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The Role of Community Paramedicine Programming in Providing Lift Assists in Southwestern Ontario

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A thesis submitted in partial fulfillment of the requirements for the Master of Science degree in Health and Rehabilitation Sciences

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Abstract

Lift assist refers to calls for emergency medical services indicating that an individual has fallen, is unable to mobilize, receives no treatment on scene, and refuses transport to the hospital following paramedic response. As the aging population grows, there is a national increase in the lift assist call type, impacting paramedic services, patient health outcomes, and primary care providers. This qualitative focused ethnography study utilized semi-structured interviews with community paramedics (CPs) to describe the role of CPs in providing lift assists in Southwestern Ontario. Interview transcripts were inductively coded and analyzed to generate themes and broader categories to examine paramedic perceptions of community paramedicine programming and the experience of responding to lift assists. This study revealed that having CPs provide lift assists could improve patient health outcomes through a more appropriate response, enhanced assessments, and care provider follow up while simultaneously reducing emergency department presentations and paramedic burden.

Keywords

Community Paramedicine, Lift Assists, Emergency Medical Services, Community-based, Focused Ethnography, Qualitative Research, Health Services Research, Aging Population,

Summary for Lay Audience

Many older adults in Southwestern Ontario call 9-1-1 after falling within the home. In many cases, they may not be medical emergencies as these older adults simply need help returning to a seated or standing position. Older adults who fall within the home require trained health care professionals to respond, assess the patient and provide adequate follow up care; in many instances individuals simply require a lift assist. Community paramedics (CPs) are paramedics with additional training to provide care for older adults within the community through an expanded scope of practice and home visits. The goals of this study were to understand how paramedics view community paramedicine programming and describe paramedics' experience of responding to lift assist calls in Middlesex-London. Through interviewing techniques, this study described the experience of providing lift assists and explored the role of community paramedicine programming in performing these lifts for patients in order to allow front-line medics to prioritize medical emergencies. This study found that while paramedics agree that these patients require a trained health care professional to do a full assessment of the patient, they generally feel that providing lift assists are not a good use of emergency medical services' time and resources. CPs providing lift assists in Southwestern Ontario would be an opportunity to provide care to vulnerable patients, spend more time with the patient, assess their living environment and follow-up with their family physician and care team. Participants expressed that while CPs providing lift assists would improve patient quality of life and relieve paramedic burden, a lack of secure funding and poor communication with 9-1-1 dispatch operators are barriers to this change. This study suggests that if CPs provided lift assists in Southwestern Ontario, patient health outcomes would be improved while reducing paramedic burnout and unnecessary emergency department presentations.

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Chapter 1

1. Introduction

Front-line paramedics are health care professionals trained in responding to acute and urgent healthcare crises (Bigham, Drennan, & Kennedy, 2013). Utilizing an emergency medical services vehicle/land ambulance to service the community, paramedic scope of practice dictates that they provide rapid care and transport patients to the emergency department (Bigham, Drennan, & Kennedy, 2013). Across Canada, the proportion of older adults (individuals aged 65 and older) will continue to rise (Statistics Canada, 2018). Census data indicates that older adults are expected to increase to 24-28% of Canada's population by 2030 (Statistics Canada, 2017). The older adult population in Canada currently access emergency medical services at a high rate, representing approximately 38-48% of emergency calls to 9-1-1 services (Agarwal et al., 2019). With this heightened need for emergency medical services, front-line paramedics are frequently called to respond to low-acuity non urgent calls, primarily from the older adult population (Johnston, Carter, & Batt, 2018).

Literature reveals that the increased tendency for older adults to utilize emergency medical services for non-emergency and non-transport calls is prevalent in urban, developed settings (Goldstein et al., 2016). Trends in emergency medical services activation are comparable among older adults in rural settings, however, these older adults are often at increased risk due to comorbidities and social isolation (Baernholdt et al., 2013). The utilization of emergency medical services for non-emergency and non-transport calls often results in avoidable health systems expenditure while consuming paramedic time and preventing paramedics from responding to high-acuity patients more rapidly (Johnston, Carter, & Batt, 2018). Canada's most populous province, Ontario, contains 38% of the country's population and of that, 18.2% of the population is aged 65 and older (Statistics Canada, 2020). Similar trends exist within the context of Middlesex-London (County within Southwestern Ontario), where older adults make up 14.6% of the population, a percentage that is anticipated to double within the next decade (Statistics Canada, 2015). The older adult population of Middlesex-London accounts for approximately 50% of Middlesex-London Paramedic Service (MLPS) call volume (Carter, Kuehn, McIntyre-Muddle, Billings, & Elliott, 2016).

Within the older adult population, falls are reported to be the most common mechanism of injury, accounting for nearly 65% of all injuries (Billette & Janz, 2011). Definitions and causes for falls vary among individuals, context, and health status (Appendix A). The various causes of falls often require a unique, tailored response to address underlying factors that contributed to the fall as well as injuries unique to the specific fall (Zecevic, Salmoni, Speechley, Vandervoort, 2006). In Canada, falls are the most common reason for injury hospitalizations amongst older adults, accounting for 81% of injury hospitalizations in 2017-18 (CIHI, 2010). Research estimates that older adults have a 40% chance of experiencing a fall annually, a statistic that grows with each decade of life (Johnston, Carter, & Batt, 2018). Given that the risk of falling increases dramatically above the age of 65, there is evidence of an increase in frequency of calls to emergency medical services for lift assists (Carter, 2018).

Lift assist refers to a non-emergency call for paramedic services indicating that the individual has fallen and is unable to get up, receives no treatment on scene, and refuses transport to the emergency department following emergency medical services arrival (Cone et al. 2013). Lack of injury and refusal of transport to the emergency department often results in unnecessary land ambulance usage, as the lift assist itself is a simple procedure that does not require a fully staffed emergency vehicle (Johnston, Carter, & Batt, 2018). In 2015, MLPS responded to 1,612 lift assist calls, amounting to 1,100 hours/45.8 days of service response time and approximately \$216,700 in costs associated with using a fully staffed emergency land ambulance (Middlesex-London Paramedic Service, 2021). Of the 1,100 hours spent responding to these calls, 801 of these hours are specific to lift assists among the older adult population (Schierholtz et al., 2019). Over a five-year period from 2009 to 2014, land ambulance delivery costs increased by an average of 5% annually, with projections that costs would continue to increase by 60% from \$1 billion in 2014 to \$1.64 billion in less than 10 years (Ontario Association of Paramedic Chiefs, 2015). These statistics have been steadily increasing annually and it is anticipated that lift assists will continue to burden both patients (through delayed response times) and paramedics (through unnecessary emergency vehicle use, time, and expenditure). Within the South West region, falls accounted for significantly higher emergency department presentations in 2017 compared to older adults within other counties in Ontario, representing over 13,000 cases in 2017 alone (Public Health Ontario, 2019). Within Southwestern Ontario, there is a growing recognition among paramedics of the inappropriate emergency medical services utilization that lift assists

represent (Dejean et al., 2016). Additionally, research suggests the impact lift assists have on paramedic services is not a problem unique to Middlesex-London, as various regions across Canada are experiencing similar issues (Simpson, Bendall, Tiedemann, Lord, & Close, 2014).

The growing need for accessible, high-quality care has prompted the development of community paramedicine programming. Beginning as a grassroots movement among paramedics seeking to provide care to vulnerable and at-risk patients, community paramedicine is an expansion to the front-line paramedic role (Appendix A). Community paramedicine programming provides non-urgent care to patients who prefer care in the setting of their choice, without having to navigate the complex healthcare system (Nolan, Nolan, & Sinha, 2018). Utilizing front-line paramedic training and infrastructure, community paramedics (CPs) are health care professionals with additional training to provide non-urgent care within the community (Nolan, Nolan, & Sinha, 2018). Within the context of Ontario, community paramedicine programming was initially governed by Local Health Integration Networks and municipal governments, with the Ministry of Health and Long-Term Care providing financial support to these agencies (Ontario Community Paramedicine Secretariat [OCPS], 2020). More recently, however, regulation and oversight for community paramedicine programming has shifted, with the Ministry of Health and Long-Term Care now directly allocating funds to municipal paramedic services, allowing them to fund their community paramedicine program. With more independence and self-governance with regards to the distribution of funds for the Middlesex-London community paramedicine program, Home and Community Care Support Services South West (formerly known as the South West Local Health Integration Network) will continue to support the program through facilitating the referral process for patients into the program (Juha, 2021).

While community paramedicine programming varies across Ontario (and globally), programming within Southwestern Ontario provides patient care through wellness visits, remote home monitoring programs or community clinics (Agarwal et al., 2019). However, community paramedicine programming is not without its limitations. Within Middlesex-London, there has been insufficient funding and oversight from regulating bodies that has hindered the expansion of community paramedicine programming (OCPS, 2020). The lack of dedicated funding to support and expand the program also complicates the staffing among CPs in Middlesex-London,

as they typically operate individually when providing care within the patient's home compared to front-line paramedics who operate in pairs (OCPS, 2019).

Currently, 48 of Ontario's 52 (92%) municipal paramedic services operate a total of 143 community paramedicine programs (OCPS, 2019). While various community paramedicine programs have been implemented across Canada and internationally, regional funding and lack of standardized CP training programs have led to variations in the implementation of community paramedicine across Canada (Nolan, Nolan, & Sinha, 2018). CPs have demonstrated the ability to serve unique health needs within their respective communities through integrative models of care (Dainty, Seaton, Drennan, & Morrison, 2018). This innovative community-level approach acts to improve equity of healthcare access for vulnerable populations without sacrificing quality or cost (O'Meara, Stirling, Ruest, & Martin, 2016). Given that CPs are able to provide referral services and follow up with the patient's care providers, CPs can provide non-emergency care within the patient's home, effectively improving patient health while decreasing health system expenditure (Chan, Griffith, Costa, Leyenaar, & Agarwal, 2019). CPs are uniquely situated in a position that allows them to utilize paramedic infrastructure to respond to lift assist calls promptly with a community vehicle and provide follow-ups with the patient and their physician without requiring transport to the emergency department.

1.1 Research Questions and Objectives

The purpose of this study is to understand CP perceptions of an expanded scope of community paramedicine practice to provide lift assists in Southwestern Ontario. The main research question is: What is the role of community paramedicine programming in providing lift assists in Southwestern Ontario? To answer this question, I will address the following objectives:

- 1) Examine the perceptions of paramedics on community paramedicine programming
- 2) Describe paramedics' experience of responding to lift assist calls in Middlesex-London
- 3) Describe the current lift assist and community paramedicine documents and policies in place in Middlesex-London

To address each of these objectives, we conducted a qualitative focused ethnography study describing paramedic perceptions of community paramedicine programming and the potentiality

of an expanded scope of practice for CPs in which they provide lift assists. Through examining paramedic perceptions, this study seeks to identify the potential impact on paramedic services, community paramedicine programs, as well as patient health outcomes and quality of life.

To supplement our research, we chose to use de-identified quantitative data in the form of Middlesex-London Paramedic Service's Lift Assist Impact Assessment, which collected lift assist statistics from Ambulance Call Reports. This data was collected for quality improvement purposes and does not contain any personal health information. In addition to using this data, we also used qualitative data from document analysis of documents, reports, and policies relevant to community paramedicine and lift assists within Ontario.

1.2 Structure of Thesis

This chapter serves to introduce the topics of this thesis; community paramedicine, lift assists, and older adults. For further explanation of definitions that were used throughout this thesis, please refer to Appendix A. This thesis was conducted by a team consisting of a graduate student researcher and supervisor/principal investigator. Various components of this study including conducting semi-structured interviews and the written aspect of this thesis were completed independently by the graduate researcher, as such, I will utilize first-person language and “our” or “we” interchangeably. The graduate researcher received support from the principal investigator (SS) with the development of data collection tools and by providing guidance throughout the duration of the research project. The key informant was not formally a member of the research team, however, they were instrumental in facilitating participant recruitment by forwarding the study recruitment script to the CP team within Middlesex-London. The key contact also supported this study through discussing relevant lift assist impact data from MLPS, sharing their expertise during data session groups and by participating in a semi-structured interview. Throughout the study, I created reflexive notes to supplement analysis and presented them during collaborative data session groups. By presenting my findings from semi-structured interviews in relation to my reflexive notes and preliminary analysis, data analysis proved to be a collaborative effort involving myself, the principal investigator, and the key contact. By adding to my reflexive notes after each discussion with the principal investigator and key contact, I was able to identify how my understanding of the study and the results collected shifted and evolved over time. Through leveraging the expertise of our key contact and receiving guidance from the

principal investigator, this study addressed the current gap in literature between lift assists as a growing call type, and community paramedicine. Through understanding paramedic perceptions of community paramedicine programming and describing paramedics' experiences of responding to lift assists, this study identified the role of community paramedicine programming in providing lift assists in Southwestern Ontario.

By discussing the current scope of practice of front-line paramedics, as well as issues faced among this group, we address the current gaps in care and their implications for care providers and patients. Chapter two contains the literature review pertaining to community paramedicine and lift assist together. By identifying existing literature on the topic through database searching and charting results, chapter two offers a commentary on the types of studies that have been done related to community paramedicine and the phenomenon of lift assists. Chapter three contains the methodology and methods used to conduct our research, and an explanation for why these methods were selected instead of other comparable methods. In chapter four, we present the results of our interviews with CPs and document analysis of relevant policies, briefs, and reports to describe the current state of community paramedicine and lift assists. Chapter five contains a discussion of our findings as well as the study's limitations. Chapter six is the conclusion of this thesis, which summarizes our findings in relation to broader landscape of community paramedicine and lift assists.

Chapter 2

2 Literature Review

In this literature review, I review relevant research to contextualize and inform my primary research question: What is the role of community paramedicine programming in providing lift assists in Southwestern Ontario? Using Arksey & O'Malley's (2005) definition of a scoping review, this literature review aims to rapidly map available evidence, especially in domains of research that have not been reviewed comprehensively. This literature review adopted scoping review guidelines for the purposes of identifying gaps in a domain of research that is often inconsistently described in literature in order to "clarify working definitions and conceptual boundaries of a topic or field" (Peters et al., 2015). Additionally, scoping literature reviews are often utilized for their ability to identify research gaps in literature to connect research in their scope and specificity (Arksey & O'Malley, 2005). For this reason, a scoping literature review was appropriate in assessing current gaps in literature between lift assists and community paramedicine programming in order to examine the role of community paramedicine programming in providing lift assists in Southwestern Ontario. As described by Levac, Colquhoun, & O'Brien (2010), scoping reviews typically do not include a quality assessment of each article included in the charting process, whereas systematic reviews do. This literature review is divided into five components: identifying the research question, identifying relevant studies, study selection, charting the data, and collating, summarizing, and reporting the results (Arksey & O'Malley, 2005).

