole. The division of the findings by methods in the four manuscripts risks losing some of the benefits of combining the multiple sources of data. This research project followed Yin (2018) and the positivist-leanings of his case study methodology. His model was originally appealing because of the detail of steps, but in real-world scenarios, exact measures and steps can be difficult to follow with the degree expected. For instance, in the project planning phase, a document review as part of the study was envisioned with newspaper articles and publications during the time of data collection, but how to incorporate this vast and diverse body of data became overwhelming and was not feasible within the constraints of an academic degree program, so documents were defined as the written

items collected by photos, and brochures during the walk-about. If the case study was retrospective, as several examples provided by Yin (2018) describe, it would be easier to specifically delineate the boundaries of the case, and thus facilitate analysis.

This research project situated the health of rooming house residents in a context that sought to understand the processes and outcomes of being socially excluded; looking at the impact of relative poverty and what aspects create negative health outcomes. This could be seen as a limitation because it may have changed how the research question about health was interpreted, and which findings were highlighted by participants. For example, residents were asked about all dimensions of the social exclusion model (Popay et al., 2008), but how they weighted the importance of one dimension over another was perhaps not captured in the findings.

Upon reflection, using focus groups was a limitation. It was unwise to not consider the unique needs of this vulnerable population when translating the well-documented method of focus groups for data collection into on-the-ground research. It was insensitive to expect that a group of people who have been found in previous studies to identify with social isolation to feel comfortable gathering in a group setting for discussion about potentially uncomfortable or stigmatizing topics. Originally it was anticipated to record the meetings with participants when photos were reviewed but it was clear that introducing a recorder would have threatened the trust that was being developed. During the photo review meetings, almost all participants directly or indirectly expressed how difficult it was to show their photos to the researcher. Individual interviews, of which four short ones were conducted after data collection, provided a greater exploration of individual ideas compared to the focus group. Photo elicitation interviewing may

have provided greater opportunity to gather sensitive information that participants would not have been comfortable sharing in a communal setting (Padgett et al., 2013).

Implications for Nursing

This case study informed how living in a rooming house affects the health of residents has several important implications for nursing practice, nursing education, theory, policy, research and advocacy.

Practice

Nurses practice in a variety of settings, but over sixty percent of nurses in Ontario are employed in tertiary care and less than twenty percent indicate they are employed primarily in community health (Registered Nurses' Association of Ontario, 2018). Those of us working in community health are further divided by nurses working in public health, homecare, mental health and addictions, and nurses working in primary care. One of the implications from this study for nursing practice is data showing the significant health needs of those living in rooming houses, the scarcity of resources to respond to those needs, and the importance for nurses to have a presence in delivering care in the community where people live. Comprehensive programs that integrate mental health and addiction services with primary care as well as community-based outreach may better address the unmet health care needs of homeless and vulnerably housed people living with concurrent disorders (Zhang et al., 2018). The case study found structural and systems barriers, such as the lack of basic income, the division of community resources and silos of the health care system. Nurses can contribute to improving these barriers by moving services to people, not people to services.

This case study highlighted the concern that our current structure of providing health care has resulted in inequalities. Increasing reliance on technology, shifting sociodemographic

characteristics, and ballooning health care budgets has moved us into an era demanding health care transformation (Nelson et al., 2014). This study showed how housing was health care – the social networks, the neighbourhood and the building. As nurses, this is an opportunity to reconfigure our practice to ensure we are part of multi-disciplinary and multi-sectoral teams. We should be working with housing front-line service providers, and food security experts together as a health care team and where appropriate letting other sectors take the lead to develop interventions that will make the greatest impact on health outcomes. We need to consider moving away from medical models of care when we know that to address health problems that have long-standing social and environmental roots we need to address social exclusion (Wang, 2008). This is not to say we do not continue to offer treatment in tertiary care, but we need to question how we can prevent health challenges before people need tertiary care. This includes preventing homelessness, broadly defined in the first place (Dej et al., 2020). If we know that safe, stable, affordable housing improves health, then nurses should consider how to make housing part of treatment and care planning. Health professionals who frame health behaviours as coping mechanisms for poor quality social and physical environments can provide more comprehensive and holistic care (Pottie et al., 2020; Watson et al., 2016)

Education

The implication for nursing education from this case study is to both attract nurses to work in community care, and to ensure a robust curriculum that involves political action, advocacy, and in-depth learning of the structural aspects of the social determinants of health. Vulnerably housed people who have regular contact with a community health nurse are significantly more likely to use primary care services (Su et al., 2015). Outreach or street nursing is a recognized nursing speciality (Hardill, 2007) that plays a critical role in bringing health to

people who may not otherwise engage in care. We need to create an environment that makes community health nursing appealing to new graduates and nurses.

In order to increase interest in outreach nursing we need to invest in innovative strategies to educate nursing students about poverty (Reid & Evanson, 2016). Students who learn about community resources will be able to better educate people they work with regardless of the setting of their practice. This case study showed how many rooming house residents rely on income support, and it is important for nurses and nursing students to know current social assistance rates, the cost of housing and transportation, and what types of housing exist in a community.

Theory

If we collapse complex issues into health problems and advocate for 'health-centric' solutions we risk missing the broader social and structural issues that lead to poor health (Carey & Crammond, 2014). A social exclusion framework (Popay et al., 2008) guided this study, which framed the issue of health for rooming house residents. If we had looked at a health issue using an individual behavioural health model, such as the Health Action Processes Approach (HAPA) model (Lehane, 2014) which focuses on motivation and self-efficacy, we may have missed the structural and systemic barriers that need to be addressed. For instance, we may have looked at the photos of worn shoes and suggested attendance to an area foot-care clinic. This would have missed one of the findings of this study, "neighbourhood resources" where some health behaviours are forced by a level of poverty that requires rooming house residents to travel between helping agencies to meet the requirements of daily life. Nurses are encouraged to ensure the theories used for framing research questions capture the broader social determinants of health.

The concept of social exclusion is relevant for nurses to better understand health in a broad social and political context, aiming to improve health and reduce health inequities (Benbow et al., 2015). The social exclusion framework used in this case study has four dimensions that modify the biological determinants of health: social, political, cultural, and economic (Popay et al., 2008). These dimensions of unequal access to power and resources lead to differential exposure to health-damaging circumstances and greater biological, social, psychological and economic vulnerability. I argue that the social exclusion model should be modified to include physical exclusion among its dimensions. Participants and front-line service providers expressed how the shared spaces in rooming houses create an opportunity as well as tension leading to both positive and negative health outcomes. For instance, the study findings suggest the physical space can create family, community and sharing of resources, as well as lead to violence, restrict food choices due to lack of cooking facilities, and lead to a cascade of physical and mental health issues when there are infestations, lack of security, or unsafe conditions. Adding a physical dimension of exclusion to the framework would help interpret context as a degree of health inequality.

Policy

Nurses are encouraged to have greater involvement in the political arena to halt the momentum of dated paradigms in health care, and challenge policies that contribute to health inequities and poverty (Cohen & Reutter, 2007; Delvin et al., 2018). From this rooming house case study, the policy implication for nursing is to recognize rooming houses along the housing continuum as homeless to ensure residents have equitable access to resources residents need to improve their health. Nurses almost universally specify advocacy as part of the nursing role, but rarely see policy development as relevant to that advocacy (Spenceley et al., 2006). This could

be related to the number of nurses providing front-line care, overwhelmed by the level of acuity in the care they are providing or staffing pressures (Khamisa et al., 2015). It is important to recognize that appropriate time, support and employment is needed for nurses to be involved in policy development and advocacy. Providing the message that housing is health care positions nurses as advisors within housing departments, who can then influence decisions at municipal, provincial/territorial and federal levels. There is currently momentum for nurses to expand their scope of practice, but this should not be limited only to expanded scope of clinical skills; rather it should broaden expertise in structural systems that affect health, including housing.

Rooming houses are one of the few remaining options of affordable housing in the urban core of most major cities and have great potential to offer an alternative to sheltered homelessness, and build a supportive community in affordable dwellings. The critical role of 'social connections' expressed by participants is supported in the literature (Minkler et al., 2005; Winetrobe et al., 2017). Research shows that SROs help to develop a sense of community and selfhood amongst residents, enfranchising residents through renewed identity formation and collective empowerment (Arrigo & Takahashi, 2006). Rooming houses should be considered for cultural groups where communal or family living may be beneficial to health and social well-being (Alaazi et al., 2015). For this to occur, policies need to change to halt the loss of rooming house stock to gentrification (i.e., adopt an inclusionary zoning policy), improve conditions in rooming houses (i.e., by-law inspection and enforcement policies), and invest in providing resources for rooming house residents (i.e., federal/municipal policy of Housing First/homelessness resource inclusion criteria) (Parkdale Neighbourhood Land Trust, 2017). The Canadian Nurses Association (2017), specifies the expectation that nurses address broad aspects of social justice associated with health and well-being, improve systems and societal structures to

create greater equity for all, and advocate for fair policies and practices. Nurses involved with housing policy should touch on all of these expectations in an effort to provide ethical care.

Research

This study has suggested that nurses engaged in research with vulnerable people ought to be considerate of which methodology would be the best fit to meet the needs of participants and help to inform the research question. For this case study, the co-creation of personas as part of the focus groups was rewarding to both the researchers to better inform the research question, and to participants who became very engaged in the research process. The use of personas is consistent with CBPR methods with vulnerable populations, such as rooming house residents. This is also in keeping with the literature that encourages a change in the traditional relationship between academic researchers to include and engage community members to build capacity and increase research accessibility (D'Alonzo, 2010; Gubrium, 2016). It can be difficult as an outsider of a community group to conduct research about sensitive topics in a meaningful way and persona co-creation and CBPR methods helped to better inform the results of the case study. The health of rooming house residents is a sensitive topic as participants expressed the fear of losing their tenancy if landlords found out they complained and so they attempted to 'become invisible.' Strategies and research methods that empower participants and ensure their anonymity and confidentiality in data collection are encouraged for nursing research studies (Boucher, 2017).

One issue when studying rooming houses is a lack of consensus on terminology. Research studies may reference 'marginally housed,' 'vulnerably housed' or 'precariously housed' and when the demographics are reviewed, participants are living in some form of rooming house, or SRO. This study complicated matters further by suggesting the rooming

house residents be considered homeless. An implication for research going forward would be to complete a concept analysis to help develop consensus in clarity in terminology.

To better understand health, research needs to be conducted in the environments where health activities occur, such as homes, streets and neighborhoods (Chang, 2017). In developing this research project it was clear that the poor health of rooming house residents could not be separated from the context of the rooming houses and a case study methodology was chosen using several sources of evidence (Yin, 2018). Yin identifies as a post-positivist and the systematic description of methods was helpful in the planning stage of the research project, but it became clear that a problem in context can be very difficult to frame or 'bound the case.' The attributes of Yin's approach are optimal when analyzing past events or understanding a process after it had occurred, so the parameters of the case are finite. A case study approach that follows Robert Stake would focus on what is studied as opposed to how it is studied, and has a large amount of flexibility (Harrison et al., 2017). However, as a novice researcher, the lack of structure offered by Stake (2006) was problematic.

Advocacy

The Government of Canada (2019) enacted the National Housing Strategy which recognized the right to adequate housing as a fundamental human right and set national goals related to housing and homelessness. Nurses have also advocated for affordable, not just adequate housing as a human right (Crowe, 2011). Nurses can bring experience from clinical practice, personalizing stories of the relationship between housing and health to ensure that the interpretation of adequate housing is translated into ground level changes in the communities where nurses work. Nurses provide direct care in a variety of settings, including peoples' homes, and they are in a position to use their professional voice to translate what they see as part of daily

practice into advocacy efforts and research (Archibald & Fraser, 2013). The Canadian Nurses Association (2017), specified that nurses are expected to address broad aspects of social justice associated with health and well-being, improve systems and societal structures to create greater equity for all, and advocate for fair policies and practices. The nurse's role needs to include work to improve the housing conditions of rooming houses, advocating for measures to improve poverty, and looking for better ways for rooming house residents to navigate the health care system and other systems and structural barriers to attain health. Community health nursing involves working in intersectoral and interprofessional collaborative practice to achieve health outcomes, making nurses ideally positioned to see the silos and areas where the broader social determinants of health can be addressed (Community Health Nurses of Canada, 2011).

Implications for Future Research

The findings of this case study provide evidence of the vulnerability of residents of rooming houses, with a recognition that the physical structure of the rooming house influences health. During the pandemic, there has been some attention to the barriers that residents of single occupancy accommodations face in attempting to socially isolate to decrease the risk of acquiring the COVID-19 virus (Hills & Eraso, 2021; Ralli et al., 2021). It is important for future research to look at the health effects, impact on quality of life, and experiences of rooming house residents during the pandemic. The COVID-19 pandemic provides an opportunity to advocate for innovative strategies on how to mitigate illness in shared spaces, and how to leverage the current attention to improve housing and therefore health conditions for rooming house residents.