2.1 Search Strategy

In discussing guidelines and expectations for the development of a literature review, Arksey & O'Malley (2005) describe a systematic review as a method to rapidly examine a field of research to identify gaps and trends in the literature. Since research regarding community paramedicine and lift assists together is very limited, conducting a quality assessment of each identified resource was not conducive to my goal of identifying relevant literature on this topic, as it would have resulted in the exclusion of articles that contributed to addressing our research question. For this reason, my literature review did not include a quality assessment of each identified resource.

Identifying the Research Question

While establishing the research question, it was important to consider what was being said in the literature relating to lift assist and community paramedicine separately in order to identify gaps and whether a connection could be made. Given the specificity and nuance of this phenomenon, a literature review was necessary to identify relevant research as well as gaps and limitations to ultimately determine the role of community paramedicine programming in providing lift assists in Southwestern Ontario.

Identifying Relevant Studies

Electronic Databases: Following Arksey & O'Malley's (2005) guidelines, it was highly recommended to search for research through different sources to maximize reach. The first method of accessing existing literature is electronic database searching. As per the recommendations of Arksey & O'Malley (2005), a lack of proficiency in searching electronic databases in a technical, systematic way should be supplemented by consulting a qualified librarian. Prior to conducting the literature review, a librarian from Western University Allan & Betty Taylor Library Teaching and Learning team was consulted to identify a search strategy and discuss the methods approach. The following electronic databases were searched: SCOPUS, the Cumulative Index for Nursing and Allied Health Literature (CINAHL), Medline (Ovid), EMBASE and Western University Libraries. Given that Medline (Ovid) and CINAHL included search results from a variety of other databases, these two databases provided the majority of the literature generated.

In generating search terms for database analysis, two concepts/groups were used to encompass the research question. Each search term was contained with quotations to specify each phrase and title in the search results rather than receiving results with each word broken down into various searches. The first group referred to the title of the health care provider, the following search terms were used: *Emergency Medical Services, Community Paramedic, Community Paramedicine, Paramedic, Allied Health Professional*. Each of these search terms were then separated by the operator 'OR', effectively grouping each term into the category of health professional. The second group identified for searching databases refers to the service provided, lift assists. While there are various descriptors for older adults experiencing falls and requiring assistance, it was important to be cautious in limiting the searches to describe lift assists

specifically. If broader terms for this service or action were applied, then the potential for receiving results relating to chronic disease, illness, physiology, accidents, frailty, etc. would have been increased, expanding the literature review, and failing to address the research question properly. For this reason, the following search terms for the second category were used: *Lift Assist*, *Lift-Assist*, *Safe Lift*. Similar to group one, each search term was separated with the operator 'OR', to increase the number of results collected and effectively categorize these similar terms.

Lastly, the two groups of search terms, health care professional group and lift assist group, were searched together with the operator 'AND', limiting the results to contain both group one and two.

Prior to conducting a search of databases, a predetermined limit on the time period of publication was not set because community paramedicine had not been implemented in Canada until the early 2000s. Additionally, previous research and prior knowledge indicated that literature discussing lift assists in relation to community paramedicine would be very limited. Expectedly, the majority of the articles identified in the scoping review were published within the last three years, as community paramedicine programs began to increase in size and scope.

While researching electronic databases, creating group one and two individually yielded thousands of results, however, the combination of the groups typically yielded less than 10 per database. The following number of articles were found in each database: Medline (Ovid) n=5, CINAHL n=9, SCOPUS n=4, EMBASE n=8 and Western University Libraries n=2. While grey literature is discussed and referenced throughout this thesis, especially in the form of Ambulance Call Report data and documents featured in the document analysis, grey literature was not included in the literature review.

Reference Lists: While searching databases, there were some highly relevant searches that appeared multiple times in different databases. The reference list of each highly relevant article was assessed to obtain more relevant references to inform the literature review.

Existing Networks, relevant organizations, and conferences: In assessing the research conducted relating to community paramedicine and lift assist combined, the most valuable data obtained

came from affiliations with MLPS. These references proved to be of high quality and highly relevant given the context in which this research was conducted, given that many of the authors of these articles are currently CPs.

Study Selection

The study selection step proposes developing a mechanism to systematically eliminate articles that did not address the research question developed in step one. In assessing which articles would be selected for this scoping review, the following inclusion/exclusion criteria were applied to n=22 results (n=14 unique results from databases, n=5 from key references, n=3 from affiliations).

1. The articles must discuss paramedic services in relation to lift assist calls. As such, they must not focus on falls that relate to chronic disease, frailty, injury, physiology, or falls that resulted in a substantial injury warranting emergency department presentation.
2. A connection between community paramedicine and lift assist must be made, identifying current gaps, relationships and future research.
3. The articles must be peer-reviewed, published research papers.
4. The articles must be written in English.

After these criteria have been applied, it was found that n=9 articles would be expanded upon in the charting process while the remainder informed discussion. To supplement guidelines developed by Arksey & O'Malley, a Preferred Reporting Items for Systematic reviews, and Meta-Analyses (PRISMA) graph was used to identify the source of each article and account for the number of articles that passed each screening process. The PRISMA flow-chart describing study selection in this scoping review can be found in Appendix B.

Articles that were approved through the abstract screening process through satisfying the above inclusion/exclusion criteria were further reviewed and charted. A detailed charting of the journal articles can be found in Appendix C. There are a few notable exceptions for articles that were not reviewed in the charting process. One result was a dissertation with a broader scope of describing and assessing lift assists. While this dissertation proved to be a valuable resource in assessing the current landscape of lift assists and suggesting community-based models of care to provide lift

assists, it was not included as it failed to directly discuss community paramedicine programming in relation to lift assists. Additionally, resources collected from affiliations with MLPS provided rich, relevant contextual information but are not published in peer-reviewed journals or do not explicitly connect community paramedicine to lift assist.

Charting the Data

The fourth step is the charting process. The charting of data describes the process of accessing relevant research that satisfies inclusion/exclusion criteria specific to the research question, and synthesizing the methods, results, and conclusions (Arksey & O'Malley, 2005). The charting process proved to be a valuable tool in filtering specific research evidence from background supporting evidence, providing an overview that specifically informs the research question and examines the connections between CP and lift assists.

Each of the nine relevant articles identified in the literature review were included in the charting process to provide a brief overview of the study's purpose and sample, methods, results, and conclusions. Please refer to Appendix C for the results of the charting process. These results were essential in identifying gaps between the current body of literature and the results of our study.

Collating, Summarizing and Reporting the Results

The fifth and final step is the process in which results are collated, summarized, and reported. For the purposes of a scoping review, the goal of this final step is not to assess the quality of each research article that had been included in the charting process, but rather, provide an overview of the reviewed materials (Arksey & O'Malley, 2005). Furthermore, the aim of the charting process and the scoping review was not to create generalizable findings on a specific topic, but rather examine the literature present describing lift assists in combination with community paramedicine models of care.

Following the Arksey & O'Malley (2005) guidelines, a total of nine articles, excluding supplementary data and opinion pieces from organizations were identified. Each of these articles reflected the burden and impact of lift assist calls on paramedic service providers and systems, alluding to alternative models of care such as community paramedicine. Since lift assists have

not been implemented into CP scope of practice, the concept of CP models of care for this issue are novel and research does not currently reflect the impact of this expanded scope of practice.

Each of the articles included study a sample of older adults, typically described as individuals aged 65+, with the exception of one study characterizing older adults as individuals aged 60+ (Kue, Ramstrom, Weisberg, & Restuccia, 2009), who activated 9-1-1/emergency medical services for lift assists. Of these studies, two were randomized trials in which community paramedicine programs were studied in relation to lift assist calls and patient health outcomes (Agarwal et al., 2019; & Snooks et al., 2017). An expanded scope of practice for CPs to provide lift assists and home-based care was anticipated to show significant reductions in patient emergency department presentations, hospital admissions, and paramedic service utilization (Agarwal et al., 2019). In implementing an expanded scope of practice, standardization of training modules for CPs is an important factor to consider ensuring each community paramedicine program provides comparable services at a community-level with equal quality (Agarwal et al., 2019).

A cluster randomized trial in the United Kingdom examined the implementation of community paramedicine models of care on lift assist patient health outcomes as well as health systems usage and expenditure (Snooks et al., 2017). Snooks et al. (2017) found a modest reduction in paramedic service call volume and hospital admissions related to lift assists within 6 months of program implementation, however, health systems expenditure differences were minor. Through increased time spent with each patient during lift assist response and improved patient follow-up and referrals, patients reported increases in confidence and autonomy after receiving care from CPs (Snooks et al., 2017). Despite a large sample size, results from the United Kingdom-based “SAFER 2” trial may not be generalizable as community paramedicine programming was dynamic, with variations in CP training and infrastructure (Snooks et al., 2017). While this program was useful in demonstrating the effects of an expanded CP scope of practice, it was not a long-term program and may be limited in its utility.

The remainder of the articles were retrospective mixed methods studies, with an emphasis on quantitative analysis of paramedic service call volume within a specific region (Cone et al., 2013; Leggatt, Davis, Columbus, McGuire, & Spadafora, 2016; Leggatt et al., 2017; Mikolaizak,

Tiedemann, Lord, & Close, 2013; Schierholtz et al., 2019; Zecevic, Carter, & Bauer, 2017). While many of these studies utilized paramedic service infrastructure to assess lift assist call volume and relevant statistics such as number of repeat callers and time spent providing care, they did not directly assess the impact of CPs on lift assist. Each of the retrospective data studies provide a critical foundation upon which to support the expansion of CP scope of practice to provide lift assists as many of these articles explicitly mention community paramedicine or allude to the need for alternate models of care.

Various methods were utilized in each of the selected studies, most of which adopted a mixed methods approach. These studies relied heavily upon paramedic service online databases, Ambulance Call Reports/Patient Care Reports, dispatch systems or case studies to elucidate the burden of lift assists on front-line paramedics. The utility of the mixed methods approaches regarding this specific topic is that it provides data that has been analyzed and described with themes that are relatively consistent among each study identified. In general, the themes developed in the qualitative aspects of each study confirm that lift assists pose a burden on front-line paramedics through cost, time spent providing care, and diversion of resources. These themes are supported and reinforced through statistics describing increasing lift assist call volume, time spent per patient, cost associated with each lift assist, proportion of patients refusing transport to the emergency department and proportion of repeat callers. It is also important to consider that while the selected retrospective mixed methods studies provide data to describe the negative impact of lift assists on front-line paramedics, these studies do not describe the increasing trend of lift assists in recent and upcoming years.

Perhaps the most relevant article studied in the charting process was Schierholtz et al. (2019) due to the rich, contextual data relevant to Southwestern Ontario, MLPS, and lift assist call volume. Using a large dataset from 2015, this article effectively describes the urgency of expanding CP scope of practice to provide lift assists for older adults in Middlesex-London. Data analysis from this study revealed that 801 hours of paramedic service time had been spent within 2015, resulting in an emergency medical services expenditure of approximately \$185,000, a cost that could be significantly reduced through community paramedicine (Schierholtz et al., 2019). Additionally, this large dataset included both urban and rural regions of Middlesex County, describing health systems usage by location, effectively contextualizing the data. A notable

limitation of this data is that it does not include the total volume of lift assist calls responded to within 2015, as the effect of each of the 1,612 lift assist calls may not have been accurately reflected in Ambulance Call Reports.

Two studies selected in the charting process (Leggatt, Davis, Columbus, McGuire, & Spadafora, 2016; & Zecevic, Carter, & Bauer, 2017) provided in-depth examination of the causal factors perceived to contribute to the fall and subsequent lift assist call. Both studies contained large sample sizes (n=798 and n=42,055, respectively), elucidating the role of living conditions and comorbidities in lift assist calls. It was concluded that those with abnormal vital signs and comorbidities were likely to refuse transport to the emergency department following paramedic response to lift assists, likely due to fear of losing autonomy or family physicians being aware of the incident (Leggatt, Davis, Columbus, McGuire, & Spadafora, 2016). The patient's refusal of transport for definitive care to the emergency department suggests they would benefit from a community-based initiative or referral system that provided them with ongoing care and/or education, health services that CPs would be well-suited to provide.

2.2 Gaps in the Literature

Alternative methods of care were often suggested as a response to mitigate the effects of lift assist on paramedic services; however, community paramedicine programs were not always explicitly mentioned. Additionally, community paramedicine programs may have been referred to through various terms such as “community-based lift assist service” (Schierholtz et al., 2019, p. 7). Inconsistencies in terminology may relate to a lack of awareness regarding lift assists and the care or appropriate response that these patients may require. Additionally, lack of consistent terminology may be a product of the diversity of community paramedicine programming across Ontario, as CP scope of practice may include virtual/home visits, clinics, and paramedic referral services within the community in specific regions.

Given the lack of community paramedicine standardization across Ontario, only two articles discussed developing a standardization of training programs for CPs, one of which related to the context of Hamilton, Ontario, a geographically comparable setting to Middlesex-London (Agarwal et al., 2019). This gap in literature suggests the need for consistency in interpretations

of community paramedicine programming across Ontario, beginning with the mandatory completion of training modules for CPs to respond to lift assists.

2.3 Limitations of the Literature Review

This literature review was supplemented and guided by the framework developed by Arksey & O'Malley (2005). A notable limitation of this literature review is the time constraint for conducting the database search and charting process in which 5 databases were searched. Using Ovid and Western Libraries was beneficial, however, an individual search through more journals may have yielded more results. Given that this literature review was conducted independently by the graduate student researcher within a limited time frame, we did not have the added benefit of multiple researchers coordinating their efforts to find articles, as well as contribute to and review the charting process. Another limitation of this literature review stems from inconsistencies in phrasing of community paramedicine programming and lift assist calls within the research. Due to a lack of standardization in terminology, understanding, and implementation, various terms may have been used to describe community paramedicine in relation to lift assists without specifically using the search terms identified in this review. While a greater number of articles may have been found with broader definitions of community paramedicine, it would have been impossible to ascertain whether various terms describing “community-based models of care” actually refer to community paramedicine programming.

It should also be noted that MLPS has many publicly available statistics, articles, and conference presentations that accurately portray the current state of paramedic services in relation to lift assists within Middlesex-London. While these articles contained important information, they were excluded from the charting process as they are not peer-reviewed research papers.

This literature review was conducted to provide an overview of the literature describing the current state of community paramedicine as it relates to lift assists and their impact on emergency medical services/front-line paramedics. The existing body of literature (Zecevic, Carter, & Bauer, 2017; Schierholtz et al., 2019; Cone et al., 2013; Leggatt et al., 2017; Kue, Ramstrom, Weisberg, & Restuccia, 2009; Agarwal et al., 2019; Mikolaizak, Simpson, Tiedemann, Lord, & Close, 2013; Leggatt, Davis, Columbus, McGuire, & Spadafora, 2016; Snooks et al., 2017) predominately describes lift assists as a burden on paramedic services that

negatively influences paramedics through increased costs and time spent responding to non-emergency calls. Additionally, the existing literature discussing lift assists often alludes to the necessity of policy changes regarding patient transport to the emergency department via paramedics. As demonstrated through this literature review and the charting process, discussion of lift assists in relation to community paramedicine specifically is sparse and often suggested, but only explicitly mentioned in two instances (Hamilton, Ontario, and the United Kingdom).

Through the charting process and identifying gaps in research, it is clear that lift assists account for a large proportion of paramedic service utilization, leading to increased wait times for both lift assist and high acuity patients. A large gap revealed in the literature is that while community paramedicine is understood as a possible, innovative solution to alleviating the burden of high lift assist call volume, it has yet to be implemented and examined consistently in a longitudinal study. Overall, the limited research that has implemented community paramedicine programming to provide lift assists suggests that this model of care can improve patient health outcomes, response times, and could likely benefit paramedic services and health systems financially over longer periods of time.

Chapter 3

3. Methodology and Methods

In this chapter, we provide an overview of the methodology and methods used to examine the role of community paramedicine in providing lift assists. This chapter also discusses the qualitative nature of this study and provides a description of focused ethnography in relation to alternative qualitative methodologies. Additionally, this chapter contains an explanation for the theoretical framework we are operating within as well as the rationale for why this framework was chosen.

3.1 Methodology

3.1.1 Choosing a Qualitative Methodology

As described in the introduction, the first two research objectives were to:

- 1) Examine the perceptions of paramedics on community paramedicine programming
- 2) Describe paramedics' experience of responding to lift assist calls in Middlesex-London.

Addressing these two research objectives required a qualitative approach to ascertain the perceptions of a group of individuals, primarily through the use of interviewing techniques. Since our study sought to examine perceptions and describe experiences, there are several approaches to qualitative research that could have been used.

Ethnography was developed as a methodology to “describe, interpret and understand the characteristics of a particular social setting with all its cultural diversity and multiplicity of voices.” (Holloway & Todres, 2003, p. 349). Ethnography as a methodology, has proven to be the appropriate school of inquiry for ascertaining a specific culture's perceptions surrounding the topic of study, lift assists. Grounded theory seeks to develop a theory of how groups of individuals make meaning through the interaction between various concepts and activities (Holloway & Todres, 2003). This study examined perceptions and attitudes towards community paramedicine and lift assists among paramedics from MLPS, and as such, was not concerned with how individuals make meaning of events and the interaction between activities. For this reason, grounded theory was not an appropriate choice for our study. Case study refers to a broad category with multiple methods that generally seeks to explore factors involved within a specific,

individual case of an event (Abma & Stake, 2014). While case study is flexible in practice, the issue of lift assists is not an isolated event that only affects one individual. Lift assists are becoming increasingly prevalent and have implications for older adults, front-line paramedics, health services, and potentially CPs, meaning case study methodologies are not well suited for the goals of this study. Phenomenology is primarily concerned with describing and interpreting lived experiences through anecdotes relating to a specific phenomenon (Wright-St. Clair, 2015). While phenomenology initially seemed to be a practical methodology for our research goals, it is deeply rooted in philosophy and is primarily concerned with lived experiences and uncovering meaning surrounding a particular experience. Lift assists represent a problematic, multi-faceted issue that affect various cultures and groups of individuals in different ways. As a result, it would not be conducive to our research goals to focus on describing qualities of lived experiences, and phenomenology was not an appropriate choice of methodology.

3.1.2 Types of Ethnography

Ethnography seeks to develop a description of the experience, analysis by themes/patterns and an interpretation of the phenomenon at hand (Wall, 2015). Methods utilized by traditional ethnographic methodologies typically include extensive time spent within the setting being studied, generating field notes from observations and interviewing techniques to interpret perceptions and attitudes (Holloway & Todres, 2003). As a school of inquiry, there are many different types of ethnography that vary in philosophical ideologies, goals, and data collection methods.

Classic or realist ethnography utilizes a positivist perspective wherein a detached researcher seeks to “objectively describe (the group of study’s) ethnographic experiences.” (Reeves, Peller, Goldman, & Kitto, 2013, p. 1372). This realist approach was unsuitable for our topic of study, since there is no single, objective truth or solution to the issue of lift assists. Perspectives vary from individual to individual, and a constructivist approach is necessary to understand the problem within the context of Southwestern Ontario. Critical ethnography is a common type of ethnography that seeks to provide a social commentary that encourages transformation among a group or culture (Reeves, Peller, Goldman, & Kitto, 2013). While I utilized reflexivity to offer my experiences and opinions, I did not attempt to critique the current landscape of community paramedicine or front-line emergency medical services. Denzin and Lincoln (2008) describe

autoethnography as a type of ethnography in which the writer's own opinions and experiences are catalogued with the goal of describing an event or circumstance. Given that the research team is not directly affiliated with MLPS and have no immediate experience with lift assists, it would be inappropriate to utilize this approach. Rapid ethnography is comparable to focused ethnography; however, it often places a greater emphasis on gaining information about the needs of a group of people within a specific context (Vindrola-Padros & Vindrola-Padros, 2018). Additionally, rapid ethnography operates within a very short time frame and places a significant emphasis on observing how humans and technology change each other (Vindrola-Padros & Vindrola-Padros, 2018).

3.1.3 Focused Ethnography

Focused ethnography as a methodology examines a distinct experience or phenomenon within a specific setting or culture (Polit & Tatano Beck, 2008). While focused ethnography is similar to the broader methodology of ethnography, it differs in its ability to “emphasize a distinct issue, situation or ‘problem within a specific context among a small group of people’ living in a bigger society” (Cruz & Higginbottom, 2013, p. 38). The subject of lift assists is the distinct issue of study, with front-line paramedics and CPs from Middlesex-London being the primary culture being studied in relation to lift assists. Additionally, focused ethnography often utilizes problem-focused research questions to provide rapid insights as to how a specific culture perceives the problem at hand (Bikker et al., 2017). Traditionally used to study the subjective experiences of nurses, this methodology was well suited to examine perceptions of health care providers given their unique culture and setting.

In this study, the culture in which lift assists exists consists of paramedics, patients, and care providers responsible for older adults who experience falls and require lift assists. While the field of ethnography is concerned with examining a phenomenon or experience within a culture over an extended period, focused ethnography is specific in its scope (Knoblauch, 2005). Community paramedicine is inconsistent in its implementation across Canada, leading to frequent changes that may not be conducive to a broad ethnographic approach. Furthermore, focused ethnography

“is a strategy that has been widely used particularly in the investigation of research fields specific to contemporary society which is socially and culturally highly differentiated and fragmented: The pluralisation of life-worlds and the enormous specialisation of professional

activities demands ever detailed descriptions of people's ways of life and their increasingly specialised and fragmented activities" (Knoblauch, 2005, p. 1-2).

Focused ethnography allows for the use of ethnographic methods but with a narrowed, pragmatic scope in applied settings (Cruz & Higginbottom, 2013). While conventional ethnography would utilize methods such as long-term site visits, immersion with fieldwork, and participant observation; focused ethnography utilizes short-term field visits, data analysis groups and a field-observer role (Knoblauch, 2005). Given the time constraints of the study and the dynamic status of community paramedicine programs in Ontario, this study primarily utilized interviews to describe lift assists from a CP perspective.

Prior to data collection, ethnographic methodologies require that the researcher position themselves on a continuum of participation ranging from full observer to full participant (Webster & Rice, 2019). True to a focused ethnography approach, we positioned ourselves in a field-observer position, reflecting on the fact that we are not directly involved in the delivery of care or the decision-making process regarding community-based models of care. This field-observer position serves as an acknowledgement of our role as researchers interacting with health care professionals to acquire a deeper understanding of a specific issue within the context of community paramedicine.

Our focused ethnography study utilized semi-structured interviewing, inductive coding, and data session groups. While initially I had intended on supplementing this study with short-term site visits, focused ethnography allows for flexibility in methods and does not rely on site engagement to the degree that traditional ethnography does. Due to the current COVID-19 pandemic, short-term site visits have become unfeasible and were replaced with document analysis of current policies and documents describing the current state of community paramedicine in Middlesex-London and across Ontario. Collecting data primarily through semi-structured interviews and document analysis departs from traditional ethnography methodologies but does not necessarily compromise the data as "limited time in the field can be substituted for by a higher intensity and volume of data, such as the type of data that arises from in-depth, semi-structured, audio-recorded interviews." (Wall, 2015, p. 13).

3.1.4 Theoretical Framework

I used a constructivist focused ethnography approach as described by Polit and Totano Beck (2008). This constructivist perspective acknowledges that there is no one objective truth, allowing both myself and the participants to co-construct knowledge (Ponterotto, 2005). Furthermore, this paradigm acknowledges the utility in incorporating reflexivity throughout the project to uncover and acknowledge assumptions throughout the research study (Ponterotto, 2005). Utilizing this paradigm, I acknowledge that while I may bring pre-conceptions regarding lift assists and community paramedicine, I will remain open to these pre-conceptions being challenged and transformed throughout the duration of my study. I sought to minimize bias and support an open-minded attitude through the ongoing practice of reflexivity throughout my research project.

3.2 Methods

To effectively determine paramedic perceptions on community paramedicine programming and describe paramedics' experience of responding to lift assist calls in Middlesex-London, we chose to interview CPs from MLPS. To supplement these semi-structured interviews, document analysis was conducted to describe the current policies in place within Southwestern Ontario. This section will describe the setting in which this study takes place, participant recruitment strategies, as well as the methods and processes involved in data collection.

3.2.1 Setting

A lack of standardized community paramedicine programming across Ontario has led to variability in infrastructure, funding, and training available to CPs. For this reason, I focused on MLPS as the study's setting in order to assess CP perspectives concerning lift assist call volume in Middlesex-London. Additionally, focused ethnography approaches require that the phenomenon being studied is examined within the context or culture that it exists (Cruz & Higginbottom, 2013). Given my positioning in Southwestern Ontario, it was convenient for the research team to access MLPS as the study setting. With the help of my supervisor, Dr. Shannon Sibbald, I had access to paramedics/CPs who facilitated my entrance into this setting/culture, allowing me to recruit participants and study this population. Given my role as an observer within this setting, role exit strategies were unnecessary for the purposes of this study.

Community paramedicine in relation to lift assist is a novel topic in the literature. As such, research on the topic is limited, however, some of the existing research is in direct reference to MLPS statistics and call volume (Ambulance Call Reports and quantitative data on calls for emergency medical services). Utilizing current data that was specific to this study setting was beneficial in collecting contextually relevant qualitative descriptions to further describe the relationship between community paramedicine and lift assist. Middlesex-London Paramedic Service's Lift Assist Impact Assessment data contained statistics specific to lift assists gathered from Ambulance Call Reports from 2015-2020. This data includes lift assist frequency, proportion of unique repeat callers, resource utilization (service time, cost of MLPS response) and lift assist projections specific to MLPS. The Lift Assist Impact Assessment data was collected and internally reviewed within MLPS for quality improvement purposes. This data does not reveal confidential patient information, and all statistics within the document are anonymized. This Lift Assist Impact Assessment data was utilized to inform discussion and provide accurate statistics regarding emergency medical services utilization for the purposes of lift assists.

3.2.2 Participant Recruitment and Sampling

Purposive sampling was used to recruit participants for this qualitative study. Purposive sampling entails the selection and recruitment of participants who have certain characteristics or experiences that inform the research question or objectives (Merriam & Tisdell, 2009). Given that focused ethnography involves understanding the perspectives and attitudes individuals have on a specific issue within a specific context, it was essential that participants in this study operate within this context (Cruz & Higginbottom, 2013). As such, participants were recruited by purposive sampling as they must operate within the context of the phenomenon of study (Palinkas et al., 2015). The inclusion criteria for participant recruitment required that the participant be a paramedic and/or a CP, fluent in English and provided verbal consent to participate in this study. An advantage of interviewing CPs within MLPS was their ability to inform our study through both their front-line paramedic and CP perspective, as each CP was also an active front-line paramedic, and often alternated between the two roles regularly. The experience each participant had in both roles was advantageous in identifying paramedic attitudes regarding lift assists and community paramedicine programming in general.

In order to recruit paramedics and/or CPs for participation in this study, a key contact (Superintendent of Community Paramedicine and Middlesex-London Emergency Medical Service paramedic) sent recruitment emails (Appendix D) to CPs and copied the research team. The research team kept record of each prospective participant that was contacted and stored this information in a secure spreadsheet to keep track of contact information as well as dates for each time the individual was contacted. The recruitment email was sent to the CP team since COVID-related restrictions complicated front-line paramedic operations and schedules. The COVID-19 pandemic also placed many restrictions upon paramedics, often exacerbating their already busy schedules. For this reason, we were not in a position to engage in interviews with front-line paramedics and/or more CPs from MLPS.

CPs who were interested in participating in the study followed up with the email to schedule a time for a one-on-one Zoom interview or phone call interview. During the scheduling process, each prospective participant was provided with the letter of information/consent form (Appendix E) to provide informed consent to participate in this study. Upon beginning each interview, the participant was informed that participation in this study would be completely anonymous and would not impact their employment in any way. Prior to beginning each interview, participants were made aware that each interview would last approximately 30-45 minutes and refusal to participate or the decision to withdraw information was possible at any point. Verbal consent to both participation in the study and audio recording was collected before beginning the interview.