In this study the average age of rooming house resident participants was 57 years old, a relatively old group considering their premature aging (Hwang et al., 2009; Jones et al., 2015). For a single person living in poverty with little or no family the negative health implications of

aging present several challenges. Some scholars suggest that senior-specific single occupancy accommodation is an alternative to homelessness or higher cost congregate living facilities (Shinn et al., 2007). In future, it will be important to study how to create community in these shared living environments, especially for an aging group of current rooming house residents.

As gentrification continues to jeopardize rooming house stock, nurses need to participate in recording and bringing stories forward of the outcomes of this affordable housing loss. Ideally, nurses would participate in contributing to and monitoring the health effects of any new housing policies.

Conclusion

The aim of this case study was to document and understand, the political, social, cultural, and economic factors that impact the health of rooming house residents. The findings show the pivotal role housing plays in shaping the burden of poverty, isolation, and health for rooming house residents. Nurses can help to recognize and navigate the structural and system-level barriers that impact health by using a social exclusion model to frame health problems. This case study suggests that in order to improve the health of rooming house residents, we need to look where rooming house residents are situated on the continuum of housing and homelessness and advocate for funding and resources to capture all vulnerable people along the continuum.

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Appendix A

Recruitment Poster and Postcard

Do you live in a rooming house?

I'd like to get a better picture of rooming houses and they people who live in them.

- What is your day like?
- Where do you go in the community to get what you need?
- If you have ever lived in a shelter, how is living in a rooming house different?

If you would like to meet to talk about being part of a **research study**, please ask one of the staff for a postcard, or email: Joanna Binch

post card

Did you know that living in a rooming house has an effect on your health? Why is this?

I'd like to get a better picture of rooming houses and they people who live in them.

- What is your day like?
- Where do you go in the community to get what you need?
- If you have ever lived in a shelter, how is living in a rooming house different?

If you would like to meet to talk about being part of a research study, how can I contact you? _____ .

Questions? Contact Joanna Binch

Appendix B

Participant Consent Form on University of Ottawa Letterhead

Title: Health in Rooming Houses

Investigators: Joanna Binch, RN(EC), J. Craig Phillips, LLM, RN, APRN, ACRN, FAAN (School of Nursing)

Participation in this study is voluntary. Please listen to the Informed Consent Form carefully before you decide if you would like to participate. Ask me as many questions as you would like.

Why is this study being done?

The goal of this study is to investigate how rooming houses are linked to health. We would like to know: What aspects of rooming houses, the people who live in a rooming house, or the resources that are available to those who live in a rooming house, contribute to health? This research is being conducted to fulfill the requirements of a PhD in nursing and will be written as a thesis and potentially publications.

Why am I being asked to participate?

You are being invited to be part of a research study about rooming houses because you live in a rooming house in downtown Ottawa. You are invited to participate if you live in a licenced rooming house, if you are over the age of 18, if you are an English-speaker, and if you are able and willing to take photos and then share them in at least one group discussion.

Description of participation:

There are several different parts of this study that you are invited to participate in:

- During the study, spend at least one hour with the principal investigator at your rooming house and in your neighbourhood, allowing her to observe and learn about your environment.
- Attend a training session about taking photos with a smartphone, and about the project which could take up to 2 hours.
- Ove a two-week period, take photos of your rooming house, and things that help you or hinder you to live in the rooming house.
- Along with other participants who took photos, present your photos and provide a short explanation of why you chose them and why they were important for the study. This group discussion will last approximately 60 minutes. This discussion group will be audio-recorded. You can choose not to answer any questions, you can choose to stop the tape recorder at any time, and you can stop participating in the group discussion at any time.

Benefits of participation:

If you participate, you may learn or improve your skill of taking photos. You may also benefit from being part of a team of people who are trying to better understand rooming houses in hopes of improving the health of people who live in rooming houses. You are invited to share your experience, as an expert on this topic.

Risks/Discomforts of participation: The study has a risk of causing you or others discomfort with taking photos. There is a training session that will help minimize this discomfort. There may be a risk of added stress from this project, and to help with any mental health needs, the last page of this consent contains a list of community mental health resources. The principal investigator of this study provides outreach health care in rooming houses. In the unlikely event that our paths cross in the future, your identity and participation or refusal will be kept confidential.

Do I have to participate?

Participation in this study is voluntary. You may refuse to take part in the study at any time without affecting your relationship with the investigators of this study or the University of Ottawa. You have the right not to answer any single question, as well as to withdraw completely at any point during the process. If you decide, after taking photos that you wish to withdraw from the study, your data will not be withdrawn as it is anonymous.

Confidentiality: This study is confidential but not anonymous. All study documents, including this consent form will not record your name, or other identifying information. The study records will be kept for 5 years after termination of this study. All data will be kept strictly confidential and stored in a locked office at the University of Ottawa either on a password- protected computer, or in a locked file cabinet. All electronic information including photos and tape recordings will be coded and secured using a password protected file. The data may be used in future research publications and if results are published or presented, no names or other information that could identify you will be published or released.

Compensation: You will be compensated $20 for your time in attending the training session, $20 for taking photos at the one-week check in, another $20 for the review of photos and photo description at 2 weeks, and finally $40 at the completion of the focus group for a total of $100 over the 2 weeks. A meal will be provided at the focus group and training session, and if needed, you will be given bus vouchers to travel to and from the training session and focus groups. You will be offered to receive a printed copy of any photos you have taken.

Right to Ask Questions and Report Concerns: Should you have any questions or need more information about anything to do with the study, please feel free to contact myself as the principal investigator of the study. My name is Joanna Binch, and you can reach me by email. Please contact me if you would like to have a copy of the research sent to you. If you have other concerns about your rights as a research participant that have not been answered by the investigators, or if you wish to file a complaint, you may contact the University of Ottawa Office of Research Ethics and Integrity at Tel.: 613-562-5387 Fax.: 613-562-5338 ethics@uottawa.ca.

Do you have any questions before we begin?

I confirm that:

- I have read each of the three pages of this Informed Consent Form to the participant.
- To the best of my knowledge, the participant understands the nature, demands, risks, and benefits involved in taking part in this study.
- The participant has had a chance to ask me any questions they have about the study.
- I understand that their questions have been answered to their satisfaction and they have agreed to take part in this research study including a training session, taking photos with observations, and a focus group.
- I have offered the participant a copy of this Informed Consent Form for their use.

Joanna Binch

Investigator Printed Name

_____

Investigator Signature

_____

Date

Community Mental Health Resources

Mental Health Crisis Line: 613-722-6914

The Counselling Group

Trained and experienced Psychologists, Social Workers, and Psychotherapists at The Counselling Group provide a full range of counselling and support services for children, adolescents, and adults. We offer individual, couple, family, and group counselling.

A non-profit program of Jewish Family Services of Ottawa.
2255 Carling Ave, Ottawa, ON, K2B 7Z5
613-722-2225 x352
www.thecounsellinggroup.com
info@thecounsellinggroup.com

Wabano Centre for Aboriginal Health Walk-in Counselling Clinic

Wabano's Mental Health Walk-in Counselling is a free counselling service for First Nations, Métis, and Inuit clients of any age or gender. It offers the same day short-term mental health/wellness support for you and/or your family. There is no referral or appointment necessary to access Walk-in Counselling service.
299 Montreal Road, Ottawa, ON, K1L 6B8
613-748-0657
http://www.wabano.com/mental-health/walk...

The Walk-in Counselling Clinic

Support for Life's Challenges. Free Counselling Service. Trained Professional Counsellors. No referral is required for the Walk-In Counselling Clinic. You will be assisted, with no appointment, on a first-come, first-serve basis during our Walk-In Counselling Clinic hours. The Walk-In Counselling Clinic is open to Ontario residents within the greater Champlain region.

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613-233-8478

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613-725-3601

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Ottawa, ON, K1H 8K7
613-737-5115

959 Wellington Street West
Ottawa, ON, K1Y 2X5
613-725-0202

55 Eccles Street
Ottawa, ON, K1R 6S3
613-238-8210

Rooming House Resident Focus Group Participant (non-photo-taking)

Consent Form on University of Ottawa Letterhead

Title: Health in Rooming Houses

Investigators: Joanna Binch, RN(EC), J. Craig Phillips, LLM, RN, APRN, ACRN, FAAN (School of Nursing)

Participation in this study is voluntary. Please listen to the Informed Consent Form carefully before you decide if you would like to participate. Ask me as many questions as you would like.

Why is this study being done?

The goal of this study is to investigate how rooming houses are linked to health. We would like to know: What aspects of rooming houses, the people who live in a rooming house, or the resources that are available to those who live in a rooming house, contribute to health? This research is being conducted to fulfill the requirements of a PhD in nursing and will be written as a thesis and potentially publications.

Why am I being asked to participate?

You are being invited to be part of a research study about rooming houses because you live in a rooming house in downtown Ottawa. You are invited to participate if you live in a licenced rooming house, if you are over the age of 18, if you are an English-speaker, and if you are able and willing to take photos and then share them in at least one group discussion.

Description of Participation: If you agree to be in this study, you will be invited to participate in a 60-minute focus group that includes a discussion about the health or rooming house residents using photos.

Benefits of this Study: You may benefit from sharing your experience, to better understand rooming houses, as an expert on this topic.

Risks/Discomforts of Being in this Study: The study has a risk of causing you or others discomfort with interacting in a group or looking at photos. There may be a risk of added stress from this project, and to help with any mental health needs, the last page of this consent contains a list of community mental health resources. The principal investigator of this study provides outreach health care in rooming houses. In the unlikely event that our paths cross in the future, your identity and participation or refusal will be kept confidential.

Do I have to participate?

Participation in this study is voluntary. You may refuse to take part in the study at any time without affecting your relationship with the investigators of this study or the University of Ottawa. You have the right not to answer any single question, as well as to withdraw completely at any point during the process.

Confidentiality: This study is confidential but not anonymous. All study documents, including this consent form will not record your name, or other identifying information.

The study records will be kept for 5 years after termination of this study. All data will be kept strictly confidential and stored in a locked office at the University of Ottawa either on a password- protected computer, or in a locked file cabinet. All electronic information including photos and tape recordings will be coded and secured using a password protected file. The data may be used in future research publications and if results are published or presented, no names or other information that could identify you will be published or released.

Compensation: You will be compensated $25 for your time in attending focus group. A meal will be provided at the focus group, and you will be given bus vouchers to travel to and from the focus group if needed.

Right to Ask Questions and Report Concerns: Should you have any questions or need more information about anything to do with the study, please feel free to contact myself as the principal investigator of the study. My name is Joanna Binch, and you can reach me by email. Please contact me if you would like to have a copy of the research sent to you. If you have other concerns about your rights as a research participant that have not been answered by the investigators, or if you wish to file a complaint, you may contact the University of Ottawa Office of Research Ethics and Integrity at Tel.: 613-562-5387 Fax.: 613-562-5338 ethics@uottawa.ca.

Do you have any questions before we begin?

I confirm that:

- I have read each of the three pages of this Informed Consent Form to the participant.
- To the best of my knowledge, the participant understands the nature, demands, risks, and benefits involved in taking part in this study.
- The participant has had a chance to ask me any questions they have about the study.
- I understand that their questions have been answered to their satisfaction and they have agreed to take part in this research study including a focus group.
- I have offered the participant a copy of this Informed Consent Form for their use.

Joanna Binch

Investigator Printed Name

_____

Investigator Signature

_____

Date

Community Mental Health Resources

Mental Health Crisis Line: 613-722-6914

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Wabano's Mental Health Walk-in Counselling is a free counselling service for First Nations, Métis, and Inuit clients of any age or gender. It offers the same day short-term mental health/wellness support for you and/or your family. There is no referral or appointment necessary to access Walk-in Counselling service.
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959 Wellington Street West
Ottawa, ON, K1Y 2X5
613-725-0202

55 Eccles Street
Ottawa, ON, K1R 6S3
613-238-8120

Community Advisory Group Member

Consent Form

Title: Health in Rooming Houses

Investigators: Joanna Binch, RN(EC), J. Craig Phillips, LLM, RN, APRN, ACRN, FAAN (School of Nursing)

Participation in this study is voluntary. Please listen to the Informed Consent Form carefully before you decide if you would like to participate. Ask me as many questions as you would like.

Why is this study being done?

The goal of this study is to investigate how rooming houses are linked to health. We would like to know: What aspects of rooming houses, the people who live in a rooming house, or the resources that are available to those who live in a rooming house, contribute to health? This research is being conducted to fulfill the requirements of a PhD in nursing and will be written as a thesis and potentially publications.

Why am I being asked to participate?

You are being invited to be part of a research study about rooming houses because you either live with or work with people who live in a rooming house in downtown Ottawa. You are invited to participate if you are an English-speaker, and if you can commit to participating in regular community advisory group meetings and share your experiences in at least one group discussion.

Description of participation:

There are several different parts of this study that you are invited to:

- Participate in regular community advisory group meetings
- Potentially help to recruit participants or help locate participants if lost to follow up
- Potentially accompany the principal investigator to your rooming house for observation
- Participate in a 60-minute focus group that includes a discussion about the health of rooming house residents using photos

Benefits of this Study: You may benefit from sharing your experience, to better understand rooming houses, as an expert on this topic.

Risks/Discomforts of Being in this Study: There may be a risk of added stress from this project, and to help with any mental health needs, the last page of this consent contains a list of community mental health resources. The principal investigator of this study provides outreach health care in rooming houses. If our paths cross in the future, your identity and participation or refusal will be kept confidential.

Do I have to participate?

Participation in this study is voluntary. You may refuse to take part in the study at any time without affecting your relationship with the investigators of this study or the University of Ottawa. You have the right not to answer any single question, as well as to withdraw completely at any point during the process. If you decide, after taking photos that you wish to withdraw from the study, your data will not be withdrawn as it is anonymous.

Confidentiality: This study is confidential but not anonymous. All study documents, including this consent form will not record your name, or other identifying information. The study records will be kept for 5 years after termination of this study. All data will be kept strictly confidential and stored in a locked office at the University of Ottawa either on a password- protected computer, or in a locked file cabinet. All electronic information including photos and tape recordings will be coded and secured using a password protected file. The data may be used in future research publications and if results are published or presented, no names or other information that could identify you will be published or released.

Compensation: You will be compensated $25 for your time in attending any community advisory group meetings, if it is outside your regular work hours, or if you do not work. Bus vouchers to travel to and from the meetings will be provided if needed. You will be compensated $25 for your time in attending the focus group if it is outside your regular work hours, or if you do not work.

Right to Ask Questions and Report Concerns: Should you have any questions or need more information about anything to do with the study, please feel free to contact myself as the principal investigator of the study. My name is Joanna Binch, and you can reach me by email. Please contact me if you would like to have a copy of the research sent to you. If you have other concerns about your rights as a research participant that have not been answered by the investigators, or if you wish to file a complaint, you may contact the University of Ottawa Office of Research Ethics and Integrity at Tel.: 613-562-5387 Fax.: 613-562-5338 ethics@uottawa.ca.

Do you have any questions before we begin?

I confirm that:

- I have read each of the three pages of this Informed Consent Form to the participant.

- To the best of my knowledge, the participant understands the nature, demands, risks, and benefits involved in taking part in this study.
- The participant has had a chance to ask me any questions they have about the study.
- I understand that their questions have been answered to their satisfaction and they have agreed to take part in this research study including community advisory group meetings, accompanying with rooming house observations, helping to recruit other participants, and participating in a focus group.
- I have offered the participant a copy of this Informed Consent Form for their use.

Joanna Binch

Investigator Printed Name

_____

Investigator Signature

_____

Date

Community Mental Health Resources

Mental Health Crisis Line: 613-722-6914

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613-748-0657
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The Walk-in Counselling Clinic

Support for Life's Challenges. Free Counselling Service. Trained Professional Counsellors No referral is required for the Walk-In Counselling Clinic. You will be assisted, with no appointment, on a first-come, first-serve basis during our Walk-In Counselling Clinic hours. The Walk-In Counselling Clinic is open to Ontario residents within the greater Champlain region.

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613-725-0202

55 Eccles Street
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613-238-8210

Rooming House Front-line Service Provider

Consent Form

Title: Health in Rooming Houses

Investigators: Joanna Binch, RN(EC), J. Craig Phillips, LLM, RN, APRN, ACRN, FAAN (School of Nursing)

Participation in this study is voluntary. Please listen to the Informed Consent Form carefully before you decide if you would like to participate. Ask me as many questions as you would like.

Why is this study being done?

The goal of this study is to investigate how rooming houses are linked to health. We would like to know: What aspects of rooming houses, the people who live in a rooming house, or the resources that are available to those who live in a rooming house, contribute to health? This research is being conducted to fulfill the requirements of a PhD in nursing and will be written as a thesis and potentially publications.

Why am I being asked to participate?

You are being invited to be part of a research study about rooming houses because you work with people who live in a rooming house in downtown Ottawa. You are invited to participate if you are an English-speaker, and if you can participate in one interview.

Description of Participation: You are invited to participate in an interview that may take up to 45-minutes to discuss how from your perspective, the context for rooming house residents affects their health.

Benefits of this Study: You may benefit from sharing your experience, to better understand rooming houses, as an expert on this topic.

Risks/Discomforts of Being in this Study: There may be a risk of added stress from this project, and to help with any mental health needs, the last page of this consent contains a list of community mental health resources. The principal investigator of this study provides outreach health care in rooming houses. If our paths cross in the future, your identity and participation or refusal will be kept confidential.

Confidentiality: This study is confidential but not anonymous. All study documents, including this consent form will not record your name, or other identifying information. The study records will be kept for 5 years after termination of this study. All data will be kept strictly confidential and stored in a locked office at the University of Ottawa either on a password- protected computer, or in a locked file cabinet. All electronic information including photos and tape recordings will be coded and secured using a password protected file. The data may be used in future research publications and if results are published or presented, no names or other information that could identify you will be published or released.

Compensation: You will be compensated $25 for your time in attending the focus group if it is outside your regular work hours, or if you do not work. Bus vouchers to travel to and from the meetings will be provided if needed.

Right to Ask Questions and Report Concerns: Should you have any questions or need more information about anything to do with the study, please feel free to contact myself as the principal investigator of the study. My name is Joanna Binch, and you can reach me by email. Please contact me if you would like to have a copy of the research sent to you. If you have other concerns about your rights as a research participant that have not been answered by the investigators, or if you wish to file a complaint, you may contact the University of Ottawa Office of Research Ethics and Integrity at Tel.: 613-562-5387 Fax.: 613-562-5338 ethics@uottawa.ca.

Do you have any questions before we begin?

I confirm that:

- I have read each of the three pages of this Informed Consent Form to the participant.

- To the best of my knowledge, the participant understands the nature, demands, risks, and benefits involved in taking part in this study.
- The participant has had a chance to ask me any questions they have about the study.
- I understand that their questions have been answered to their satisfaction and they have agreed to take part in this semi-structured interview.
- I have offered the participant a copy of this Informed Consent Form for their use.

Joanna Binch

Investigator Printed Name

_____

Investigator Signature

_____

Date

Community Mental Health Resources

Mental Health Crisis Line: 613-722-6914

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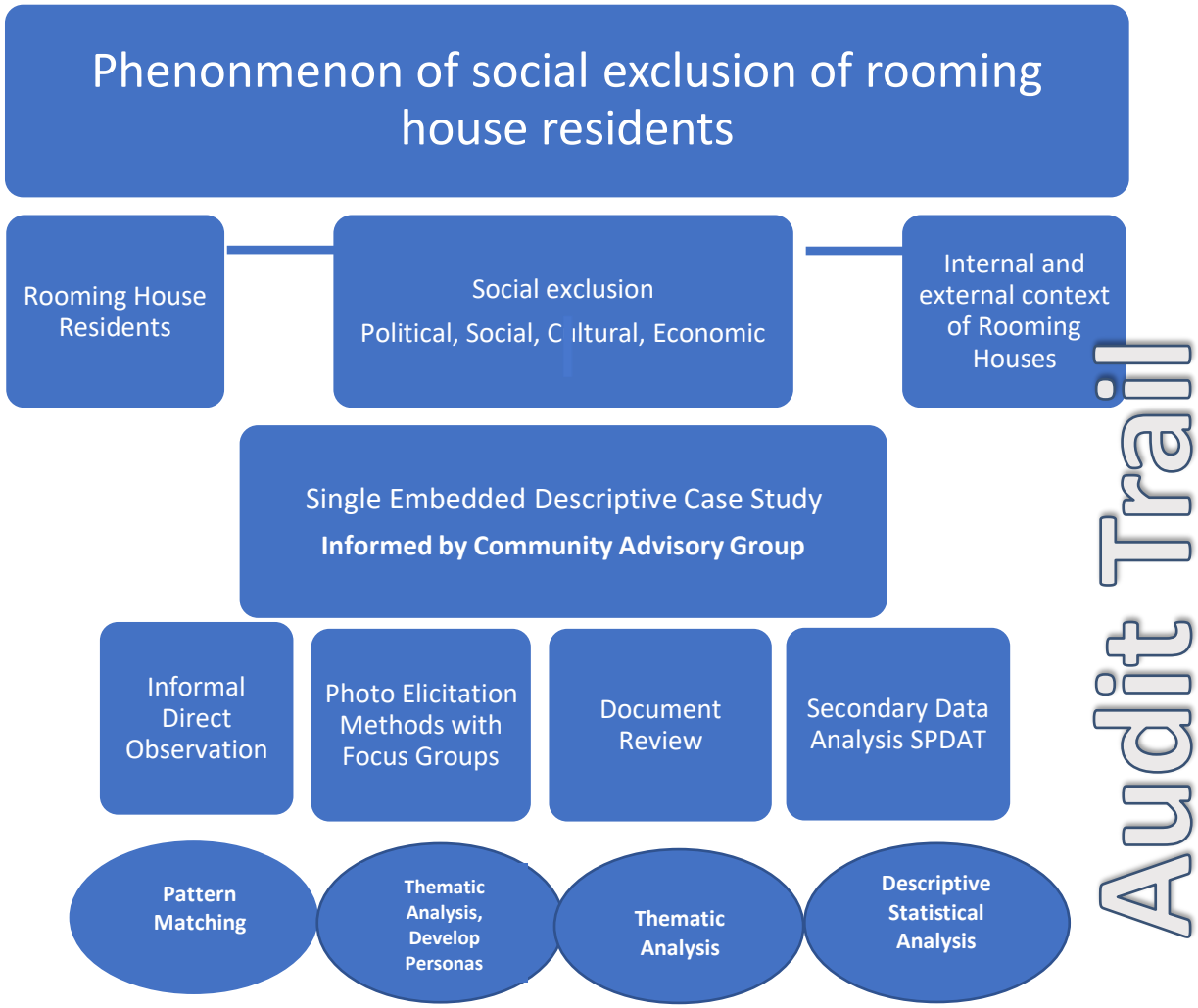
Appendix C

Data Collection Schematic Representation Case Study Approach



Appendix D

Field Note Template

Date:	Time:
Context:	Informants:

Field Observations	**Reflective Notes**

Appendix E

Participant Questionnaire

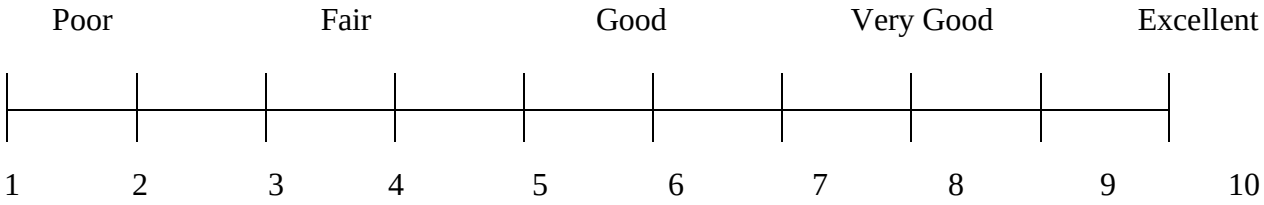
1. **Do you live in a rooming house?**
   - ☐ YES
   - ☐ NO

   If yes, <u>how long</u> have you lived in your current rooming house? _____ months _____ years

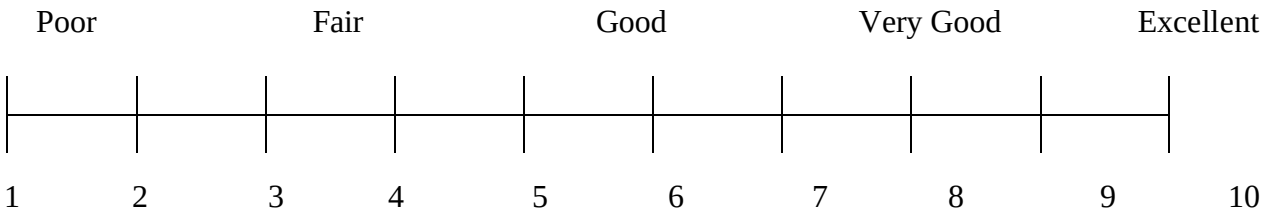
2. **Have you stayed overnight in a shelter in the last 12 months?**
   - ☐ NO
   - ☐ YES

3. **Have you moved 2 or more times in the last 12 months?**
   - ☐ YES
   - ☐ NO

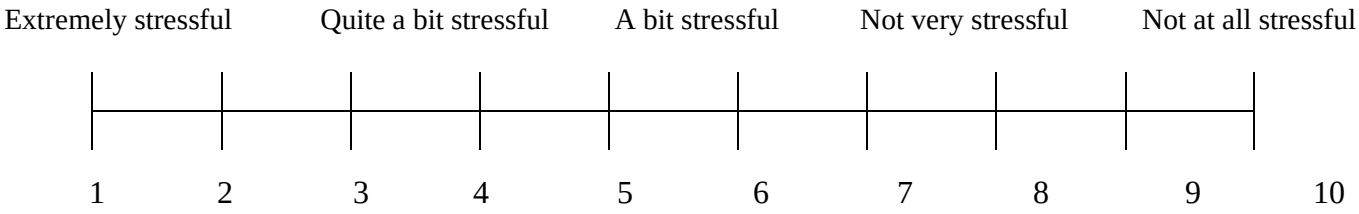
4. **In general, would you say your health is …? (please mark with an "X")**



5. **In general, would you say your mental health is…? (please mark with an "X")**

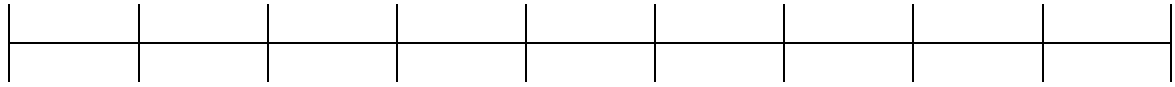


6. **Thinking about the amount of stress in your life, would you say that most of your days are….?**



7. How would you describe your sense of belonging to your local community? Would you say it is ?

Very weak Somewhat weak Somewhat strong Very strong



1 2 3 4 5 6 7 8 9 10

8. During the past 12 months, was there ever a time when you felt that you needed health care, but you did not receive it?