3.2.3 Ethical Considerations

All semi-structured interviews with CPs were audio-recorded with informed consent from all participants. Prior to participation in each interview, participants were given a full explanation of costs, benefits and potential risks associated with the study. Given that participant recruitment took place primarily through email, with the Superintendent of Community Paramedicine initiating the recruitment dialogue, participants were informed that participation (or lack thereof) in this study would have no bearing on their employment. While the study was deemed to be very low risk, every participant was aware of the purpose of the study prior to providing verbal consent. No participants refused to participate in the study after reading the letter of information/consent (Appendix E). No incentives were provided for participants in this study, as participation remained entirely volunteer-based for the duration of the project.

The Western University Ethics and Review Board approved the ethics application for this study (Project ID: 115658) prior to participant recruitment and data collection (Appendix F).

Regarding the third research objective: Describe the current lift assist and community paramedicine documents and policies in place in Middlesex-London, a limitation inherent to this objective is that this goal was addressed through document analysis that used documents in a pre-COVID context. The dependence on documentation and reports in a pre-COVID context may not have accurately reflected the response of CPs to the needs of the community during the pandemic, and how lift assists have been impacted by existing policies. The landscape of community paramedicine is subject to varying funding plans and infrastructure, and as such, many nuances or current operations for CPs may not be represented in publicly available documents. Additionally, the Ontario Community Paramedicine Secretariat, a reputable governing body of community paramedicine within Ontario, has been on hiatus since the restrictions of the COVID-19 pandemic have been put in effect. Given this, the documents that are being analysed for the purposes of this analysis may not be reflective of community paramedicine governance in the post-COVID-19 context. To mitigate this, data session groups and semi-structured interviews discussed CP's response to patients and community needs to inform how their role has evolved during the pandemic.

An additional quality consideration for this research study was participant willingness and availability. One-on-one interviews were the most reasonable method by which to navigate scheduling and time barriers as I worked to the availability of each paramedic willing to participate in this study. Additionally, one-on-one interviews were more likely to facilitate discussion reflective of the individual and their specific attitudes of the lift assist burden as well as their team's human capacity and resources. Without the risk of participants being influenced by their peers, interviewing techniques proved to be the most effective way to collect useful data to inform my discussion on MLPS community paramedicine and lift assists.

3.3 Data Collection

Conventional ethnography typically employs solitary data collection and analysis strategies, whereas focused ethnography emphasizes the importance of multiple data sources while highlighting the significance of communicative activities (Cruz & Higginbottom, 2013). In order

to collect qualitative data conducive to a focused ethnographic study, data collection consisted of semi-structured Zoom/phone interviews, document analysis, key contact discussions and reflexive notes. With this combination of data collection methods, we were able to satisfy the research objectives and examine perceived outcomes of an expanded scope of community paramedicine practice to alleviate the lift assist burden placed on paramedics. Participants were interviewed individually and audio-recorded to provide resources for discussion in the data session groups to follow.

Participants were asked to discuss their perceptions of community paramedicine, lift assists and the potentiality of CPs providing lift assists. To develop a comprehensive understanding of the phenomenon, questions also probed for paramedic beliefs, values, and standards of practice. Additionally, alternative models of care were discussed to determine if paramedics from MLPS feel that there may be additional practical methods to alleviate the lift assist burden.

3.3.1 Semi-Structured Interviews

Interviews with CPs were the primary method of data collection to determine thoughts and attitudes towards lift assist. As previously stated, CPs were chosen as the participant group due to the research team's ability to secure interviews, and because CPs often had multiple years of experience as a front-line paramedic. We had intended on conducting 10-20 interviews with CPs about their current state of practice to probe for the burden of lift assists and potential solutions. This sample size was deemed appropriate for a focused ethnography study, as data collection is typically rapid, with a sample size of 10-30 participants (Cruz & Higginbottom, 2013). The one-on-one interviews began with collecting brief participant demographic information to identify each participant's role and degree of experience. Interviews were guided by seven questions in the interview guide (Appendix G) that encouraged discussion and open-ended responses, allowing the CP to discuss their perspectives and thoughts. Probing questions on lift assists were generated to guide discussion and understand the problems paramedics in Middlesex-London face without stating them explicitly, facilitating a deeper analysis of relevant themes.

Each of the semi-structured interviews with participants were conducted virtually over Zoom or via phone call from September to November 2020 during the COVID-19 pandemic. Interviews were recorded and transcribed verbatim using an audio recorder and transcription services.

Afterwards, transcripts were cleaned to remove personal identifiers while allowing the opportunity to read through the interview again and become familiar with the data prior to beginning the first round of inductive coding. Having conducted each interview, I had the added benefit of being exposed to participant responses multiple times in my review of each transcript. Engaging with the data on multiple occasions reinforced immersion and familiarity, which was essential in developing themes while inductively coding (Guest, 2012). This process ultimately proved to be useful for supporting rigour in data collection and analysis (Knoblauch, 2005).

3.3.2 Document Analysis

To enhance rigour in qualitative research, it is recommended that methods draw upon multiple sources including non-participant findings that contribute to the understanding of the phenomenon at hand and reinforce research findings (Bowen, 2009). Given the current circumstances regarding the COVID-19 pandemic and social distancing measures, field visits and attending a ride along with paramedics was not feasible. In place of this, a document analysis of existing policies and documents pertaining to the current state of community paramedicine and lift assist procedure within Ontario and Middlesex-London was conducted.

The document analysis consisted of collecting various documents relevant to community paramedicine programming and lift assists together, including grey literature and reports provided publicly by the Ontario Community Paramedicine Secretariat. The document analysis was created as a spreadsheet and contained each document's purpose, themes, and analysis in relation to the broader literature and our study's findings. Document analysis incorporated various types of documents to ensure that significant findings from informal reports or workbooks would contribute to our findings, since a variety of documents are essential in enriching the findings of the analysis (Merriam, 1988). Conducting the document analysis was an iterative process that involved reviewing documents relevant to key findings from semi-structured interviews as well as data session groups. As new themes emerged throughout the study, document analysis reinforced the validity and significance of these themes by identifying their presence in grey literature, reports, letters, and policy. Once relevant documents were collected, they were analyzed to identify meaning and contribute relevant data to inform the role of community paramedicine in providing lift assists in Southwestern Ontario (Corbin & Strauss, 2008).

By gathering relevant reports, policies, and documents, I was able to develop a deeper understanding of the context in which community paramedicine operates in Middlesex-London to support my findings and incorporate relevant literature on the topic of community paramedicine and lift assist. Document analysis has been suggested as a method to

Provide data on the context within which research participants operate ... documents provide background information as well as historical insight. Such information and insight can help researchers understand the historical roots of specific issues and can indicate the conditions that impinge upon the phenomena currently under investigation. The research can use data drawn from documents, for example, to contextualise data collected during interviews. (Bowen, 2009, p. 30)

While it should be noted that records and documents of phenomena and organizations cannot be taken as proof of the way paramedics and CPs function and perceive lift assists, themes and concepts generated from document analysis may assist greatly in contextualizing my research (Bowen, 2009).

3.3.3 Key Contact Discussions

A significant difference between traditional ethnographic methods and focused ethnography methods is the emphasis on communicative activities, especially among members of the research team that are socially and culturally mixed (Knoblauch, 2005). Our key contact, the Superintendent of Community Paramedicine in MLPS was an asset to the team, facilitating participant recruitment, participating in two data session groups, and being available for multiple brief discussions throughout this project. In addition to recruiting participants, the key contact has been in frequent contact with the research team, describing problematic lift assist-related calls while working as a front-line paramedic, and sharing relevant documents and Ambulance Call Report statistics.

The data and discussion provided by our key contact has deeply enriched the data generated, as participant responses and document analysis were contextualized by the key contact who has years of experience in the field and regularly interacts with the group being studied. Through his dedication to the topic of lift assists, and community paramedicine in general, discussions with the key contact have provided our research with the benefit of having a professional health care provider share their experiences and knowledge.

3.3.4 Reflexive Notes

Essential to rigorous constructivist qualitative research, reflexivity is critical in bracketing research assumptions. In a focused ethnography study, the role of the researcher in the study setting could potentially influence the environment, culture, participants, or the data collected (Finlay, 2002). For this reason, I sought to create a sense of transparency throughout my research. In creating this transparency, I state that I am not a health care professional, nor do I have direct affiliations with community paramedicine or experience with lift assists in the older adult population. These acknowledgments will reinforce my position in interviews as a researcher outside of the setting/culture of study, which in turn, acknowledges the expertise and knowledge of my participants.

In addition to the methods adopted in this qualitative study, I created a reflexive journal to catalog my thoughts, experiences, attitudes, and ideas on community paramedicine and lift assists. The purpose of the journal is to delineate data collection and information collected from the study setting and study participants from my personal thought process and attitudes developed from reviewing literature (Cruz & Higginbottom, 2013). Reflexivity is a critical consideration in ensuring rigour in a focused ethnography study, as ongoing understandings, and conceptualizations of the phenomenon of study should be incorporated into data collection (Bikker et al., 2017). Data session groups further reinforced the practice of reflexivity as these sessions addressed assumptions, conceptualizations, and perceptions of the phenomenon in a dynamic group setting (Barry, Britten, Barber, Bradley, & Stevenson, 1999).

Given my role as a researcher and connections with my PI and the Superintendent of Community Paramedicine, I used reflexivity to acknowledge the relevance of the data collected and how my prior thoughts and attitudes influenced the research project. Ultimately, the reflexive journal was conducive to my goal of describing thoughts, attitudes, and experiences surrounding a phenomenon in a specific setting without allowing my preconceptions to alter results.

3.4 Data Analysis

In continuously engaging with the results of semi-structured interviewing and allowing for flexibility in coding, an inductive coding analysis was adopted. As Thomas (2006) describes inductive coding, “The primary purpose of the inductive approach is to allow research findings

to emerge from the frequent, dominant, or significant themes inherent in raw data, without the restraints imposed by structured methodologies.” (Thomas, 2006, p. 238). While the coding process may remain flexible with a deductive approach as well, there is a reliance on theoretical frameworks that would not accurately reflect the nuances of community paramedicine and the unique topic of lift assists (Linneberg & Korsgaard, 2020). After being cleaned of any personal identifiers, transcripts were uploaded into NVivo 12 to support the inductive coding process. In analysing transcripts, themes were coded when they reflected relevant participant activities, perceptions, and attitudes that addressed the research question to some degree (Saldana, 2009). Themes were then viewed in relation to one another to examine whether they could be contained within broader categories to organize each theme. By inductively coding my interview transcripts, I linked concepts and ideas to discover commonalities between participant perspectives, elucidating broader themes and categories that informed paramedic perspectives of an expanded scope of CP practice (Saldana, 2009). Throughout the inductive coding process, themes and categories shifted and evolved after multiple rounds of coding. This change led to the creation of a methods document within NVivo 12 to support reflexivity by describing my personal thoughts and explanations for changes in labels and hierarchical organization among nodes and sub-nodes. In addition to thematic analysis, the following chapter also provides an overview of common responses among participants to further contextualize the interviews and describe common attitudes and perceptions.

3.4.1 Data Session Groups

Focused ethnography encourages the use of technology (audio and/or video recording) to supplement data collection to open the data socially within the context of study (Cruz & Higginbottom, 2013). A data session group was conducted at the beginning of the research project to present the issue of lift assists in relation to CPs and front-line medics in Southwestern Ontario. This initial data session group included the research team and key contact and was conducted in-person prior to the COVID-19 pandemic. The purpose of this initial data session group was to present relevant lift assist and community paramedicine data and confirm the study’s research question and objectives. The second data session group was conducted virtually over Zoom to confirm themes and results of the study. Each data session group was audio recorded and revisited multiple times to support analysis. These data session groups greatly

assisted in the facilitation of the co-construction of knowledge, acting as a member check, where data collected from interviews was interpreted collaboratively in groups with researchers and the key contact to discuss results to ensure they are representative of the culture being studied. Data session groups provided the benefit of presenting the research team with main themes and findings developed from inductive coding, as well as discussing uncommon or unique responses.

Having multiple perspectives on a single audio recording allowed for multiple themes and interpretations, gathering data that is informed by the unique knowledge, experience, and perspectives of each member (Knoblauch, 2005). The focused ethnography approach utilized for the purposes of this study was reinforced by leveraging existing knowledge on community paramedicine and lift assists with a knowledgeable participant group, in addition to document analysis (Wall, 2015).

In addition to discussing common themes and controversial findings from semi-structured interviews and document analysis, I created an interim report for all CP participants. The purpose of this interim report was to act as an additional member check and confirm with participants that the interim results were reflective of their thoughts and attitudes. All feedback received by participants contributed towards the results and discussion of this thesis. None of the participants that received the interim report provided any feedback that required any changes to be made in the data that was collected.

3.5 Quality Criteria

Tracy (2010) describes rigour in qualitative research as a defining feature of high-quality research, characterized by abundance and richness of data. Among Tracy's (2010) eight constructs discussed to ensure high quality research, the constructs of Worthy Topic, Sincerity, Credibility, and Meaningful Coherence are most applicable to this study.

A 'worthy topic' in qualitative research is described as a research endeavour that "addresses the concerns of others, as well as the researcher's own interests" (Gordon & Patterson, 2013, p. 691). Using this definition, the potentiality for an expanded scope of practice for CPs to provide lift assists would address the concerns and needs of front-line paramedics, CPs, and most importantly, older adults experiencing falls. Additionally, this research is incredibly timely and

relevant as the proportion of older adults within Ontario grows rapidly (Statistics Canada, 2018). As previously stated, the growing aging population is anticipated to lead to a significant increase in lift assist calls, and the need for community-based services to provide lift assist is highly relevant (Ontario Association of Paramedic Chiefs, 2015).

As a construct, sincerity is described as a goal for qualitative researchers that “can be achieved through self-reflexivity, vulnerability, honesty, transparency, and data auditing” (Tracy, 2010, p. 841). To ensure sincerity in our research, my reflexive notes and discussions with our key contact serve to reinforce honesty and transparency in our thoughts, preconceptions, and general attitudes towards the research project. We feel that this adds an element of rigour to our research, since there is always transparency in our biases, preconceptions, and findings.