☐ Yes ☐ No

a. Thinking of the most recent time you felt this way, why didn't you get care?

- ☐ Care not available in the area
- ☐ Care not available at the time required (e.g. doctor busy, inconvenient hours)
- ☐ Do not have a health care provider
- ☐ Waiting time too long
- ☐ Appointment was cancelled
- ☐ Felt would receive inadequate care
- ☐ Cost
- ☐ Decided not to seek care
- ☐ Doctor didn't think it was necessary
- ☐ Transportation issue
- ☐ Worried I would be judged
- ☐ Other _____
- ☐ Refuse to answer
- ☐ Don't know

b. Where did you try to get the service you were seeking?

- ☐ A doctor's office
- ☐ A hospital outpatient clinic
- ☐ A community health centre
- ☐ A walk-in clinic
- ☐ An emergency department
- ☐ Other. _____
- ☐ Refuse to answer
- ☐ Don't know

9. In the past 12 months, since [current month], did you ever cut the size of your meals or skip meals because there wasn't enough money for food?

- ☐ Yes
- ☐ No
- ☐ Refuse to answer
- ☐ Don't know

How often did this happen? Was it…?

- ☐ Almost every month
- ☐ Some months but not every month
- ☐ Only 1 or 2 months
- ☐ Refuse to answer
- ☐ Don't know

10. What is your age? _____

11. What is your gender (i.e. male, female, non-binary)**?** _____

12. What is your main source of income? (please "x" all that apply)

- ☐ Employed
- ☐ ODSP
- ☐ OW
- ☐ OAS/CPP
- ☐ Bottle/can collecting
- ☐ Panhandling
- ☐ Other_____ _____

Is there anything else that you want to share with us?

_____
_____
_____

Appendix F

Modification Additional Information Questionnaire

Recruitment Text: The following is the script I could use by email (writing) or verbally (telephone call or voicemail):

Hello! This is Joanna Binch, the PhD student who very much appreciated your time in taking photos last fall for my project about the Health of Rooming House Residents. I have had some time to put all of the photos together and I think I need some more information. I was hoping you might email with me, or if it is easier, have a phone call in order to BETTER UNDERSTAND HOW YOU CHOSE 3 OF THE PHOTOS YOU DID AND, IN YOUR WORDS, WHAT THOSE PHOTOS MEANT TO YOU.

This should take no more than 10 minutes. Our phone conversation would be audio-recorded. As with our previous discussions about the study, your name will not be revealed in future publications, and you can stop the discussion at any time.

As I just wrote, we could do this by email, or by telephone. Because you already consented to this study, I don't need you to sign anything, but I will record our entire conversation, including your agreement to continue with the interview which would imply continued consent. Again, this should take no more than 10 minutes. The questions that I have are:

1. How did you chose the 3 photos you did (I will describe them to remind you)?

2. What did those photos mean to you?

If you agree to participate, would you kindly let me know I time that we could discuss your 3 photos, and whether you would prefer to email or to discuss by telephone?

Thank you,

Joanna Binch

Appendix G

Ethics Approval Certificates

24/07/2019

Université d'Ottawa
Bureau d'éthique et d'intégrité de la recherche

University of Ottawa
Office of Research Ethics and Integrity

CERTIFICAT D'APPROBATION ÉTHIQUE | CERTIFICATE OF ETHICS APPROVAL

Numéro du dossier / Ethics File Number	H-05-19-3008
Titre du projet / Project Title	Health and Rooming Houses
Type de projet / Project Type	Thèse de doctorat / Doctoral thesis
Statut du projet / Project Status	Approuvé / Approved
Date d'approbation (jj/mm/aaaa) / Approval Date (dd/mm/yyyy)	24/07/2019
Date d'expiration (jj/mm/aaaa) / Expiry Date (dd/mm/yyyy)	23/07/2020

Équipe de recherche / Research Team

Chercheur / Researcher	Affiliation	Role
Joanna BINCH	École des sciences infirmières / School of Nursing	Chercheur Principal / Principal Investigator
J. Craig PHILLIPS	École des sciences infirmières / School of Nursing	Superviseur / Supervisor

Conditions spéciales ou commentaires / Special conditions or comments

550, rue Cumberland, pièce 154 550 Cumberland Street, Room 154
Ottawa (Ontario) K1N 6N5 Canada Ottawa, Ontario K1N 6N5 Canada

613-562-5387 • 613-562-5338 • ethique@uOttawa.ca / ethics@uOttawa.ca
www.recherche.uottawa.ca/deontologie | www.recherche.uottawa.ca/ethics

24/07/2019

Université d'Ottawa
Bureau d'éthique et d'intégrité de la recherche

University of Ottawa
Office of Research Ethics and Integrity

Le Comité d'éthique de la recherche (CÉR) de l'Université d'Ottawa, opérant conformément à l'*Énoncé de politique des Trois conseils* (2014) et toutes autres lois et tous règlements applicables, a examiné et approuvé la demande d'éthique du projet de recherche ci-nommé.

L'approbation est valide pour la durée indiquée plus haut et est sujette aux conditions énumérées dans la section intitulée "Conditions Spéciales ou Commentaires". Le formulaire « Renouvellement ou Fermeture de Projet » doit être complété quatre semaines avant la date d'échéance indiquée ci-haut afin de demander un renouvellement de cette approbation éthique ou afin de fermer le dossier.

Toutes modifications apportées au projet doivent être approuvées par le CÉR avant leur mise en place, sauf si le participant doit être retiré en raison d'un danger immédiat ou s'il s'agit d'un changement ayant trait à des éléments administratifs ou logistiques du projet. Les chercheurs doivent aviser le CÉR dans les plus brefs délais de tout changement pouvant augmenter le niveau de risque aux participants ou pouvant affecter considérablement le déroulement du projet, rapporter tout évènement imprévu ou indésirable et soumettre toute nouvelle information pouvant nuire à la conduite du projet ou à la sécurité des participants.

The University of Ottawa Research Ethics Board, which operates in accordance with the *Tri-Council Policy Statement* (2014) and other applicable laws and regulations, has examined and approved the ethics application for the above-named research project.

Ethics approval is valid for the period indicated above and is subject to the conditions listed in the section entitled "Special Conditions or Comments". The "Renewal/Project Closure" form must be completedfour weeks before the above-referenced expiry date to request a renewal of this ethics approval or closure of the file.

Any changes made to the project must be approved by the REB before being implemented, except when necessary to remove participants from immediate endangerment or when the modification(s) only pertain to administrative or logistical components of the project. Investigators must also promptly alert the REB of any changes that increase the risk to participant(s), any changes that considerably affect the conduct of the project, all unanticipated and harmful events that occur, and new information that may negatively affect the conduct of the project or the safety of the participant(s).

Kim THOMPSON
Responsable d'éthique en recherche / Protocol Officer
Pour/For **Daniel LAGAREC** Président(e) du/ Chair of the **Comité d'éthique de la recherche en sciences sociales et humanités / Social Sciences and Humanities Research Ethics Board**

550, rue Cumberland, pièce 154 550 Cumberland Street, Room 154
Ottawa (Ontario) K1N 6N5 Canada Ottawa, Ontario K1N 6N5 Canada

613-562-5387 • 613-562-5338 • ethique@uOttawa.ca / ethics@uOttawa.ca
www.recherche.uottawa.ca/deontologie | www.recherche.uottawa.ca/ethics

H-05-19-3008 - MOD1-3008 - Modification approuvée / Modification Approved

(English message follows)

Cher/Chère Joanna Binch,

Merci d'avoir soumis une demande de modification pour votre projet de recherche intitulé «Health and Rooming Houses».

Ces modifications ont été approuvées et sont assujetties au certificat d'approbation éthique, valide jusqu'au 23-07-2020.

Research Design: The PI will follow-up with a few participants to ask for clarification on the following two questions: "why did you choose the photo that you did?" and "How does this affect your health (please be as detailed as possible)?" They will be contacted via email or phone. These audio-recorded chats will be done on the phone and should last approx. 10min. Consent will be implied by taking part in the chat.

Si vous avez des questions, n'hésitez pas à communiquer avec le Bureau d'éthique au ethique@uottawa.ca ou au 613-562-5387.

Vous pouvez voir votre demande en vous connectant à votre compte eReviews .

Cordialement,

Kim Thompson
Responsable d'éthique en recherche
Président(e) : Daniel Lagarec
CÉR : Comité d'éthique de la recherche en sciences de la santé et sciences / Health Sciences and Sciences Research Ethics Board

Ceci est une réponse automatisée, merci de ne pas répondre à ce courriel.

Dear Joanna Binch,

Thank you for submitting a modification request for your research project titled "Health and Rooming Houses".

These modifications are now covered under the certificate of ethics approval, valid until 23-07-2020.

Research Design: The PI will follow-up with a few participants to ask for clarification on the following two questions: "why did you choose the photo that you did?" and "How does this affect your health (please be as detailed as possible)?" They will be contacted via email or phone. These audio-recorded chats will be done on the phone and should last approx. 10min. Consent will be implied by taking part in the chat.

If you have any questions, please contact the Ethics Office at ethics@uottawa.ca or 613-562-5387.

You can view your project at any time by logging into eReviews .

H-05-19-3008 - MOD1-3008 - Modification approuvée / Modification Approved

(English message follows)

Cher/Chère Joanna Binch,

Merci d'avoir soumis une demande de modification pour votre projet de recherche intitulé «Health and Rooming Houses».

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Cordialement,

Kim Thompson
Responsable d'éthique en recherche
Président(e) : Daniel Lagarec
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Dear Joanna Binch,

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If you have any questions, please contact the Ethics Office at ethics@uottawa.ca or 613-562-5387.

You can view your project at any time by logging into eReviews .

Best regards,

Kim Thompson
Protocol Officer
Chair: Daniel Lagarec
REB: Comité d'éthique de la recherche en sciences de la santé et sciences / Health Sciences and Sciences Research Ethics Board

This is an automated message. Please do not reply directly to this email.

Appendix H

Search Strategy

16	limit 15 to English language	
	15	limit 14 to humans
	14	limit 13 to "all adult (19 plus years)" [Limit not valid in Embase; records were retained]
	13	3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12
	12	(congregat* adj3 hous*).ti,ab.
	11	(hidden adj3 homeless*).ti,ab.
	10	(unshelter* adj3 homeless*).ti,ab.
	9	(hous* adj3 multiple occupanc*).ti,ab.
	8	(room* adj3 hous*).ti,ab.
	7	(vulnerabl* adj3 hous*).ti,ab.
	6	(provisional* adj3 hous*).ti,ab.
	5	(single room adj3 dwell*).ti,ab.
	4	(single room adj3 occupan*).ti,ab.
	3	1 and 2
	2	Homeless Persons/
	1	Housing/

Appendix I

Research Tables

Author/Study	Aims/Purpose/ Research Question	Participants/ Data Source + Theoretical Underpinning	Methods/Design/ Data Collection	Results/Findings/ Future Directions	Strengths/ Limitations/ Comments
Adler and Barry-Macaulay (2009) **Rooming Houses are NOT adequate houses**	PILCH Homeless Person's Legal Clinic consultation about human rights in Australia	145 homeless people accessing legal clinic Legal Opinion Paper	Not discussed "consultations" Concerns about private rooming houses in terms of human rights.	"housing in both the public and private markets in Australia is unaffordable, inadequate and there is not enough to meet the needs of the most disadvantaged and marginalized"	Asking the government to ensure responsive to private rooming houses, as one of the only available housing options for marginalized individuals in the current climate, meets its obligations under international human rights law.
Anucha (2010) **Housed but Homeless? Negotiating Everyday Life in a Shared Housing Program**	Experiences of formerly homeless people who are currently housed in shared accommodation. Extend our knowledge of the dynamics underlying returns to homelessness and the role shared housing might play	12 formerly homeless living in 2 alternative housing programs in TO Part of larger multimethod study facilitators/barriers to housing stability of people considered "hard to house." 8 eviction notices for arrears	McCracken's The Long Interview (life world) 12 participants interviewed 2 times (approx. 6 months- 7 still in housing program) 8 females, 4 males	11/12 experienced homelessness in past Although now housed, in some respects, still homeless Communal bathroom/kitchen bring private lives into public. Only private space is the bed	Consider housing temporary Very aware limited housing options and fearful only option would be the street Living conditions deprived them of the key qualities associated with 'home' and left them feeling homeless

Author/Study	Aims/Purpose/ Research Question	Participants/ Data Source + Theoretical Underpinning	Methods/Design/ Data Collection	Results/Findings/ Future Directions	Strengths/ Limitations/ Comments
Badcock and Cloher (1980) The Contribution of Housing Displacement to the Decline of the Boarding and Lodging Population in Adelaide, 1947-77 HISTORICAL	Where are residents displaced to? What are the sources of displacement? How much of the decline in lodging can be attributed to displacement?	Boarding House residents Adelaide Australia	Case Study/ Historical Review	Sources of displacement: Induced (transfer, cost, aging, Forcible (lease not renewed, condemned, fire) Indirect effects on primary care, rural restructuring Gentrification, capitalist society with consumption as principle Insufficient accommodation in the public housing stock	"low rent boarding and housing accommodation" largely unnoticed by municipalities
Barbic et al. (2018) **Clinical and functional characteristics of young adults living in single room occupancy housing: preliminary findings from a 10-year longitudinal study**	Comprehensively describe the mental, physical, and social health profile of young adults living in SROs	101 young adults (age 18-29 years) SROs in Vancouver (HOTEL study)	Baseline data of prospective cohort study Laboratory tests, neuroimaging, and clinician-and patient-related measures of mental, physical and social health and functioning. Mean f/u period 1.9 years	3 youth died during preliminary f/u period (higher than average mortality) compared to age/sex-matched Canadians -median of 2 co-occurring illnesses associated with poorer functioning -all had lifetime alcohol and THC use, pervasive use stimulants and opioids	Young adults living in SROs have high mortality rates, multimorbid illnesses, poor functioning, poverty and ongoing unmet mental health needs -frequent interactions with health, social and justice system

Author/Study	Aims/Purpose/ Research Question	Participants/ Data Source + Theoretical Underpinning	Methods/Design/ Data Collection	Results/Findings/ Future Directions	Strengths/ Limitations/ Comments
Bardwell et al. (2018) **Addressing intersecting housing and overdose crises in Vancouver, Canada: Opportunities and challenges from a tenant-led overdose response intervention in SRO hotels**	Examine the acceptability, feasibility, and implementation of the Tenant Overdose Response Organizers program (TORO)- a tenant-led naloxone training and distribution intervention	10 SROs in Vancouver: 20 tenants who participated in TORO training session and had administered or received naloxone Focus groups with 15 peer workers who led the TORO program	Semi-structured qualitative interviews June -Sept 2017 analyzed thematically Ethnographic observation at SRO hotels involved in the intervention	OD training/ response enhanced knowledge, skills, provided sense of recognition -engaged isolated tenants -frequency of OD led to burnout and vulnerability -threat of housing loss as tenants associated with drug use	Peer-led, in-reach OD response interventions are effective tools in addressing overdose risk in SROs -SRO environment contributed to OD risk: building unfit for housing and unsupportive of harm reduction, routine stigmatization and harassment of PWUD
Barratt et al. (2015) **Mental health and houses in multiple occupation**	To examine the experiences of residents of houses in multiple occupation (HMOs) to better understand how and why housing affects mental health.	20 HMO residents (18 current, 2 former, 16 men, 4 women) UK seaside resort (University of Essex) Purposive sampling of "vulnerable people" including those with poor mental health	Semi-structured interviews involving questions related to "housing career" in the context of life history. Biographic-narrative-interpretive method (BNIM) to collect data	Mental health affected by the physical property, social environment of the property and personal circumstances prior to the move into the property Mediating factors: safety, control, identity	Poor properties increase the risk of poor mental health due to high levels of stress and possible risk of abuse Participants referred to "bedsit" as term for HMO (individuals who do not make up a single household and who share basic amenities)

Author/Study	Aims/Purpose/ Research Question	Participants/ Data Source + Theoretical Underpinning	Methods/Design/ Data Collection	Results/Findings/ Future Directions	Strengths/ Limitations/ Comments
Bowen et al. (2016) Prevalence of covariates of food security among residents of single-room occupancy housing in Chicago, IL, USA	To assess the prevalence of food insecurity and its covariates among a group of marginally housed individuals living in SRO dwellings	10 private SRO residences in Chicago 224 SRO residents recruited; 163 cases met eligibility	Cross sectional survey incorporating the Household Food Insecurity Access Scale	75% of the sample was considered food insecure, 52% met criteria for severe food insecurity Associations food insecurity: female, soup kitchen most meals, problem drinking, mental health condition, diabetes, one chronic health condition	SRO residents and other marginally housed have unique food access challenges Poverty is the root cause of food insecurity- needs measures above meal programs and food stamps i.e. improved housing, increased income
Bowen, Elizabeth & Mitchell, Christopher (2016) **Homelessness and residential instability as covariates of HIV risk behaviour among residents of single room occupancy housing.**	To examine the relationship between dimensions of housing and HIV risk among people residing in SRO. Hypothesis: SRO residents who had greater degree of homelessness and instability more likely to report recent drug and sex-related HIV risk behaviors	SRO buildings in Chicago's Uptown neighbourhood 163 participants (78% male; 63% African American; low income; 83% homeless in lifetime; mean 3 years at SRO)	Cross-sectional Interviewer-administered survey adapted from previous surveys: 2010 Health Interview Survey; Residential Follow-Back calendar; Risk Behavior Assessment; Needs assessment of homeless persons in Chicago	Homelessness indicators associated with HIV risk (i.e. those who considered themselves homeless more likely to report multiple sexual partners	Self-reported homelessness would be good indictor or number of moves to define population. Cannot group with either homeless or housed in research as such variability in housing history/risk. Encourage partnerships with private/ for profit housing to support

Author/Study	Aims/Purpose/ Research Question	Participants/ Data Source + Theoretical Underpinning	Methods/Design/ Data Collection	Results/Findings/ Future Directions	Strengths/ Limitations/ Comments
Bowen and Mitchell (2016b) **Housing as a social determinant of health: exploring the relationship b/w rent burden and risk behaviors for SRO building residents**	Explore relationship between rent burden (rent: income) and health risk behaviors among sample of SROs residents	N=162 residents living in privately owned, for profit SROs, Chicago Risk model Rent Burden calculations	Cross-sectional study on the health and HIV risk behaviors of SRO residents in Chicago Survey combined from Risk Behavior Assessment, rent, income (under the table and legitimate), self-report health status Bivariate analysis: Chi squared; ANOVA	Full rent subsidy- more likely to engage in risk behaviors including illicit drug use, multiple sex partners, sex without a condom (in comparison moderate or high rent-burden)	Rent burden 52% (not including under-the-table) "Structural interventions to increase housing stability and affordability and bolster reliable income sources may be crucial to reducing risk behaviors and adverse health outcomes among vulnerably housed populations such as SRO residents." Self-report Causal relations difficult
Brown et al. (2020) **Food insecurity and hunger safety net use among single-room occupancy tenants in San Francisco, CA**	Explore the prevalence of food insecurity and use of hunger safety net programs	595 single room occupancy tenants in San Francisco, CA	Self-administered paper survey Sept-Dec 2014 Food security measured 2-item validated measure	73% male 59% 55+ years 84% food insecure 46% use free grocery programs 44% use free dining rooms 34% use home delivered meals 34% live at/below poverty level	Prevalence of food insecurity of sample 7x the national average Home delivered meals protective effect Food assistance programs do not increase food security rates (storage, timing)

Author/Study	Aims/Purpose/ Research Question	Participants/ Data Source + Theoretical Underpinning	Methods/Design/ Data Collection	Results/Findings/ Future Directions	Strengths/ Limitations/ Comments
Calhoun Research & Development/Recherche & developpement (2011) **Good Practices in Rooming Houses**	1. Examine RH as one critical housing option for people who are homeless/at risk 2. Identify good practices in RH as well as programs and services that might help tenants to sustain their tenancies	11 rooming house landlords (TO, Ottawa, Moncton, St. John, Fredericton) 10 service providers to RH Telephone interviews	Qualitative 1. Environmental scan of research 2. Interview landlords using good practices 3. Interviews with coordinators of programs in place to help rooming house tenants sustain/potentially sustain tenancies	RH NB option for those otherwise be homeless. Shared accommodation - collective rights to manage RH well. RH is a business and needs profit. Registration/ regulation needed, not too stringent or out of business.	Good practices: -Sense of ownership retains tenancy -Practice to deal with rent payment (i.e. rent direct) -Support tenancy programs- expand- as cost if homeless much greater -not a large body of literature about RH in Canada -not directly related to health
Campsie (1994) **A brief history of rooming houses in Toronto 1972-1994**	Is any bed, no matter how squalid, better than no bed at all? ?Squalor is in the eye of the beholder	Reviewed media, community, coroner and City reports for this period to re-create the hx	1987 Landlord Tenant Board offered protection to RH Cannot rent by the week 1972 Fire- meetings Regulations and outreach 1974- Regulation 1977- ½ out of business/ deconversion 1989- Rupert hotel fire (10 deaths) 1988- Out of the cold program	1950s growth of suburbs made RH only for those no alternative (until then RH acceptable for newlyweds, immigrants, factory works, RH very common) Casual labor market supplied skid row disappeared so did tenants Zoning bylaws are a symptom, not a cause of housing inequities No biography, not indexed	Describe RH as bottom rung of housing ladder- to keep is make argument for better housing difficult, but to lose makes upward movement difficult and fall to homelessness precipitous. 1987- Year of sheltered homeless 40+ projects funded- mini-industry Cannot consider housing the poor as charity - adequate housing for all

Author/Study	Aims/Purpose/ Research Question	Participants/ Data Source + Theoretical Underpinning	Methods/Design/ Data Collection	Results/Findings/ Future Directions	Strengths/ Limitations/ Comments
Chinazo et al. (2007) **A comparison of HIV health services utilization measures in a marginalized population**	To examine agreement between self-report and medical record health care utilization for a sample of HIV +ve individuals	428 unstably housed HIV-infected adults in NYC- individuals from 14 single-room-occupancy hotels that provide emergency housing to people with AIDs	Cross sectional study Self-report data from audio-computer-assisted self-interviews, medical record data from HCPs and facilities' ambulatory medical records: ambulatory visits, HIV meds, CD4 counts	Agreement between self-report and medical records poor for ambulatory visits, poor to fair for medication use, poor for lab tests performed, agreement on CD4	Information that relies solely on self-report may not be reliable in this marginalized population Focus is not health/housing interaction but on agreement of measures
Canada Mortgage and Housing Corporation (CMHC) (2002) **Initiatives to Maintain Rooming House/SRO Stock and Stabilize Tenancies**	Look at other approaches to conserving RH/SRO stock and stabilizing tenancies.	Case A: RHO Toronto B: Action Lodgement C: TLMS Ottawa D: Portland Hotel E:Rehab Edmonton F: Parkdale Private Project G: Supportive Housing TO	7 Case studies involving: conflict resolution, public education, community development, building construction, supportive housing	Flexible building codes and bylaws needed Debate continues over converting into independent apartments vs maintaining old/creating new units RH/SRO sector plays a significant role in the "hard-to-house" market	Outside of social housing, RH and SRO are the least expensive forms of permanent housing and essential for very low-income single people. If mental health, no shared facilities unless 24 hr supervision Not health related

Author/Study	Aims/Purpose/ Research Question	Participants/ Data Source + Theoretical Underpinning	Methods/Design/ Data Collection	Results/Findings/ Future Directions	Strengths/ Limitations/ Comments
Canada Mortgage and Housing Corporation (CMHC) (2006) **Profile of Rooming House Residents**	1. Create a profile of RH residents in 3 CDN cities 2. Assess resident's views about the affordability and quality of rooming houses 3. Do residents consider RH permanent housing?	240 Rooming House residents (80 Vancouver, 80 Ottawa, 80 Montreal)- small number of landlords in each city	Qual + Quant Exploratory & community driven 2 Phases: 1. Review literature Working definition of RH 2. Interviews with RH residents & landlords Peer interviewers Local advisory committees to facilitate research Workshops each city to validate results	Profile: Single, CDN-born male, late 30s-40s, living well below poverty line Often addictions/mental health -Need more support for onsite or connections Students use as alternative to expensive on-campus housing RH problematic for women Housing still too expensive and using food banks	Oversampled females for comparison purposes Majority considered housing temporary. 1/3 home/long-term Need to look at aging in future and additional needs Regulation could endanger landlords Government needs to work together to make affordable.
Cohen (1951) **Los Angeles Rooming-House Kaleidoscope** HISTORICAL	Describe the pattern of living of residents of LA rooming houses	600 rooming house residents interviewed in 1949 City divided into 3 census-tracts, used to divide RHs Part of a PhD project	70-question Questionnaire administered called an interview study -25% refusal -pretested on 30 residents	-assessed communist and Marxist leanings -Upper and lower rooming houses shows division by location of young, working class and disparity with those on the periphery of the slums	Downtown rooming-house area, people with little education, frequently unemployed, eke out a drab existence. They know there is a better life but have neither the persistence nor the astute- ness to get it themselves,