Credibility, as described by Tracy (2010), refers to research that reflects the voices of participants, describing the phenomenon of study and expanding upon it with contextually relevant discussion and analysis. By conducting both semi-structured interviews and document analysis, we generated credible research that not only reflects the realities of individuals within their context but reflects the current landscape of the phenomenon in existing literature and policies. The various perspectives presented throughout our methodologies, including the voices of researchers, CPs (and by extension, front-line paramedics) ultimately aim to provide a thick description of lift assists that readers would “feel trustworthy enough to act on and make decisions in line with.” (Tracy, 2010, p. 843).

Similar to the construct of credibility, meaningful coherence refers to whether the study satisfies its research objectives and uses appropriate methods (Cameron, 2011). This construct is highly relevant to the current context of community paramedicine within Ontario, especially regarding the issue of lift assists. As discussed by Tracy (2010), meaningful coherence does not require data and literature to be conveyed neatly, but rather, it requires the interconnectedness of literature and findings to point out gaps. Interviewing techniques combined with document analysis provide the reader with the understanding that community paramedicine programming is fragmented in general, and that lift assists represent a very large and growing gap that can and should be addressed through restructuring health services.

3.6 Summary

This chapter described the methodological paradigm within which I situated my research. As described by Ponterotto (2005), a constructivist approach recognizes the potential for multiple, equally valid realities. This constructivist paradigm complements the selected methodology of focused ethnography, especially while considering the context of research (during a pandemic) and the timeframe the research team operated in. This chapter also provided a discussion of participant recruitment strategies, as well as a description of the setting and population being studied.

This chapter described how semi-structured interviews, discussions with key contacts, reflexive notes, and document analysis were used to complement one another and develop a deeper understanding of the role of community paramedicine programming in providing lift assists in Southwestern Ontario. Data analysis strategies were also described in order to discuss the inductive coding process and how themes and broader categories were developed to describe participant response data.

Lastly, this chapter described ethical considerations prior to beginning data collection and how participant information remained anonymous and confidential throughout the project. This chapter concluded with strategies taken by the research team to promote rigour and quality as described by the “Big-Tent Criteria for Qualitative Research” established by Tracy (2010).

The next chapter will discuss findings from semi-structured interviews, contextualized by discussion from data session groups, discussions with the key contact and document analysis. The following chapter will describe participant demographic information, as well as an overview of statistics and common responses. Lastly, thematic analysis from the inductive coding of each clean transcript will be provided to communicate the perspectives and attitudes of participants.

Chapter 4

4 Results

The purpose of this study was to describe the role of community paramedicine programming in providing lift assists in Southwestern Ontario. The first three chapters of this thesis served to discuss the current landscape of community paramedicine, lift assists and trends among the older adult population. Following this, a literature review described the current, limited body of literature pertaining to community paramedicine in relation to lift assists. In the previous chapter, our paradigm and methodological school of inquiry was stated in addition to our methods, with the purposes of examining the perceptions of paramedics on community paramedicine programming, describing paramedics' experience of responding to lift assist calls in Middlesex-London, and describing the current lift assist and community paramedicine documents and policies in place in Middlesex-London.

This chapter will begin by describing participant demographics to acquire an understanding of who the CP participants were and their degree of experience, followed by an overview of participant responses. This overview will provide a broad understanding of participant attitudes and perceptions, as it will describe general feelings regarding community paramedicine programming and lift assists. Following this, each of the major themes will be described in relation to policies and reports found from the document analysis. Each of the dominant themes developed from the inductive coding process will be reinforced by illustrative quotations to support my assertions (Saldana, 2009).

4.1 Participant Demographics

The key contact affiliated with this study sent the recruitment email (Appendix D) to a total of 25 CPs. Given their busy schedules, 3 reminder emails were sent to each of the 25 prospective CP participants over the course of 2 months. In total, 12 (48%) of the 25 contacted CPs participated in this study. Prior to beginning each interview, participant demographic information was collected to contextualize the results. As previously stated, a benefit to interviewing CPs from MLPS is that most participants had experience in the role of a front-line paramedic in addition to a CP. Each of the participants frequently operate as front-line paramedics and alternate between each role depending on paramedic scheduling and community needs. The 12 semi-structured

interviews with participants in this study amounted to a total of 225 minutes of recorded interview time, averaging approximately 19 minutes per interview.

Table 4.1: Participant Demographics

Participant Demographics		
Participants in Semi-Structured Interviews	12	
Female	8 (66.6%)	
Male	4 (33.3%)	
Duration as a Front-Line Paramedic	0-4 Years	2 (16.6%)
	5-10 Years	4 (33.3%)
	10+ Years	6 (50%)
Duration as a Community Paramedic	1-5 Months	1 (0.08%)
	6-12 Months	5 (41.6 %)
	1+ Year	3 (25%)
Conducted a Lift Assist?	Yes	12 (100%)

Three participants had very limited experience as a CP, and only drew upon their experience as a front-line paramedic in their responses. Certain fields, such as the feelings of being adequately trained in providing lift assists and feelings associated with other health care providers responding to lift assists contained mixed or neutral responses. These neutral, indifferent responses did not accurately fit into either category and were excluded from Table 4.1 for simplicity.

4.2 Participant Responses

To develop a deeper understanding of participant attitudes and perspectives regarding CPs providing lift assists, the following statistics were recorded to describe participant responses. Table 4.2 provides an overview of participant responses to support that the majority of CP participants support the expansion in CP scope of practice to provide lift assists. Responses from Table 4.2 were collected using attitudes implicit in each of the participant's responses to provide a summary of the results collected.

Table 4.2: Participant Responses

Feelings Associated with Responding to Lift Assists	Positive	7 (58.3%)
	Negative	5 (41.6%)
Feelings Associated with Other Health Care Providers (& Allied Health) Providing Lift Assist	Positive	1 (0.08%)
	Negative	10 (83.3%)
Should Community Paramedics Provide Lift Assists in Middlesex-London?	Yes	11 (91.6%)
	No	1 (0.08%)
Biggest Perceived Barrier	Funding	9 (75%)
	Dispatch/Communication	2 (16.6%)
	Redundancy	1 (0.08%)
Impact on Patient Care if CPs Provided Lift Assists in Middlesex-London	Positive	10 (83.3%)
	Neutral	1 (0.08%)
	Negative	1 (0.08%)

4.3 Thematic Analysis

Each transcript was transcribed verbatim and inductively coded, using NVivo 12 to support analysis. Table 4.2 was created to identify statistics among participant responses throughout each of the semi-structured interviews.

This section presents each of the themes identified during thematic analysis, utilizing illustrative quotations from participants to reinforce the significance of each theme. Each theme was developed and refined after multiple rounds of coding to ensure consistency in themes as well as

increased familiarity with interview responses (Saldana, 2009). Five themes and twelve sub-themes were identified through the inductive coding process. The five themes include: Expertise with lift assists and community paramedicine, opportunity for community paramedicine, challenges associated with CPs providing lift assists, hesitancy or doubts regarding CPs providing lift assists, and the impact of COVID-19. Within the theme of expertise with lift assists and community paramedicine, the following sub-themes were identified: Definitions of lift assists and community paramedicine, role and experience, paramedic training and lift assists, paramedic burden, lifting devices, physical aspect of responding to a lift assist, and collaboration with allied health care professionals. Within the theme of opportunity for community paramedicine, the following sub-themes were identified: holistic encounter, and impact on patient care. Within the theme of challenges associated with CPs providing lift assists, the following sub-themes were identified: Funding, communication with dispatch, No Lift Policies and Safe Lifting Practices. The themes of hesitancy or doubts regarding CPs providing lift assists, and the impact of COVID-19 do not contain sub-themes. While themes in this section are not presented in any specific order, they each offer insight as to the potential role of CPs in providing lift assists in Middlesex-London. Please refer to Appendix I for definitions for each theme, as well as illustrative quotations.

The following themes were initially coded during the data analysis process but were not presented in the following sections: Positive attitudes towards CPs providing lift assists, referral services, refusal of transport. These themes were not presented in this study's findings due to redundancy and/or their lack of contribution in answering the research question. Definitions and illustrative quotations for these excluded themes can also be found in Appendix I.

4.3.1 Expertise with Lift Assists and Community Paramedicine

Definitions of Lift Assist and Community Paramedicine

Most participants described a lift assist either as a simple procedure in which an individual indicates that they have fallen within the home, receive no treatment on scene, and require assistance to mobilize to a seated or standing position. Some definitions were more comprehensive and described lift assist calls in terms of patient characteristics and skills required to respond:

On a very generic Lift Assist call, ... they've fallen out of a chair, out of the bed and they don't have the physical strength to get up off the floor... So, generally we go in, we assess if there's injuries before we move them, we start getting a better understanding of why they fell, whether they were dizzy and fell, passed out and fell, slipped and fell. We get them up and once they're up and in a position where they're more comfortable we'll get a very good set of vitals and check for any underlying conditions that might have caused this fall that they're not aware of. Ensure that they're safe at home or if they would like to stay home. And then we'll get our age capacity filled out and then we'll have them sign a form and then we leave. (Participant 9)

When asked if peer front-line paramedics would share this definition, each participant agreed that lift assists are recognized by all paramedics as a relatively simple call type that does not warrant emergency medical services. When discussing community paramedicine, participants described how programming varies regionally, but ultimately serves community needs. One participant described community paramedicine programming as:

an adaptable position where we serve the community, those who are vulnerable and those with chronic long-term illnesses. Just kind of a branch of the 9-1-1 system. Looking after patients that require more social supports and being able to go in and kind of deem what they need and get services activated for them, pretty much. (Participant 7)

Regarding community paramedicine programming in Ontario specifically, participants often mentioned how it varied in its implementation and scope significantly by area. In Middlesex-London, the program was described as serving community needs and still rapidly expanding since its inception in 2012. By acting outside of the Ambulance Care Act, CPs in Middlesex-London operate with an expanded scope following the Ministry of Health and Long-Term Care's three pillars of community paramedicine: Assess, Refer, and Home Visits. As one participant explained, community paramedicine programming is

generally defined by the local health authority and community-based needs analysis on where there maybe a shortfall in the local healthcare system where community paramedicine can be leveraged to fill in the gaps or to an extent, bring primary care into a patient's home in coordination with other care providers. (Participant 10)

Role and Experience

Most participants had over 6 months of experience in the role of CP in Middlesex-London (Table 4.1). It should be noted that this experience is not entirely reflective of traditional CP roles and

obligations, since some CPs have been working at the COVID-19 clinic, conducting tests, and addressing questions or concerns.

While discussing feelings and attitudes around providing lift assists, some participants mentioned the role that experience played in responding to this growing call type. When discussing a typical lift assist call and the skills required to respond, one participant noted:

I'll go over and above checking vitals, because I don't have a diagnostic nor am I allowed to make diagnostic decisions. So, I go based on kind of my assessment skills and then how they feel and always offer them a trip later; they can always call.

But do I think all paramedics are like that? It took years of experience getting to be comfortable with that. So, I don't really think everybody's adequately trained, but I don't think – I don't know if they can be. It's truly experience and assessment skills and knowledge and comfort level for sure. (Participant 2)

Participants described how responding to lift assists requires them to draw upon their experiences as a front-line paramedic. Every participant has responded to multiple lift assist calls and while this is beneficial in the sense that each paramedic is familiar with the skills and competencies required to respond, there may be a sense of complacency due to the repetitive nature of this call type. The experience of each paramedic seems to influence their perceptions of lift assists to some degree, with more experienced paramedics recognizing that while repetitive, this call type must be treated with the same caution as any other call for emergency medical services.

Paramedic Training and Lift Assists

Nearly all participants felt that they had adequate training to respond to lift assists, with one participant describing that front-line paramedics could benefit from additional training specific to lift assists. The one remaining participant had mixed opinions on the training front-line paramedics received and expressed how the lift itself typically required minimal training but thought that additional training in conducting a more thorough assessment of the patient after the lift may be beneficial. Recognizing that front-line paramedics are experts at recognizing medical emergencies, they are well trained to provide rapid care in acute situations. Given that lift assists are not medical emergencies, participant responses may not entirely reflect the potential underlying health factors involved in an individual's fall. Relating to the theme of collaboration

with allied health care providers, participants felt that their training and experience made them better equipped to respond to lift assist calls compared to other professionals.

Not to put PSWs down, I think that the level of training when it comes to healthcare that paramedics have is superior, especially with the ability to recognize if somebody is having a medical emergency. So, sometimes somebody needs lifted off the ground because they tripped. And then sometimes somebody needs lifted off the ground because they went unconscious for a short period of time because they have an electrolyte imbalance or they're having a stroke or they're having a heart attack. And we have that ability to assess emergency from non-emergency. So, there are times where somebody needs lifted off the ground and then they do need an emergency department. (Participant 1)

CPs have the same urgent care training that front-line paramedics do, with additional training that seeks to address community needs, often focusing on chronic disease management. This additional training on the provision of non-urgent care reinforces that CPs are well equipped to respond to various healthcare needs within the community and utilize their training to provide care to vulnerable populations.

I think that the difference between frontline and community paramedics is just that extra bit of training that we've done on community resources, on causes of the falls, on like the holistic approach to healthcare. (Participant 1)

Paramedic Burden

When discussing the phenomenon of lift assists in Middlesex-London, many paramedics demonstrated negative attitudes towards lift assists, as they were generally regarded as a poor use of front-line paramedic time and resources.

The general attitude is that they are not essential calls. That it's a bit of a frustration by some paramedics and not an essential use of 9-1-1 services. (Participant 10)

The theme of paramedic burden was repeatedly referenced when paramedics discussed feelings of being rushed and having to respond to time-sensitive medical emergencies while simultaneously understanding that older adults and other individuals experiencing falls deserved the time of a trained health professional. Due to the growing proportion of older adults in Canada, the concern and need for alternate pathways of care for lift assist patients is growing. When asked if CPs would have the opportunity to spend more time with the patient if they provided the lift assist, a participant commented:

Absolutely, yeah. Because we're not in that same emergency rushing, not getting breaks, having to do another call or there's no ambulances in the city. And our dispatch knows you're only doing a Lift Assist and then they're like "Oh, are you guys able to clear? We have a call." There's always that push of somebody might need us, they might call us kind of thing when they know we're just doing a Lift Assist. Whereas when we're doing our stuff then we don't have to rush through it and that's going to impact the patient much better. (Participant 6)

The refusal of service/transportation to the emergency department aspect of a lift assist call often exacerbates paramedic burden. Many participants expressed that upon responding to a lift assist call, they often feel obligated to convince the patient to transfer them to the emergency department to receive definitive care. As a result, participants described how front-line paramedics often feel frustrated when responding to lift assist calls, as they believe that they are a poor use of emergency medical services' time and resources, and the patient refuses to receive necessary care.