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Cohen et al. (1977) **The use of a mid-Manhattan hotel as a support system** HISTORICAL	Demonstrate the feasibility of using existing community resources (i.e. downtown SRO) to cope with large number of mentally ill released from hospital institutional care	Needham hotel, Manhattan, 200 residents, 3/5 psychiatric hx	Case comparison control group, objective and subjective assessments (questionnaires completed by hotel manager, case workers, visiting nurse and priest)	-hotel offers 24hr staff, lunch program, socialization group, work program, lounge program, social services, psychotherapy and medical screening -found to be an adequate alternative to psychiatric institution	-residents spent significantly more days out of hospital compared to 2-years before arriving at the SRO -no difference with control group in other SROs -clients "felt better" at SRO
Cohen and Sokolovsky (1979) **Health-seeking behaviour and social networks of the aged living in single-room occupancy hotels** HISTORICAL	How network techniques 1. determine sociability variables correlated with the health of the SRO elderly, and 2) be profitably employed as an alternative	29 SRO hotels in a sector of midtown Manhattan. Residents 60+ years N=96 persons, 47 male, 49 female, mean age 72	Network analysis profile, 100-item questionnaire administered (demographics, health, psychosocial inventories), Goldfarb's mental status questionnaire, modified Brief Psychiatric rating scale, global assessment scale	-51% rated health as good or excellent -Respondents averaged 7.5 personal contacts. The percentages of contacts occurring within the hotel, with outside non-kin and with outside kin were 36, 36, and 28, respectively	networks expand to cope with physical illness (females); networks serve to prevent disease and hospitalization (males); healthy women require fewer social contacts; networks withdraw from unhealthy men

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Cohen et al. (1986) **Assessment of stress-buffering effects of social networks on psychological symptoms in an inn-city elderly population** HISTORICAL	To study the relationships between social factors, disease, stress, and adaptation	161 first interview, 133 final sample interviewed at 1 year elderly from 21 different SRO hotels in Manhattan followed x 1 year	Prospective cohort study 19 social network variables (divide group high low stress-groups) from Comprehensive Assessment and Referral Evaluation & Network Profile Analysis	-+ve correlation with life events and subsequent psychological symptoms -social networks exert a direct influence on subsequent psychopathology, but no added buffering effect	-Structural dimensions assume greater importance for those undergoing greater stress -depending on person's stress level, different network dimensions must be emphasized and strengthened
Collins et al. (2018) **Surviving the housing crisis: Social violence and the production of evictions among women who use drugs in Vancouver, Canada**	Examines the gendered vulnerabilities to, and harms stemming from, evictions from SRAs in Vancouver, Canada. The gendered norms established within SRAs constitute multiple forms of violence that together created barriers to resisting unfair evictions.	56 people who use drugs who were recently evicted (past 60 days) from SRAs in Vancouver's Downtown Eastside neighbourhood, 19 of whom identified as women	Qualitative interviews Recruited by Peer RAs for baseline and follow-up interviews at 3-6 months Transcripts analyzed thematically and interpreted by drawing on concepts of social violence.	40.4 years of age Most participants (n = 15) had experienced three or fewer evictions in the last five years, with the remaining (n = 4) having experienced four or more. Evicted from private (n = 8) and non-profit-operated (n = 11) SRA housing, five of which were women-only buildings.	Intimidation/ threats of violence by staff and landlords undermined rights through tenancy, and eviction from SRAs. Lapses of security and irregular enforcement of building guest policies =experiences of sexual and physical violence for women in private SRAs, mechanisms of hyper-surveillance (e.g. room checks, curfews) enabled and perpetuated gendered violence for women in non-profit-operated SRAs.

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Collins et al. (2020) **Women's utilization of housing-based overdose prevention sites in Vancouver, Canada: An ethnographic study**	To examine the social-structural features of housing-based overdose prevention sites (HOPS) on women's overdose risk.	Data included 35 in-depth interviews with women who use drugs living in SRAs and 100 h of observational fieldwork. Data were analyzed using an intersectional risk environment approach, with attention to equity and violence.	Ethnographic research was conducted from May 2017 to December 2018 in Vancouver.	social and structural environments of HOPS created barriers for women : uncertainty as to who else was accessing HOPS, rules prohibiting smoking, and a lack of trust in staff's abilities to effectively respond to an overdose.	Most participants considered HOPS to be unsafe environments and expressed fear of violence from residents and/or guests. Overdose prevention strategies in SRAs should also include gender-specific models (e.g. women-only HOPS, women peer workers) to help mitigate barriers to these services within the context of the current overdose crisis.
Crystal and Beck (1992) **A room of one's own: The SRO and the single elderly** HISTORICAL	Examine the role of SRO housing for the elderly, using a systematic random sample of New York City SRO buildings.	485 residents of three types of SRO buildings between November 1985 and March 1986 — 122 residents 60+ Building types: hotels used for long-term occupancy; rooming houses; and apartment buildings converted to single-room use	Interviews 2 parts: Consultant report on the existing stock of buildings, operations, and ways to preserve or replace the stock. A resident survey also conducted and is the data source for this article.	Elderly residents strongly preferred to remain in centrally; did not wish to share a housing unit; had little confidence that they could find acceptable housing if they lost their present unit.	For many elderly residents, SROs meet needs not easily met by available alternatives. Results suggest the need to maintain this housing option for older persons and replace losses that have accompanied gentrification in many central city areas

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Cunningham, Shapiro, et al. (2005) **An evaluation of a medical outreach program targeting unstably housed HIV-infected individuals.**	To evaluate a medical outreach program that targets unstably housed HIV-infected individuals-specifically if adding physicians to existing outreach teams would improve health care utilization, increase HIV medication use and improve perceived access to and quality of care.	161 SRO hotel participants NYC part of Citi Wide outreach to specific eight SRO housing offered to homeless people living with AIDS 95 pre-intervention group, 66 post-intervention group (pre and post group different individuals as too transient)	"Cross-sectional interviews" Survey before and after (8-18 months) the implementation (MDs two evenings per week) of medical outreach.	Post intervention group more likely to have a regular HCP (visit q3-4 months), take PCP prophylaxis, and HIV meds than pre-intervention group. Participants have a general misconception regarding receipt of optimal health care.	A medical outreach program targeting unstably housed HIV-infected individuals associated with regular medical care and improved perceived quality of care. Benefit was partnering with trusted outreach partner. Benefit of harm reduction approach. Consistent hours.
Cunningham, Sohler, et al. (2005) **Health care access and utilization patterns in unstably housed HIV-infected individuals in New York City**	Describe baseline characteristics of unstably housed HIV-infected individuals from NYC, their health care access and utilization patterns	150 HIV-infected one of sixteen SRO hotel residents in NYC	Interviews 40-60 minutes Citi Wide participants	Most participants 40+years, black, or Latino, public insurance, hx substance use, depressive symptoms, CD4 over 200, 91% regular provider, 30% at least one hospitalization in the previous 6 months	High measure of access to and utilization of ambulatory care services, which contradict other studies However, overall HIV primary care is inadequate

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Cunningham et al. (2006) **Type of substance use and access to HIV-related health care**	Investigated the associations between specific types of substances of abuse and access to health care	238 HIV-infected individuals living at 8-different SROs in NYC	Interview August 1999-February 2001 Demographics, health care access and utilizations, drug and alcohol use Self-report	If any drug or crack/cocaine use, less likely to have a regular provider than those reporting no drug use -Binge ETOH use were more likely to have a regularly MD than those without binge ETOH use Those using any drug less likely to perceive quality of health care positively	Although drug use in general associated with poor measures of HIV-related health care access, in this study poorer access to health care amongst substance users associated predominantly with crack/cocaine use. This study seems to be less about the setting, although care was at the SRO.
Cunningham et al. (2007) **Assessment of a medical outreach program to improve access to HIV care among marginalized individuals**	Assessment of a medical outreach program targeting unstably housed, HIV-infected individuals Examine whether keeping medical appointments was associated with patient and program characteristics.	Evaluation of CitiWide drop-in centre and SRO visits	Extracted data from 2003-2005 Examined 2666 medical appt records from CitiWide and Montefiore's database	Patients kept appts more frequently when walk-in or same day, when at the drop-in centre, or when made by non-medical providers 416 patients made appts	Changed to have more same-day appts, reconsidering utility of medical providers on outreach Medical community needs to look at system factors, not just individual factors in adherence to HIV care

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Distasio, J., Dudley, M., Maunder, M. (2002) **Out of the long dark hallway: Voices from Winnipeg's Rooming Houses**	Learn more about rooming houses, the people who live in them, and the community members who share the neighborhood. "More important than the rebuilding and renovation of rooming houses, is the need to restructure our own cultural values surrounding the provision of housing."	Survey: Low-income households (94), rooming house residents (46- but 38 as caretaker), care-takers (16), owners (15), nearby residents (159) Qualitative more than quantitative, constructivist (not positivist)	Participatory Action Research 5 different Surveys, in-depth interviews, workshop Examine rooming houses from a community-based "people-places" perspective	Medical and psychological support burden placed on owners. They need to make a profit. Positive themes: affordable housing, sense of community Neg themes: poor physical condition of RH, difficulties with irresponsible tenants) State of bathrooms aroused most passion 4 Themes: 1.Affordability/ Support Provision 2. Tenant Relp 3. Physical improvements (safety/bathroom ratio) 4. Financial affordability for owners	Rooming houses part of the industry of poverty, incl food banks and soup kit.. Used research for policies, programs, initiates to improve the conditions of rooming houses Cooperative approach may lead to strategic relationships with tenants, owners, community. Winnipeg defn rooming house: single family home divided into 3 or more suites Difficulty getting accurate count- even licensed rooming houses-volatile market (ex condemned, unlicensed)

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Dunkel and Eckert (1982) **Use of health services among elderly single-room occupants** (HISTORICAL)	Report on the patterns of health care use among a subgroup of the urban elderly	62 residents 50+ yrs from 13 downtown hotels in San Diego 2 groups of elderly urban hotel dwellers: elderly residents of SRO hotels (42) and similarly aged residents of middle-class "retirement" hotels with no shared bath (20) Central-city SRO hotel occupants in San Diego California	Survey instrument: Length of time resident, who would help in emergency, use of medical services, how financed, socioeconomic data, 195 Cornell Medical Index (CMI), Index of Incapacity (measure of functional ability)- 1hr to administer	SRO dwellers younger, lower level of education, worked previously as unskilled/semiskilled worker middle-class hotels more likely to be women and widowed and worked in professional or clerical capacity. SRO group more impaired emotionally,	-over ½ of SRO residents reported they "spoke to no one." -SRO more likely to use free clinic, veterans' services, outpatient hospital service or ER -SRO: to stay healthy" "drinking booze" and "playing the horses." -SRO residents distinct subculture that interacts with the health system in a particular way. -SRO: more likely to ask a friend or no one re: health than physician -SRO: choose care in places can remain anonymous -Although 10 years younger on average, similar health issues to middle class retirement hotel residents

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Gicas et al. (2014) **Neurocognitive profiles of marginally housed persons with comorbid substance dependence, viral infection, and psychiatric illness**	This study aimed to identify and describe distinct neurocognitive profiles within a cohort of SRO hotel residents from the DTES	HOTEL study Two hundred and forty-nine (N = 249) SRO hotel residents (mean age = 43.5 years) located in the DTES of Vancouver, British Columbia, as part of a 5-year longitudinal study	premorbid IQ, verbal memory, attention, inhibition, mental flexibility, and decision making. substance use and psychiatric diagnoses, viral infection, psychiatric symptoms, risk behaviors, and everyday functioning. Cluster analysis was used to identify subgroups of individuals with similar neurocognitive profiles and was supplemented with a discriminant function analysis. Analyses of variance and chi-square tests were used to validate the derived clusters on key clinical and functional variables.	3 clusters: Cluster 1: significantly more educated, exhibited less severe negative symptoms, and suffered a lower rate of HIV infection and total virus exposure Cluster 2: significantly more days per month of heroin use, and a greater proportion of individuals were diagnosed with heroin dependence, with trends noted towards more injection drug use and fewer days per month of alcohol use. Cluster 3:lower education, less heroin use, more severe negative symptoms, and exposure to a greater number of viruses	Participants in Cluster 1 (n = 59) emerged with overall higher neurocognitive functioning than the other clusters. Persons in Cluster 2 often functioning below normal limits, but exhibit average-range premorbid IQ and neurocognitive inhibitory control Cluster 3 (n = 87) displayed poorer neurocognitive functioning than the other clusters. This group is remarkably impaired in verbal memory, attention, and mental flexibility. Decision making, inhibitory skills, and estimated premorbid IQ abilities fall within normal limits

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Grace et al. (2016) **WAND: An activity Program for women in a rooming house**	1. What did women's participation in the WAND Program mean to them? 2. What are the implications of these finds for future practice, policy, and research?	Women from rooming house using WAND program activities Feminist critical social research, clear political intention of making life better for disadvantaged women	2 Focus groups (n=14) and interviews (n=6 residents, n=1 manager)	Program Impact 5 themes: Reducing isolation, importance of leaving choice to the women, vital role of staff support, emerging sense of program ownership, experiences of building community connection.	Australia 67 women in residence, only a few have accessed the program- these were then interviewed Advocates for gender-specific services
Groth (1986) "Marketplace" Vernacular Design: The Case of Downtown Rooming Houses HISTORICAL	What typical single-room housing looked like historically. Location, basic building outline, functions of various floors, adjacent plots, configuration of light wells, number of baths. Some basic floor plans.	N=2600 possible listings, 300 buildings Insurance maps, water company records, street surveyor's forms from the Works Projects Administration's Real Property Survey. Tax assessors' records.	Random samples drawn from listings of hotels, boarding houses, lodging houses and furnished rooms from 1880, 1910, 1930 city directories of San Francisco. Architecture	4 ranks: 1. Wealthy: palace hotels 2. Middle class professionals /business people: middle-priced hotels 3. Skilled laborer: inexpensive RH Migrant or casual laborers: cheap lodging houses.	Plumbing ratio helped classify. Young skilled workers included nurses. Homes called "upstairs hotels." Not identified by form but how related to social position and purchasing power of occupants. Majority single-household is not always a family.

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Grunebaum et al. (1999) **Predictors of management problems in supported housing: A pilot study**	Examine the predictors of management problems among residents of a supported single room occupancy hotel (SRO) for persons with severe and persistent mental illness (SPMI)	Case workers of a supportive SRO of 36 people in NYC 24-hr staffing, psychiatrist on site 6 hrs/week Patient population in SRO formerly homeless	18-item questionnaire completed for each resident by their case worker. Demographic and clinical characteristics of the 26 residents as well as hx and extent of management problems- over 6 months	Medication-compliant residents without drug use were rarely disruptive, those with co-morbid substance abuse often disruptive Medication non-compliance caused management problems +/- drug use	Supported residences should be staff to minimize medication non-compliance and substance abuse Medications are important in preventing behavioral disruptiveness, but less effective with co-morbid drug use Alcohol not predictive of management problems
Hinshaw and Holan (2011) **Rooming House Redux**	Incorporating Rooming Houses into new builds	Architecture	Reviewed 3 housing builds in Seattle who used rooming houses as solution to affordable housing	Opposition as would attract: “transients, criminals, and social miscreants”	Rents based on income and housing provider provided transit pass. Not related to health.

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S. W. Hwang et al. (2003) **The relationship between housing conditions and health status of rooming house residents in Toronto**	1. Describe health status of representative sample of rooming house residents. 2. Determine whether physical and organizational characteristics of rooming houses correlate with health status	295 residents in 171 rooming houses in Toronto (6% proportionate random sample each stratum of rooming houses) NPHS for chronic conditions	Interviews SF-36 tool for health status Physical attractiveness: Multiphasic Environmental Assessment Procedure Divided by: 1. Provision vs non-provision meals 2. Owner occupied vs absentee landlord Participation or not in Habitat program 4. Profit vs Non-profit status	-non-significant trend men poorer health status than women -10 conditions more common: migraine, sinusitis, incontinence, epilepsy -cannot separate out low income as factor -non-profit rooming house more attractive -poorest health live in poorest condition rooming houses -no association with health: on-site landlord, non-profit, provision of meals -diverse demographics	91 interviews could not be conducted because: could not enter rooming house, rooming house no longer in operation, or no resident was willing to participate. Former/current rooming house residents conducted surveys. Did not include unlicensed rooming houses. “Rooming houses are an important source of affordable housing in Canada.” 1/4 homeless within the last 5 years. “living in a rooming house should be considered a marker of high risk for poor health, similar to homelessness”

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S. Hwang et al. (2003) **Rooming House Residents: Challenging the Stereotypes**	Provide a demographic profile of Toronto's Rooming House Residents	From above study/survey 295 residents of 171 licensed rooming houses in TO	Survey	1/3 employed Average rent 44.8% income 1/3 homeless in lifetime Average time in rooming house ~3yrs 2/3 ETOH 15% university degree	Limited to licensed rooming houses, minimum 4 units to shared bathroom May under-represent populations that cannot speak English Most live alone, have low incomes (food insecurity), not possible to make valid generalizations
Knerich et al. (2019) **Social and structural factors associated with substance use within the support network of adults living in precarious housing in a socially marginalized neighborhood of Vancouver, Canada**	To examine the social support network of people living in precarious housing, and analyze associations between social network, personal substance use, and supporters' substance use.	246 participants from 4 SROs in Vancouver (201 provided social network information) Part of longitudinal HOTEL study	6-month observation period Use of tobacco, alcohol, cannabis, cocaine, methamphetamine and heroin recorded at monthly visits Ego-and graph-level measures calculated Logistic mixed effects models used to estimate association b/w ego substance use and peer substance use	Social network was strongly influenced by residence, and in turn type of substances used Dispersion of substance use across the network showed differences by network topology (2 clusters) and specific substance Interventions need to target entire hotel, and need to find alternative accommodation if seeking treatment	Meth only in cluster 1 Substance use did not differ over 6-month observation Ego heroin, cannabis, crack associated with alter-use of same substances Ego meth, powder cocaine, alcohol, not associated with alter use Cannabis associated with lower ego heroin and crack use

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Kelly R. Knight et al. (2014) **SRO hotels as mental health risk environments among impoverished women: The intersection of policy, drug use, trauma, and urban space**	Examine the relationship between space, drug use, and mental health to reveal the linkages between housing policies, the socio-structural organization of urban built environments and everyday behaviors.	N= 30 women who use drugs and live in SROs Rhodes framework of socio-structural vulnerability. Part of larger epidemiological study Shelter Health and Drug Outcomes among Women (SHADOW) homeless/unstably housed San Francisco	Qualitative interview study (baseline, 1 yr, 18 month) + 4 years ethnography with housing and health policy-makers in SF and a photo-ethnographic study with 500 photos of 25 different SRO hotels in SF.	Specific constructions of urban space may exacerbate women's co-occurring mental health and substance issues: Type, availability and material conditions of housing environments play a significant role in mental health.	Macro-level factors: housing policies shape SRO envt; meso-level: social relations within SROs; micro-level: behavioral strategies cope with hx trauma and mental illness Purposive sample from larger study of hx high risk behavior//trauma/drug use
Krupa et al. (2019) **Noxious housing: The influence of single room occupancy (SRO) facilities on neighbourhood crime**	Examine the impact of SROs on violent, property and nuisance crimes at the neighbourhood level. A) whether the presence of SROs contributes to higher rates of crime in neighbourhoods B) Whether this relationship varies by crime type C) The potential role of SROs in spatially proximate neighbourhoods	Sample of 20 SROs in Jan 2010-Dec 2012 St. Petersburg, FL Social disorganization theory Routines activities theory Crime prevention through environmental design (CPTED)	Police incident report data (aggravated assaults, thefts, drug crimes, prostitution) Negative binomial regression modelling Independent variable: presence of 1+ SRO within block Dependent variable: Different types of crime	Number of crimes in neighbourhoods with an SRO are significantly greater -assaults 1.48x (47%) higher -increased prostitution incidents by 967% -thefts 68% higher -"spill over" of close neighbourhoods 24% increase thefts, 25% increase drug crime, 350% increased prostitution	SRO in or nearby neighbourhood increases local crime -SROs designed in a way facilitates crime: direct access to rooms, absentee management, problematic guests unobserved, private ownership "look the other way" when building in disrepair, guests inappropriate, cash economy from bad credit

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Lally et al. (1979) **Older women in single room occupant (SRO) hotels: A Seattle profile** HISTORICAL	Further assess the characteristics and needs of SRO elderly women in urban communities considering the apparent contradiction in existing descriptions of this population.	16 women over the age of 55 living in 10 Seattle SROs	Observational and open-ended interviewing methods	Lifestyle based on mobility, extreme individualism and independence. SRO residence part of natural life progression, not social pathology.	Social network theory to guide care using informal social networks. Hotel staff check in on women as informal care-givers. Develop services that complement rather than depreciate their chosen life-styles and self-concepts.
Layton et al. (1995) **Tuberculosis screening among homeless persons with AIDS living in single-room-occupancy hotels**	Evaluation of tuberculosis screening methods at a SRO hotel housing persons with AIDS.	One SRO in Manhattan, computer matched against NYC tuberculosis registry. SRO hotel supposed to be temporary accommodation provided by Division of AIDS services	1. Interview of symptoms and Tb hx 2. Mantoux skin test 3. Portable CXR	Of 116 residents, 106 (91%) participated, 16 cases (15% prevalence) of Tb identified, all known Only 50% had been compliant with tx	Started a DOT program from 5 SRO hotels Partner with ER for homeless to provide housing in one of five hotels where DOT program Incentives key to engagement and compliance with tx

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Levinson (1974) **The etiology of skid rows in the United States** HISTORICAL	To gather and analyze information about the Bowery subculture system.	The Bowery is the name of a street in NYC- 20 lodging houses, 16 bars and 2 missions Oct 1970-Sept 1971	Ethnography: Participant observation, structured questionnaire, a census of Bowery lodging houses, formal and informal interviews, and a survey of directions of missions located on skid rows in sixty United States	6 distinct groups: old pensioners, resident workers, transient workers, full-time alcoholics, young black men and drug addicts- share values and behaviors that are basic to the whole Brewery sub-culture with intergroup mobility	The process of a man dropping out of society seems to operate in two stages. 1. involves the man's degree of adjustment to society throughout his life. For most men the Bowery has been a marginal adjustment characterised by broken marriages, incomplete schooling, poor employment records, and poor performances in the military. 2. an event occurs that seriously disrupts the men's lives and precipitates their dropping out. Typical precipitating events are the loss of wife through divorce or death, loss of employment, loss of money, illness, and physical injury.

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Lottis et al. (2014) **Rooming Houses to Rooming Homes**	To outline the challenges facing tenants living in rooming houses and of maintaining this housing stock. How can social conditions of tenants be improved alongside their physical surroundings: showcase Pilot Project	Social inclusion lens. 20 key informants, including gov't and political representatives, community organizations, an private market landlords	Video results Qualitative interview tool No tenants interviewed	Concentrated area of residences with rooming house violations. Problems facing rooming houses documented for decades, but front-line workers are pushing as they see the need	Estimate 930-1410 rooming house units have been lost from 1995-2014. New housing has not been created fast enough to address the loss Winnipeg council recognized rooming houses as a key housing type in eh vision to end homelessness
Mifflin and Wilton (2005) **No place like home: rooming house in contemporary urban context**	Capacity of SRO accommodation to provide stable, long-term accommodation, as well as conceptual discussion of the meaning of "home"	Hamilton, ON In-depth interviews with rooming house tenants (n=17 male, n=4 female) Interviews key informants: social service, legal, municipal, public health, fire dpt	Case Study Purposive Sampling Literature review N-Vivo selective-coding approach	Analysis categories: living conditions of rooming houses, relationships with landlords, nature of social relationships within and beyond the rooming house Rooming houses could be "home" but municipal funding inadequate to ensure standards.	Recruited from shelter-service users Recognize tension of affordable housing vs inadequate living space

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Minkler et al. (2005) **Social support and social action organizing in a "Grey Ghetto": The tenderloin experience**	Describe and analyze a health education program aimed at building supportive networks amount the elderly in seven Tenderloin hotels and stimulating broader community action.	Tenderloin Senior Outreach Project (TSOP) Social support theory and Freire's "education for critical consciousness"	Detailed description of the project and the transfer from an academic-led organization to a tenant led organization. "The Tenderloin Senior Outreach Project provides a case study of a social support and social action-oriented program"	While quantitative analysis of the Project's effects on the health, morale, and sociability of residents is currently being undertaken, such analysis will be of limited use in documenting many of the qualitative changes in perceived sense of control and sense of community which have been observed	Social isolation and powerlessness are intimately connected to the health problems experienced by the SRO residents. There was no description of analysis/critical reflection of the description of events.
Oriole Research & Design Inc (2008) **Shared Accommodation in TO: Successful Practices & Opportunities for change in the RH Sector**	1. Inventory of good practices in the RH sector 2. Profile of rooming house tenants 3. Business cases for the development and operation of RH	Tenants (44) mostly unlicensed RH Landlords Municipal staff Agency Staff (not specified)	Literature review Interviews	Support landlords to acquire and operate a RH Tenants single, white, middle-aged, education varies, diverse health, social connection- all low income	-11 recommendations presented to City of TO to inform Framework for Affordable Housing -Extend housing allowances to bridge the difference between shelter allowance and actual cost -O n-site services due to high mental health/addiction -Change term ROOMING HOUSE as stigmatizes

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Plutchik et al. (1975) **Changes in elderly welfare hotel residents during a one-year period** HISTORICAL	Evaluation of a model program developed in a community setting and funded by the National Institute of Mental Health (NIMH). Comparison of quality of life – 2nd interview after one year- implementation of supports within the SRO	Interviews of 154 of the 306 people in Apr/May 1973, of these 100 participated in 1972 survey.	Descriptive stats Lawton self-care index The Stratford Arms hotel. Project provided 25 staff full- and part-time, students, volunteers to deliver services: medical, psychiatric, counselling, alcoholism, recreation, social services x 2+ years.	Statistically significant changes occurred in 9 of the 35 variables assessed for the one-year period. Age increased by a year, tenancy another year, income increased by $10 and capacity to take care of themselves improved.	More time spent in the room, greater feelings of fear and greater depression. Group who drank alcohol showed greatest improvement in a year- with more hobbies.
Rowe et al. (2019) **Drug overdose mortality among residents of single room occupancy buildings in San Francisco California 2010-2017**	To qualify and characterize drug overdose mortality among residents of SRO buildings	1551 overdose deaths during the study period	Mortality records and a database of SRO buildings to calculate rate ratios comparing overdose mortality due to opioids, cocaine, and meth among SRO residents and non-SRO residents	The rate of OD death among SRO residents was 19.3 times that of non-SRO residents 86% of SRO residents died at home compared to 64% of non-SRO residents	Overdose death was substantially higher among SRO residents, who were also more likely to die from overdose at home There is a need for resources and targeted interventions directed towards residents who use drugs in SRO buildings.