Sometimes it generates a bit of an eye-roll. But I've also gone and it's been sent out as a Lift Assist and this person's in arrhythmia or they're unconscious or they've got broken bones that they're not even aware of. (Participant 9)

Lifting Devices

Relating to paramedic burden, some participants discussed the use of assisted lifting devices such as a Hoyer lift, a hydraulic device with the ability to hoist a patient to a seated or standing position. The frustration surrounding these lifting devices is that front-line paramedics are not trained in using these and do not contain them within the land ambulance, yet often assist allied health care providers in using them to lift a patient. In some cases, participants described being called to respond to a lift assist and found that allied health care providers were already on scene, ready to operate the Hoyer lift and the paramedic only assisted and supervised. These instances suggest that the availability of a lifting device and the presence of individuals trained in utilizing these devices does not prevent the activation of 9-1-1, constituting an inappropriate use of emergency medical services. This problem is further complicated in long-term care homes, where participants explained:

Part of the problem is they'll have a Hoyer lift on a certain floor or a certain place in the building, but they don't have one in the other part of the building or they don't have the staff trained on the Hoyer lift at the time in the place. ... it's kind of redundant that there could be a lift down the hall, but nobody's trained to use it on that floor. (Participant 8)

Physical Aspect of Responding to a Lift Assist

When describing the skills and competencies necessary to respond to a lift assist call, some paramedics discussed how the lift assist itself was relatively straightforward and did not require specific training. Rather, the limitation that these participants described related to the physical aspect, as some paramedics may be smaller individuals who are required to perform the lift assist on a larger patient. In some cases, paramedics have had to call the fire department to assist solely due to the difficulties in physically lifting a heavier patient.

I feel like I'm adequately trained. Like I said, there's not a whole lot of skill involved in the basics, as in how to lift somebody up. But when you start throwing into different things as in injuries, where they're located, the size of the person is where it starts becoming more complicated because you don't know what you're getting into. And we only have our own strength. We don't have any equipment necessarily to help us with the lift assist. (Participant 3)

Within Middlesex-London, front-line paramedics currently operate in pairs, often resulting in both paramedics working together to conduct the lift itself. CPs, however, operate individually when they conduct wellness visits within the patient's home. When describing limitations to the potentiality of CPs responding to lift assists, some participants mentioned that the physical aspect of the lift acted as a significant barrier to conducting the lift safely.

Collaboration with Allied Health Care Professionals

When asked which, if any, health care professionals would have the training and ability to perform lift assists in Middlesex-London, most participants expressed that they were not comfortable with the possibility of other health care professionals doing so. While participants acknowledged that allied health care providers such as Victorian Order of Nurses (VONs), Personal Support Workers (PSWs) and Personal Support Staff (PSS), could physically lift patients, No Lift Policies and Safe Lifting Practices prohibit this. These policies establish guidelines for allied health care professionals within long-term care homes and facilities for older adults and dictate that the allied health care professional/support staff refrain from providing a lift assist in order to prevent a lifting-related injury. While these health care professionals are often trained on utilizing lifting devices and routinely perform lift assists within

the patient's home, they do not have the training required to perform a thorough assessment of the patient and factors relating to why the patient fell.

we often get calls by PSWs that go into people's homes and stuff, and it's kind of a shame that they aren't able to help the patient because sometimes it's a very simple thing. But like they're not allowed to help someone up or something like that. So, I don't know if there's anyone that currently has adequate training per se, or at least they worked in at least pairs where they would have enough people to safely lift someone (Participant 4)

Participant responses and discussions with our key contact indicated that many times when front-line paramedics are called to respond to a lift assist, there are allied health care providers in the patient's home already. While paramedics are able to lift the patient up with assistance from the care providers present, it does not represent an efficient use of emergency medical services provider time. This inefficiency suggests that the process of responding to a lift assist should be streamlined and coordinated to a single care provider, rather than calling multiple to perform an often-simple task. However, it is essential that this single care provider is trained and able to perform a thorough assessment of the individual, including assessing risk factors associated with falls.

4.3.2 Opportunity for Community Paramedicine

Most participants acknowledged that community paramedicine plays an incredible role within the community, providing care to high-risk, isolated older adults or disadvantaged groups that would otherwise have difficulties navigating the healthcare system. The opportunity to engage with the patient's health care team and provide care within the home enables CPs to develop rapport and improve patient health outcomes through thorough assessments and remote patient monitoring.

When discussing the opportunity for CPs to engage with lift assist patients and connect with relevant care providers, one participant described how:

It may actually be a good thing for community paramedics to take the lift assists, because then they'd be able to get the ball rolling a lot faster for a referral for this person if they actually needed more help, or maybe regular visits with a community paramedic or a PSW to help to kind of prevent falls in the future. (Participant 4)

Nearly all of the participants in our study agreed that there is a role for CPs to respond to lift assists in Middlesex-London. The prospect of reducing burden among front-line paramedics while improving patient health outcomes through thorough assessments and home visits was often discussed by participants. Despite the unanimous agreement that community paramedicine programming has significantly improved patient health outcomes within the community, many participants felt that they are not currently being utilized to the extent they should be. The attitudes and perceptions expressed by participants suggest that there is a great opportunity for CPs to expand their scope of practice to respond to the rapidly growing, non-acute call type of lift assists.

Holistic Encounter

Upon receiving the lift assist code from the dispatch operator, the current scope of practice for front-line paramedics includes responding to the call, performing a physical, biometric and interview assessment, signing the refusal of service form and completing the Ambulance Call Report. Front-line paramedics are trained in providing high-quality emergency care and responding to crises. While lift assists are not regarded as a medical emergency, many patients that choose to call 9-1-1 do so because they are isolated or are unaware of who they should call in order to receive help in a timely fashion.

Participants often described how CPs have the same degree of training front-line paramedics do, with the added benefit of having more time to spend with each patient. This increase in time spent with patient allows CPs to assess the patient's environment and potential underlying factors for falls. By providing a more detailed assessment of the patient's living environment, CPs can expand the patient's circle of care and incorporate any relevant health care providers to prevent future hospitalization.

I think as a community paramedic we want to make sure like does the person have tripping hazards in their house, are there other reasons that they're falling. Are they using their walker? Do they need occupational therapy, physiotherapy? Do we need some other – something else to prevent another fall from happening I think is more our approach than the regular 9-1-1 work. (Participant 1)

Participants have expressed that due to the high call volume experienced by front-line paramedics, many paramedics may not be able to spend the time assessing a patient and all the

factors that may have contributed to a fall. Additionally, front-line paramedic training is specific to recognizing medical emergencies that require immediate care. As such, front-line paramedics do not have the training and expertise to conduct a thorough assessment that acknowledges chronic conditions and identify the need for further care. The inability to allocate time to investigate this growing call type is a missed opportunity for care providers, physicians, and caregivers to understand the cause and effect of falls within the home.

I think that we often have repeat 9-1-1 callers because they fall. Frontline paramedics come, lift them up off the ground, but you don't really have the resources in the frontline role, or sometimes the time if there's a lot of calls waiting in the queue, to take that more holistic approach. So, if community paramedics could go in and support that person with other resources, if it is OT or PT they need referred to or if it's like physical tripping hazards in the house, or maybe they just need more homecare and we can help set them up, I think that would be a great positive impact on the patients. – Participant #1

The opportunity for enhanced integration of allied health and alternative care providers through referrals could significantly improve patient health outcomes and prevent repeat 9-1-1 calls after experiencing a fall. CPs could provide the same assessment that a front-line paramedic would, while exercising a higher degree of caution and investigating factors within the patient's living environment to prevent future falls.

Impact on Patient Care

In discussing the potentiality for an expanded scope of practice among CPs, it was essential to understand the impact on patient care if CPs responded to lift assists. Most participants described how CPs providing lift assists in Middlesex-London would have a positive impact on patient care, with one participant suggesting that the impact on patient care would not change, and the remaining participant expressing that it may not be a practical use of CP time and resources. Of the majority that agreed CPs would improve patient care, it was explained that this expanded scope of practice would do so through increased time spent with the patient, more thorough assessments of the patient and the environment they live in, and referrals to relevant health care providers.

Based on the fact that community paramedics spend more time in a home, and if we have more time to actually talk, we have the different avenues to look at what's in place in their home to see and do kind more of a home assessment Whereas, right now with 9-1-1, I would go in and here to do a lift assist, OK, I'll help you up. You refuse transport to

the hospital, let us know if you want us to come back. Like, there's no follow up. There's no care to keep them in the house. Whereas, the community paramedic, that's the whole goal is to keep people home, but people are struggle navigating the healthcare system to get different things in place. (Participant 3)

Some participants also expressed that due to the repetitive nature of many lift assist calls, front-line paramedic burden may alter their perceptions of lift assists, potentially viewing them as less serious than they may be. The repetitiveness of these calls in combination with burnout and frustration may lead to front-line paramedics overlooking a potentially serious call for emergency medical services, putting the patient at increased risk of hospitalization and mortality. If CPs were able to respond to this call, they would be able to spend more time with the patient, assess the environment, develop rapport, and utilize their training and expertise to ensure the patient remains healthy and safe within their home.

4.3.3 Challenges Associated with CPs Providing Lift Assists

Although 11 of participants agreed that CPs should respond to lift assists in Middlesex-London, this expanded scope of practice is not without its limitations or challenges. Of the 12 CPs who participated in this study, 9 described how funding and the lack of a partner to physically perform the lift with were the greatest barrier to CPs providing lift assists, followed by 2 participants discussing how communication issues with dispatch were the biggest perceived barrier.

Funding

Participants recognized that although CPs had success within the community, shifting priorities among regulating bodies and inconsistency in funding made it difficult to provide high quality care to a roster of patients.

There's been no secure, sustainable funding since its inception in 2012. Initially first working under a provincial grant for 2 years and then after that the transition to the local health authority or LHIN at that time, there's been a high degree of regulatory oversight turnover ... and to that, not a lot of opportunity to maintain existing programming. (Participant 10)

In addition to funding for community paramedicine programming and services itself, funding also poses a barrier in terms of the physical staffing limitations of community paramedicine.

Currently, CPs operate individually when they visit patients in their home. Given that the physical aspect of a lift assist may be difficult due to heavier patients, CPs would require a partner to safely perform the lift assist and adhere to Safe Lifting Practices.

Additionally, inconsistency in funding complicates the relationships and rapport that CPs develop with patients. This concern revolves around the expectation that many vulnerable, isolated patients would come to depend on CP services both for social and health purposes. If community paramedicine programs ended due to funding, these patients would no longer receive the care or support that they require. While multiple participants described the impact of insufficient funding on patient care, one participant commented:

*if there's no funding and part of the program has to come to an end then we've just broken relationships with people who really, really rely on us and trust us. Even if it's just that reassurance of knowing ... "They're going to call us every two weeks to check in on us." That's just going to be devastating to so many patients if our program ends.
(Participant 6)*

Communication with Dispatch

The remainder of participants discussed how communication and the 9-1-1 dispatch system presented a barrier in regard to lift assists. When the patient calls 9-1-1, signs and symptoms that the dispatch operator interprets may not be accurate indicators of the severity of the fall or the patient's health status and needs. As such, when dispatch contacts emergency medical services, paramedics are unsure as to whether the fall they are responding to is a simple, benign lift assist, or a much more serious call type such as a myocardial infarction that would require immediate attention. As a result, many lift assists inappropriately result in paramedics utilizing land ambulances with lights and sirens to rapidly respond to calls that may not be medical emergencies, leading to unnecessary usage of paramedic time and equipment.

No Lift Policies and Safe Lifting Practices

Many participants discussed No Lift Policies and Safe Lifting Practices and how they complicated the potential expansion for CPs to provide lift assists in Southwestern Ontario. No Lift Policies were put in place to prevent staff in long-term care homes from providing manual lifts for patients. These policies require that staff activate 9-1-1 for a lift assist, despite the availability of lifting devices present in the facility. In institutions with No Lift Policies,

activation of 9-1-1 often results in long-lies, as the dispatch operator accurately labels the lift assist call as a Code 0, resulting in a low priority response from paramedics.

What that means is that there's a policy that's put in place to protect staff from performing manual or mechanical lifts to prevent potential harm. Now as a result, because of these, there is a high degree of instances where these services then activate 9-1-1 to utilize them as an extension of their service, with no financial obligations whatsoever, to perform an actual assessment, physical, biometric or investigation and then help to reposition the patient. (Participant 10)

No Lift Policies and Safe Lifting Practices were frequently described to be barriers in the potential expansion in scope of practice for CPs, as they are currently viewed to be favourable for institutions, with little regard for patient health outcomes and paramedic resources. Further explanation of No Lift Policies and Safe Lifting Practices can be found in Appendix A.

4.3.4 Hesitancy or Doubts Regarding CPs Providing Lift Assists

The theme of hesitancy regarding community paramedicine programming was only identified during thematic analysis of one transcript. One participant expressed concern for the potential of redundancy in health care services if CPs provided lift assists. This theme will be discussed further in the next chapter, as it can be better described and addressed through integrating responses from the data session group, document analysis and the existing literature.

4.3.5 Impact of COVID-19

In most cases, participants described that the pandemic has not affected front-line paramedic operations significantly, as they still respond to emergencies just as they did before but with additional personal protective equipment. Given that CPs respond to the needs within the community, their time and expertise has been utilized in Middlesex-London to operate COVID-19 clinics.

public health is never going to go back to what it was. I see community paramedics as a good fit in that regard because we do have all of the protective equipment. We have all of the training on, like on properly screening somebody, when to wear certain protective equipment. We have the experience seeing COVID-positive patients on the road and being able to tell sick from not sick. So, I think that our regular experience makes us a good fit to continue forward as an important part of the COVID response. (Participant 1)

While the current pandemic has not had a significant impact on the quality of care provided, the day-to-day operations of front-line paramedics and CPs have been delayed due to the required personal protective equipment and limited in-person staffing protocols. By shifting focus and placing a greater emphasis on operating COVID-19 clinics and remote patient monitoring strategies, CPs are currently only conducting home visits when absolutely required. This shift in care reinforces that community paramedicine has potential to be flexible and address community needs in a safe and responsible manner.

*I think that ... wanting to use community paramedics for some of the COVID response ... has really opened the door to how much community paramedics can do. Like, we are now at the COVID assessment centre doing swabbing. We have, like the palliative care outreach team has added us on with them to do COVID response. I think it's highlighted how diverse paramedics are and that we're willing to go into what some other people consider dangerous situations. But if you have the right protective equipment it isn't.
(Participant 1)*

Generally, participants agreed that while COVID-19 has been detrimental to public health and patients, it has also shown the resilience and adaptability of both front-line paramedics and CPs. The impact of COVID-19 also includes issues such as hospital avoidance, fear, and social support among vulnerable, disenfranchised populations. These issues will be further addressed in the following chapter where the results of thematic analysis will be further informed and contextualized by data session groups, discussions with key contacts and the existing literature.

4.4 Document Analysis

As described by Bowen (2009), document analysis was performed to supplement thematic analysis and contextualize participant responses and literature with an understanding of the current policies and official documentation in place surrounding lift assists and community paramedicine. I conducted the document analysis by searching for relevant laws, policies and reports pertaining to subjects that were mentioned in the literature as well as in discussions with the key contact and results from participant interviews. Among these, were topics such as community paramedicine funding programs, the Ambulance Care Act, No Lift Policies, Safe Lifting Practices, Falls Risk Assessments, and models of community care (See Appendix H for full document list).

Table 4.3: Types of Documents Included in Document Analysis

Document Type	Quantity
Letter	1
Paramedic & CP Reports and Committee Findings	5
Blog/Webpage	2
Law/Policy	2
Guide	2
Total	12

Of the reports included in the document analysis, 3 were created by the Ontario Community Paramedicine Secretariat, a reputable organization with the goal of increasing scope and spread of community paramedicine programming. The Ontario Community Paramedicine Secretariat advocates for community paramedicine programming across the province, acknowledging that

“The rapidly evolving and growing multi-dimensionality of community paramedicine programs being offered appears to represent a growing intentional strategy by Ontario’s municipal paramedic services to provide individuals and patients with greater access to other community-based care providers and services that can help lessen a patient’s reliance on the province’s 9-1-1 safety net and reduce emergency department visits and hospitalizations.” (OCPS, 2019, p.4).

These documents provided evidence indicating that although CPs have had great success in responding to community needs across Ontario, there is room for growth and expansion of services. Within Ontario, there are 143 community paramedicine programs, providing an average of 3 service-types per program, serving an estimated 56,640 patients within the community (OCPS, 2019). While document analysis generally regarded community paramedicine programming as a beneficial resource for patients in need of high quality, non-urgent care,

consistency in funding for community paramedicine programming still proves to be a significant barrier to expanding CP scope of practice (OCPS, 2020).

Within 2019-2020, 779 patients were referred to the community paramedicine roster in Middlesex-London with the main goal of preventing hospitalization by proactively providing care (Middlesex-London Paramedic Service, 2020). While current services include home and community care support, mental health alternative care, home visits, and diabetes education, the program in Middlesex-London as well as nearby regions in the province continues to expand in scope of practice (OCPS, 2020). Document analysis of reports from Hamilton Paramedic Service suggest that while lift assists are growing in frequency and their consumption of paramedic resources, Hamilton's community paramedicine program is solely addressing falls through their home visit role (Hamilton Paramedic Service, 2019). Currently, CPs in Hamilton have adopted a prevention-focused approach towards patients identified to be at elevated risk for falls during home visits, however, the impact of this initiative on reducing the frequency of lift assists is unclear.

Document analysis identified nearby regions demonstrating comparable trends in the increasing lift assist call type in order to determine their response plan. Niagara Emergency Medical Service created the Falls Intervention Team, in which an occupational therapist accompanies a front-line paramedic to respond to patients who experienced a fall within the home. Separate from their community paramedicine program, the Falls Intervention Team found a 0% increase in 9-1-1 calls for falls and a 2% decrease in transportation to the emergency department, despite a strong trend for increasing falls in previous years (Smith, 2019). This shift in traditional roles of paramedics towards intervening in the growing call type of a lift assist in early stages has proven to be effective at reducing emergency department presentations. While CPs are not performing the lift assists, findings from the Falls Intervention Team suggest that with a partner to perform the lift, CPs have the potential to expand their scope of practice to provide lift assists.

Documents from the Canadian Union of Public Employees and Work Safe Alberta describe the role of No Lift Policies and Safe Lifting Practices, particularly within long-term care homes and community homes for older adults. No Lift Policies describe policies in place to protect staff within these settings, prohibiting them from performing a lift on a patient who has experienced a

fall regardless of staff training or lifting devices on scene. Due to the potential for injuring allied health care professionals, organizations like the Canadian Union of Public Employees describe how “a No Lift Policy that makes manual lifts without mechanical support impermissible is ideal, and the best practice” (Canadian Union of Public Employees, 2015, p. 2). No Lift Policies require that the staff in these long-term care homes call 9-1-1 for paramedics to perform the lift assist, often with assistance from the staff that activated emergency medical services.

Participants often described how No Lift Policies contribute to the inappropriate activation of 9-1-1, as they represent a non-urgent use of front-line paramedic time and equipment, while simultaneously delaying patient care. In these instances, the likelihood of an older adult experiencing a long-lie is significantly increased as staff are limited in their ability to aid the patient. Safe Lifting Practices speak to the biomechanical positioning as well as training and procedures involved in performing the lift. Our document analysis identified parallels between Safe Lifting Practices in reports and guidelines and discussions with participants from semi-structured interviews, as two individuals are recommended to perform the lift assist safely and utilize devices when possible.

4.5 Summary

The purpose of this chapter was to discuss the results of our study from thematic analysis and document analysis. This chapter began by describing participant characteristics to gain a better understanding of the experience that participants had in the CP and front-line paramedic role. Following this, each of the prominent themes identified from the inductive coding process were discussed while utilizing illustrative quotations to reinforce each theme. Lastly, documents relating to community paramedicine and lift assists were discussed to inform participant responses, provide evidence of lift assist management strategies within the province, and describe factors that complicate this expansion in scope of practice. The following chapter will expand further on topics identified in our thematic analysis and incorporate discussion from the literature, relevant documents and policies, insights from the key contact and data session groups to provide a commentary on community paramedicine scope of practice as it relates to lift assists

Chapter 5

5 Discussion

The purpose of this study was to address the research question: What is the role of community paramedicine programming in providing lift assists in Southwestern Ontario? To answer this question, the following research objectives were addressed: Examine the perceptions of paramedics on community paramedicine programming, describe paramedics' experience of responding to lift assist calls in Middlesex-London, and describe the current lift assist and community paramedicine documents and policies in place in Middlesex-London.

This chapter will initially place the most salient themes identified from thematic analysis in relation to other resources, followed by discussion of results that did not reflect the opinions of the majority of our participants. Afterwards, this chapter will describe methodological considerations of this study, including strengths and limitations. Finally, this chapter will conclude with a discussion of reflexivity as it has applied to my research.

5.1 Discussion of Prominent Themes

This section expands upon prominent themes and uncommon responses identified in the previous chapter. These prominent themes were chosen specifically because they elicited strong responses among participants and were often the focus of discussion in existing literature and documents pertaining to community paramedicine and lift assists. Through discussing each prominent theme, this section integrates our study's findings with the literature and current landscape of paramedicine and community paramedicine.

5.1.1 Paramedic Burden

Participants in this study reported that lift assists are not a good use of front-line paramedic time and financial expenditure. As the proportion of older adults within Southwestern Ontario continues to rise, the already problematic frequency of lift assist call volume is anticipated to rise with it (Schierholtz et al., 2019). Our findings support the work of Schierholtz et al. (2019) in their framing of the burden of lift assist on front-line paramedic services and recommendations for CPs to provide lift assists. According to Middlesex-London Paramedic Service's Lift Assist Impact Assessment, in 2020, there were 2,021 lift assists, representing approximately 1,646

hours of paramedic response time at a cost of \$385,287 (Middlesex-London Paramedic Service, 2021). Data projections from Ambulance Call Reports from MLPS anticipate that lift assist response calls will consume approximately 124 days of paramedic service time in 2030, with an estimated cost of over \$800,000 (Middlesex-London Paramedic Service, 2021). Research suggests that community paramedicine is a viable strategy to significantly reducing costs associated with paramedics providing lift assists (Ontario Association of Paramedic Chiefs [OAPC], 2018). Other research has examined the feasibility and success of community-referral programs by paramedics as a solution to reduce paramedic lift assist call volume (Snooks, 2017). While referral pathways have shown moderate success in reducing repeat lift assist call volume in the United Kingdom, studies conducted lasted approximately 6 months and, in this period, there were many changes to emergency medical services and CP infrastructure and policy, confounding the results to some degree (Snooks, 2017).

Our research revealed that lift assists are the most poorly documented Ambulance Call Report completed by front-line paramedics, often missing vitals (body temperature, blood pressure, heart rate, and respiratory rate), and/or content in the physical assessment. These incomplete Ambulance Call Reports offer evidence that the repetitive nature of lift assists as discussed by participants, often exacerbates paramedic burden, making the paramedic more likely to sign the patient off rapidly. While some instances of paramedic services found as many as 10% of all patient care records to be incomplete and missing patient information, previous research has found strong correlations between experiencing a fall and morbidity and mortality within two weeks of activating 9-1-1 (Smith, Boyle, & MacPherson, 2004; Leggatt et al., 2017). Instances of proactive community-based interventions among the older adult population have demonstrated a decrease in the proportion of 9-1-1 activation, suggesting that community paramedicine programming would allow front-line medics to prioritize urgent callers (Smith, 2019).

Our study showed limited concern for the possibility of redundancy in services if CPs were to provide lift assists, only to find that transport to the emergency department was warranted. As described by Schierholtz et al. (2019), a lift assist by definition involves a refusal of service/transportation to the emergency department, meaning if CPs were forced to activate 9-1-1 and request front-line paramedics, it would not constitute a lift assist call. If, however, CPs respond to a lift assist, only to discover that 9-1-1 should be activated, this would be a justified

and necessary use of paramedic services rather than the current practice. Participants often described the current practices to be redundant, often involving multiple care providers who are unable to perform the lift due to No Lift Policies and Safe Lifting Practices. Similarly, Leduc et al. (2018) recognized that the current state of prehospital emergency care often involves redundancy in services and the utilization of community paramedicine may mitigate this redundancy without detriment to patient care.

Health services researchers describe community paramedicine as an innovative model of care with immense potential in responding to lift assist calls and providing high-quality patient care on a community-level (O'Meara, Stirling, Ruest, & Martin, 2016). The limited existing body of literature indicates that lift assists are increasingly becoming problematic to paramedics across Canada, significantly contributing to paramedic burden, health system expenditure and decreased patient quality of life (Simpson, Bendall, Tiedemann, Lord, & Close, 2014).

Cone et al.'s (2013) retrospective analysis identified that a significant proportion of older adults who call emergency medical services for lift assists are repeat callers, reinforcing our study's findings that paramedic burden is exacerbated by the repetitiveness of responding to lift assists. Middlesex-London Paramedic Service's Lift Assist Impact Assessment data reveals that of the 1,054 unique lift assist callers in 2019, 345 (32.7%) were repeat callers. However, a notable limitation of this data is that it only captures the number of repeat callers within 2019, and therefore does not include the proportion of repeat callers from previous years that still contributed to the total 2,052 lift assist calls that MLPS responded to in 2019. As lift assist call volume continues to grow rapidly each year, an expanded scope of CP practice is becoming increasingly necessary to provide equitable patient care. The existing literature discussing community paramedicine and lift assists utilize reputable data sources through paramedic infrastructure, facilitating the need for a qualitative study examining community paramedicine and the phenomenon of lift assist.

5.1.2 Patient Care

Most participants in our study felt that the quality of care provided to patients if CPs provided lift assist would be positively impacted or remain the same. Semi-structured interviews and literature suggest that this positive impact would mainly be the result of increased time spent with the patient, as the CP would not feel rushed to the same degree as front-line paramedics would and through enhanced referral services (Cone et al., 2013). The additional time spent with patients would allow CPs to conduct an advanced assessment of the individual in addition to the biometric assessment that may be rushed or overlooked by a front-line paramedic. Building on the research of Agarwal et al. (2019), our study revealed that if CPs were to provide lift assists, they could conduct advanced assessments, assess risk factors for falls within the patient's home and determine other causes contributing to the fall, namely, comorbidities, medication, and environmental factors. Through providing lift assists, the care provided by CPs would represent a holistic opportunity for further assessment by examining all contributing factors to a fall and working with the patient to promote confidence, autonomy, and independence (Snooks et al., 2017).

The potential for enhanced referral with relevant care providers represents a significant opportunity for improving patient care through notifying the patient's care team and managing their care without transporting them to hospital. Enhanced referral services provide CPs with the unique opportunity to receive care from relevant care providers, while simultaneously reducing the inappropriate usage of emergency medical services (Liu et al., 2021). Leggatt et al. (2017) found that 21% of lift assist calls resulted in emergency department presentations, 11.5% resulting in hospital admission and 1.1% resulting in increased risk of mortality. Similarly, Mikolaizak et al. (2015) found that lift assist patients were 49% more likely to visit the emergency department within 28 days of activating emergency medical services. Findings from data session groups and participant interviews reinforced that lift assist patients are often a missed opportunity for further assessment and improve patient care through a more comprehensive understanding of comorbidities and the environment that the patient lives in. Additionally, while the work of Leggatt et al. (2017) and Mikolaizak et al. (2015) suggest a correlation between lift assist and hospitalization, it is unclear whether this could also be attributed to comorbidities or other circumstances. The use of community paramedicine

programming to further investigate these circumstances could therefore assist in understanding the relationship between lift assist and the need for definitive care through hospitalization and develop strategies to mitigate this. Supporting the findings of Kue, Ramstrom, Weisberg, & Restuccia (2009), our study indicates that emergency medical service providers act as a critical point of contact for many older adults and at-risk populations to access appropriate community-based services.