Author/Study	Aims/Purpose/ Research Question	Participants/ Data Source + Theoretical Underpinning	Methods/Design/ Data Collection	Results/Findings/ Future Directions	Strengths/ Limitations/ Comments
Sacajiu et al. (2007) **The evolution of HIV illness representation among marginally housed persons**	The goal of the present study was to formulate theoretical illness representation categories at the time of HIV diagnosis, to describe its evolving nature over time, and to examine its association with engagement in health care among marginally housed individuals.	Examined illness perceptions, competing priorities, drug use and support systems during two time periods: the time of diagnosis and the time of interview. Illness representation model (5 conceptual dimensions of illness)	14 semi-structured interviews "using standard qualitative methodologies" with HIV-infected residents of single room occupancy (SRO) hotels in New York City between April and June 2004.	2 categories: 'didn't suspect and didn't believe it' and 'knew but needed proof'. In this study illness representation categories were found to evolve and change over time, and were associated with engagement in HIV care	Though it appears that perceptions and attitudes towards living with HIV may have improved over time, it is possible that their social context, including their housing situation, was not suitable to support positive change, but this hypothesis needs further examination. Study seems less about the SRO/influence of housing, then a convenient location for recruitment.
Shannon et al. (2006) **The impact of unregulated SRO hotels on the health status of illicit drug users in Vancouver**	Describe the characteristics of individuals living in SRO hotels and to explore the association between living in SRO hotels and health status.	Vancouver 2574 participants of CHASE, 1813 lived in SROs. Community-based cohort study: The Community Health and Safety Evaluation (CHASE) Project	Baseline questionnaire and link to existing health service registries with biannual f/u Descriptive and univariate analysis to determine bivariate associations between SRO housing and sociodemographic characteristics, health service and drug use patterns	SRO associated with male, HIV/HCV, moved 1+ in previous years, hx physical assault, ER use, recent incarceration, IDU and crack smoking	DTES very specific community environment: intensive illicit drug use. Housing may threaten to undermine harm reduction strategies. Not recognizing issue of housing may lead to failure of other programs: abstinence/harm reduction, recidivism of incarceration.

Author/Study	Aims/Purpose/ Research Question	Participants/ Data Source + Theoretical Underpinning	Methods/Design/ Data Collection	Results/Findings/ Future Directions	Strengths/ Limitations/ Comments
Shapiro (1966) **Single-Room Occupancy: Community of the Alone** HISTORICAL	Describe the process of starting a recreation/rehab program at a SRO/rooming house NYC Survey of tenants	N=104 tenants of SRO Social worker/journal	Direct contact with individuals and groups, detailed description by the manager, accounts by a series of informants, survey of participants/residents	71% welfare; average age 45.8 years; average time in building 4.4 years, 40% black, 90% psychological maladaptation Vast majority used behavioral map of 2 block radius, several no bus or subway travel 3 groups of SRO: "winos" "junkies" "mentals"	Some functions of professionals such as visiting nurses or homemakers were absent in the building. Instead self-assigned amongst the tenants. Created "family" relationships. Meal activity gathered most tenants. 15% did not participate at all
Shepard (1997) **Site-based services for residents of single-room occupancy hotels**	Findings of an evaluation of a demonstration program that provides on-side social services and job counseling to SRO residents	72 residents of SRO (52 in comparison group) 12-month f/u 36 clients, 34 matched clients GAP project social worker and job counsellor: case management, counseling, financial aid for transportation, training	Pre and Post Test Design to compare outcomes Chi-square, t tests to compare the client and comparison group on demographic variables Gain scores for each goal attainment scale	GAP group made significant gains on goal attainment (dropped 29% reliance on gov't assisted income) Already well-educated population, mental health, and "chemical' dependency. Employment and income gains not as great as originally hoped for: inadequate wages/job availability	"SRO often seen as skid row, but view is changing as housing is seen as a community resource for the prevention of homelessness." "SRO residents, who are often one step away from homelessness…" Social worker model to provide services in client environment.

Author/Study	Aims/Purpose/ Research Question	Participants/ Data Source + Theoretical Underpinning	Methods/Design/ Data Collection	Results/Findings/ Future Directions	Strengths/ Limitations/ Comments
Skemp et al. (2014) **Doing it my way**	Describe why these elders decided to live in the motel and how this facilitated their living in the community.	7 middle-income and affluent rural elders living in a motel setting as a housing option that enabled them to remain independent in their community	Community ethnography (formal, informal interviews, inductive comparative case study analysis) Content analysis	"Saving my energy for living" "Safety" "Connections and privacy" "The freedom to come and go."	Importance of naturally occurring networks to develop community capacity for healthy aging Describes an alternative to negative image of SROs for independence, autonomy and individual rights
Sokolovsky et al. (1978) **Personal networks of ex-mental patients in a Manhattan SRO hotel** HISTORICAL	Investigation of the social organization of ex-patients, clinically labelled as schizophrenic who are residing in a large Manhattan SRO hotel- delineate morphological characteristics of the network and structure of the network	Needham hotel, privately owned SRO of 180 residents	Network analysis- each diagnostic group compared for size, number, percent of multiplex links, density and degree	Persons with no psychotic histories maintained hotel networks twice the size of those with severe symptomatology	The setting was a SRO but the study was about networks with those diagnosed with schizophrenia -SRO provided some network for even the most impaired people with schizophrenia -low social network connectedness associated with re-hospitalization

Author/Study	Aims/Purpose/ Research Question	Participants/ Data Source + Theoretical Underpinning	Methods/Design/ Data Collection	Results/Findings/ Future Directions	Strengths/ Limitations/ Comments
Stephens (1975) **Society of the alone: Freedom, privacy and utilitarianism as dominant norms in the SRO** HISTORICAL	Describe the dominant norms of SRO life which preclude the establishment of intimacy.	100 Elderly occupants of the "Guinevere" SRO in a large midwestern city	Ethnography Observation, interviews	2 categories: transients and permanents Relationships based on mutual economic need (instrumental, non-intimate) Privacy, freedom, utilitarianism	Loneliness is the price paid for independence Limited financial resources do not allow compromise needed to sustain intimate relationships
Tremblay, J & Denison, P (2010) **Shared accommodation in downtown Toronto: A new approach to an old problem**	Examine the possibilities for improving the livability of RH, using supports of existing agencies and community groups in and outside of the community	Parkdale area of TO chosen to study 25 tenants 5 landlords 15 representatives from various agencies and community groups Community-based research (CBR)	Qualitative survey of 5 questions including: What are the needs of the tenants, what do they see as challenges, what would be helpful?	40% previous rooming house 25% homeless 8% incarceration Building maintenance and tenant conflict reason for moving Burden of landlord as 'social property management'	-Sometimes conditions so bad in RH that residents return to street or shelter -Thoughtful discussion of ethics Don't qualify for seniors programs, but seniors needs and won't live long enough -Needs of tenants: mediate, check in

Author/Study	Aims/Purpose/ Research Question	Participants/ Data Source + Theoretical Underpinning	Methods/Design/ Data Collection	Results/Findings/ Future Directions	Strengths/ Limitations/ Comments
Vila-Rodriguez et al. (2013) **The Hotel Study: Multimorbidity in a Community Sample Living in Marginal Housing**	Study of multimorbidity in residents of SRO hotels. Report of baseline & 2-year f/u.	Vancouver SRO residents of 1 of 4 not-for-profit housing agency. Mortality from hospital records and coroner reports. Substance dependence (mini-intn'l neuropsychiatric interview)	Longitudinal cohort study. Monthly f/u for 5 years. Hospitalizations as far as 50 years. Structured interviews. MRIs Blood samples HIV, HBV, HCV,CBC, AST, ALT. History of serious head injury 64% people	66.6% previously homeless Psychosis most common mental illness 18% HIV +ve 70% Hep C+ve MRI pathology 28% Median number multimorbid illness was 3 and greater burden related to lower functioning.	Mutimorbidy highly prevalent, co-occurring substance dependence, mental and neurological illnesses and ID Social disadvantage, poor health literacy, disengagement from health care system risk factors for likelihood of HCV tx. Difficulty of investigators in gaining access to SROs.
Zhou et al. (2019) **Prevalence and risk factors of brain infarcts and associations with cognitive performance in tenants of marginal housing**	Assess the prevalence of brain infarcts on neuroimaging and associations with vascular risk factors and cognitive performance in a prospective study of residents living in marginal housing.	Two hundred twenty-eight participants The Hotel study is a longitudinal investigation of multimorbidity in a cohort of SRO residents in the Downtown Eastside of Vancouver, Canada.	Laboratory, and neuropsychological assessments, and magnetic resonance imaging, cognitive testing to assess premorbid IQ, verbal learning and memory, inhibition, sustained attention, mental flexibility, and decision making.	Brain infarcts were present in 25/228 (11%). Participants with infarcts were older, only age remained a significant predictor of brain infarcts. The presence of infarct was a significant predictor of impaired decision making.	Prevalence of infarcts on neuroimaging in this disadvantaged, community-dwelling cohort was much higher than expected for age and was associated with impaired decision making. Further research is needed to identify individuals at highest risk who may benefit from targeted preventative strategies.

Appendix J

Letter of Support

The Salvation Army / Armée du Salut
Ottawa Booth Centre
171 George Street
Ottawa, ON K1N 5W5
Telephone: 613.241.1573
Facsimile : 613.241.2818

"A Place of New Beginnings"

www.SalvationArmy.ca

April 9, 2019

To Whom It May Concern,

This letter is being written in support of the research project proposed by Joanna Binch about the health of rooming house residents. It is understood that Ms. Binch is a graduate student in the Faculty of Health Sciences, School of Nursing, at the University of Ottawa, and will be applying for ethics approval.

Pending ethics approval, support will be given to request VI-SPDAT data from the City of Ottawa repository for the rooming house sample and a similar sheltered homeless sample. We understand any identifying information will be removed before it is shared for analysis. Although this data is kept by the city, staff of The Salvation Army Booth Centre have been the community partner agency that works with rooming house residents and has collected their VI-SPDAT data.

I hope you will join us in encouraging this research project.

Sincerely,

Michael White
Director of Programs

Appendix K

Prevention/Re-Housing Pre-screen Tool for Single Adults (PR-VI-SPDAT)

Prevention / Re-Housing

Vulnerability Index -

Service Prioritization Decision Assistance Tool

(PR-VI-SPDAT)

Prevention/Re-Housing Prescreen Tool for Single Adults

To be used ONLY with people that are currently housed and feel they are at imminent risk of losing their housing. "Imminent risk" is determined by the program participant. Types of dwellings that count as "housed" for this tool are:

- ***An apartment that is in their name (legally permitted to stay there)***
- ***A home that they own***
- ***The home of a parent, other relative or friend where they believe they have been staying permanently (not feeling there was a time limit on how long they were permitted to stay)***

VERSION 1.0

CANADIAN EDITION

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Appendix L

Vulnerability Index-Service Prioritization Decision Assistance Tool (VI-SPDAT)

Vulnerability Index -
Service Prioritization Decision Assistance Tool
(VI-SPDAT)

Prescreen Triage Tool for Single Adults

CANADIAN VERSION 2.01

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