Response time is another avenue in which CPs potentially providing lift assists could impact patient care. Currently, when dispatch interprets a fall as something more serious than a 'lift assist', the dispatcher uses a Dispatch Priority Card Index to narrow down the call type by asking a series of scripted questions (OAPC, 2015). Inappropriately, a phrase such as 'shortness of breath' may cause the dispatcher to label the call as a Code 4 (Life Threatening Call) emergency for paramedic services, indicating that the paramedics must go beyond the Highway Traffic Act to respond to what was believed to be a medical emergency (Middlesex-London Paramedic Service, 2021). Discussion from data session groups indicate that many times, paramedics will receive a Code 4 call and respond rapidly, only to discover that it is a simple lift assist and does not constitute a medical emergency. Some participants in our study expressed mild concern that if CPs provided lift assists, the response time may be longer as CPs would be required to obey the Highway Traffic Act in their response using a community vehicle. Since the dispatch code for a 'lift assist' is among one of the lowest priority calls, patient calls that are correctly labeled to be a lift assist are significantly more likely to experience a long-lie in which the patient remains on the ground for over an hour (Schierholtz et al., 2019). Long-lies are often the result of front-line paramedics appropriately prioritizing high acuity, Code 4 calls, leading to a delayed response for lift assist patients. Issues of communication between dispatch and paramedics are in part due to the limited medical knowledge of dispatchers in addition to dispatch being a separate entity governed by the Ministry of Health without being affiliated to paramedic services (Ministry of Health, 2018). As noted by participants, response times may in fact be slower for patients correctly labeled as lift assist patients, since it would depend on the CP's positioning in the city, traffic, and other patients in their queue. Although certain lift assist patients would no longer benefit from the inappropriate rapid response from front-line paramedics who believe they are responding to an emergency, CPs responding to lift assists would constitute a more

appropriate response and prevent long-lies by allowing front-line paramedics to prioritize medical emergencies.

5.1.3 Paramedic Training in Relation to Lift Assists

CP participants in our study indicated that they felt confident in their abilities to potentially respond to lift assist calls while in their CP role. This confidence was largely due to their perceptions surrounding their training, as every participant indicated they had enough training to properly provide lift assists. Findings from data session groups suggest that while paramedics are well-trained to recognize and provide care for acute and traumatic injuries, they may not be adequately prepared to draw upon their front-line paramedic training to provide non-urgent care for chronic patients. While they feel that they are adequately trained, additional training specific to lift assists and risk factors associated with falls among older adults could significantly benefit the level of care provided by CPs in this expanded scope of practice. Community paramedicine programming in Southwestern Ontario could model their lift assist services after the work being done in the Niagara region by the Falls Intervention Team. The integrated approach taken by CPs, occupational therapists and front-line medics in the Niagara region have shown substantial reductions in emergency department presentations through providing thorough assessments of lift assist patients (Smith, 2019). Additionally, studies suggesting the relationship between falls and emergency department presentations allude to underlying factors that CPs would be well equipped to address while performing the lift assist (Leggatt et al., 2017; Mikolaizak et al., 2015).

To aid in developing the competencies and assessment skills required to appropriately respond to lift assist patients, discussions with our key contact suggest that front-line medics are seeking to incorporate the Prehospital Early Warning Index Scorecard into their assessments. The Prehospital Early Warning Index Scorecard is a validated tool primarily utilized by emergency departments to predict risk-levels and likelihood of further hospitalization among patients (Martín-Rodríguez et al., 2020). Our key contact from MLPS described how front-line paramedics (and potentially CPs) using this tool would have evidence to provide the patient with a score that would dictate whether they require definitive care in the emergency department/hospital or are able to remain at home. Using this tool, front-line paramedics would have a standardized measure for severity of health status for patients who are hesitant to go to the

hospital due to the fear of losing independence and autonomy, while simultaneously preventing potentially unnecessary hospitalizations upon paramedic arrival. Additionally, the Detection of Indicators and Vulnerabilities for Emergency Room Trips (DIVERT) scale was a recently validated tool that could be utilized by CPs to identify whether an older adult is likely to require transport to the emergency department within 90 days (Leyenaar, Tavares, Agarwal, & Costa, 2019). Similarly, if CPs provided lift assists in Southwestern Ontario, the DIVERT scale could be beneficial in assessing the patient's health status and making appropriate care plans.

While these tools are not specific to lift assists, nor should they be a substitute for enhanced training on lift assists, they are additional resources that CPs could incorporate in their response to provide care that is aligned with a standardized measure.

5.1.4 Funding as a Challenge to Community Paramedicine

Interviews with participants suggest that issues with secure, reliable funding are the most common barrier to community paramedicine programming. Participants described frustration with developing rapport with patients and having them depend on CPs for care through remote patient monitoring and home visits, only to be halted by insufficient program funding. As described by Schierholtz et al. (2019), the cost of an ambulance in Ontario is \$197/hour, in addition to the costs associated of two paramedics responding to the lift assist call. From a cost perspective, data session groups reveal that CPs could respond to lift assists in a community vehicle at a lower cost while providing enhanced care to the patient. The increasing burden on MLPS's (and comparable region's paramedic services) suggest the need for reallocation of funds to support patient care, reduce paramedic burnout and enable expansion in community paramedicine programming. A significant perceived barrier among participants regarding CPs providing lift assists is that CPs would require a partner to assist in performing the lift. While this would require increased funding and potential difficulties in scheduling pairs of CPs to respond to lift assists, it would still present a cost-effective alternative to the current practice of front-line medics providing lift assists. While Snooks et al. (2017) found a moderate decrease in costs after a trial program in which CPs provided lift assists, they found almost immediate and lasting benefits in terms of emergency medical services utilization, hospital admissions and patient care. Furthermore, the costs associated with a randomized cluster trial in the United Kingdom, and

varied implementation of community paramedicine programming may not be financially representative of the impact a similar program would have in Southwestern Ontario.

Funding for community paramedicine programming is determined by municipal governments that allocate funds granted from the Ministry of Health and Long-Term Care (OCPS, 2019). While some base funding for community paramedicine is received directly from the Ministry of Health, our data session groups suggest that the scope of practice of CPs is restricted to some extent to what the external stakeholders perceive to be a community need. Perhaps a growing recognition for lift assists and the burden they place on the health system, as well as the need for high quality, community-based care will begin to change funding packages for CPs in the future. Currently, as described by the Ontario Community Paramedicine Secretariat, “Regardless of how community paramedicine programs are funded in the future, to date it is evident that one-time and short-term funding arrangements delay further spread and scale of community paramedicine programs” (OCPS, 2020, p. 5). Recent changes in governance for community paramedicine programming have allowed municipal paramedic services to have more autonomy over the distribution of funds that are received directly from the Ministry of Health, however, enhanced understanding, recognition and advocacy for lift assists would continue to be beneficial in supporting the expansion of CP scope of practice. Recommendations for future funding packages for CPs include a cost per patient model, which as described in this chapter, would reflect a significant reduction in costs for paramedic services and the health system in general, if CPs provided lift assists.

5.1.5 Safe Lifting Practices and ‘No Lift Policies’

Participants described the necessity of CPs operating in pairs to provide a lift assist, given that some patients may be bariatric (patients with a BMI equal to or above 30) or frail older adults and the CP may be a smaller individual in need of assistance. While the necessity for an additional CP relates to the financial barrier mentioned in the previous section, data session groups highlighted the role of Safe Lifting Practices. Our key contact describes Safe Lifting Practices as the positions, techniques, personnel, and equipment/devices necessary to perform a safe lift while considering patient size, age, degree of injury and location. While Safe Lifting Practices are incorporated into paramedic training, performing a lift is often physically taxing and would benefit from the assistance of a partner. Document analysis has identified a workbook

created by the Southwest Ontario Health Line for older adults, individuals at risk for falls and their caregivers with the hope of incorporating Safe Lifting Practices within the home and raising awareness for falls and associated risk factors (Southwest Health Line, 2013).

‘No Lift Policies’ describe policies in place within care facilities and long-term care homes that prevent Canadian Union of Public Employee members from transferring and lifting patients to prevent injury to both the patient and care provider (Canadian Union of Public Employees, 2015). Within the literature, there is a general recognition that settings with No Lift Policies result in lower reported workplace injuries and worker’s compensation costs (Zadvinskis & Salsbury, 2009; Kurowski, Pransky, & Punnett, 2019). In the context of Southwestern Ontario, No Lift Policies in long-term care homes are defined and regulated by the Southwest Health Line (2013). Further research across Canada suggests that No Lift Policies are viewed as favourable policies that prevent potential injury and liability among care providers (Work Safe Alberta, 2008).

Existing literature reinforces the concept of No Lift Policies being favourable practices that can have significant impacts on the well-being of nurses and allied health care providers, with little regard for their impact on patient quality of life or emergency medical services utilization (Berge, 2017; Naditz, 2005). When discussing the impact of lift assists on front-line paramedics, participants often expressed their frustration with No Lift Policies, as they routinely contributed to long-lies among patients and in most cases, the care provider present assisted the medic in the lift. No Lift Policies often require long-term care staff to either utilize lifting devices, activate 9-1-1, or both. Daynard et al. (2001) found that manually performing the lift was significantly less time consuming, although places a greater load on the spine. Findings from our study indicate that the presence of a lifting device in a long-term care home does not necessarily mean the care staff and allied health workers present would be able to provide the safe lift to the patient. In many instances, 9-1-1 services were activated despite the presence of a lifting device, resulting in the unnecessary supervision from a front-line medic, often after the patient had been immobilized on the ground for a prolonged period of time. Our study suggests that No Lift Policies further exacerbate paramedic burden and increase the time patients spend on the ground, prioritizing the agency, with little regard for patient care and paramedic time and resources. To mitigate the impact of No Lift Policies, long-term care homes should utilize the approach

recommended by Choi & Brings (2016) and invest in adequate training for long-term care home staff and ensure they are able to access and operate the appropriate lifting devices without paramedic supervision.

5.2 Understanding and Terminology Associated with Lift Assists

While our study places emphasis on examining lift assists as they relate to older adults, it should be noted that lift assist as a call type is not limited to the growing older adult population/demographic. Although falls are a problem predominately among older adults, they are also experienced by individuals with chronic illness such as osteoarthritis, Alzheimer's Disease, Stroke and Cerebral Palsy (Cone et al., 2013). Within the older adult population, it is essential to note that the fall could also be the result of multiple factors, including age-related decline, Alzheimer's disease, osteoarthritis, loss of social support, and many other chronic conditions (Cone et al., 2013). Within the literature, there is inconsistency in terminology, and as a result, older adults are the focus of the limited peer-reviewed journal articles. Some articles refer to "lift assists" as to include, "falls", and "high fall-risk patients" (Schierholtz et al. 2019; Cone et al., 2013; Logan et al. 2010). Our findings regarding terminology as a barrier support the research of Hauer et al. (2006), as inconsistencies in fall terminology are insufficient for research purposes.

Inconsistency in terminology or definitions of lift assists further exacerbate the issue of poor communication between dispatch and front-line paramedics (Bronsky & Woodson, 2018). Inconsistent terminology for falls and lift assists interfere with stakeholders' and community partners' understanding of lift assists, the care that lift assist patients require, and the burden that lift assists represent on paramedics and health services utilization. The literature on lift assists also lacks clarity in a consistent definition surrounding lift assist, as definitions and perceptions vary by location and context (Hauer, 2006). Data session groups suggest that European health care providers may interpret a 'lift assist' to be a simple procedure that allied health care professionals could perform on frail older adults, whereas North American health care providers would likely anticipate the lift assist patient to be suffering from chronic conditions in addition to being bariatric and/or a frail older adult. While no study examines the differences in terminology by context, research on falls from a European context typically adopts a prevention-focused approach, targeted towards education, and fall prevention strategies rather than community-based

response services (Haagsma et al., 2020). A lack of awareness and clear definitions for lift assists and the care these patients require often neglects the underlying causes of the fall experienced by older adults, presenting a missed opportunity for further examination and coordination with relevant health care providers to prevent future falls or hospital admissions.

While research examining CP models of care concerning lift assists is relatively limited, there is a substantial amount of data collected from Ambulance Call Reports and emergency medical services databases with large sample sizes that reflect the burden of lift assists on emergency medical service providers. Retrospective quantitative reviews of emergency medical services databases indicate that alternative and community-based paramedic services should be explored to improve patient health outcomes and reduce rates of unnecessary emergency department presentations/hospital admissions (Zecevic, Carter, & Bauer, 2017).

5.3 The Impact of COVID-19 on Patients and Community Paramedicine

At the time of writing this thesis, the province of Ontario remains under lockdown. The current COVID-19 pandemic has had a significant impact on health services, forcing health care providers and patients to rapidly adapt to new protocols including social distancing measures and using personalized protective equipment. Some instances of emergency medical services have shifted their attention towards providing care for COVID-19 patients, administering COVID-19 vaccinations, and addressing symptoms (Mahase, 2020). Within Ontario, the day-to-day operations of front-line paramedics have not changed substantially, as they are still fully operational (albeit with reduced staffing within the paramedic station), but with the added protocol of utilizing personal protective equipment.

Given that older adults are at elevated risk of experiencing social isolation and often experience a decline in health as the result of isolation, many older adults experience negative health outcomes and are unable to receive necessary supports due to difficulties navigating a complex, fragmented healthcare system (Agarwal et al., 2019). An added strength to community paramedicine programming is the opportunity to support isolated and at-risk older adults and provide them with companionship while assisting them in navigating the health system through referrals, remote patient monitoring, and home visits. Our findings suggest that many older

adults utilize community paramedicine services to alleviate loneliness and improve health outcomes through developing rapport with care providers, and even more so in the current context of COVID-19.

Prior to COVID-19, many older adults were fearful of going to the hospital due to the possibility of losing their autonomy and independence, with avoidance being most common among those with worse health outcomes, psychological distress, and lower self-efficacy (Leyva, Taber, & Trivedi, 2020). COVID-19 has complicated the care that lift assist patients receive as they are more hesitant to activate 9-1-1 services and more likely to refuse transport to the emergency department. Participants noted that patients who experience significant injury and require hospitalization (and therefore, are not lift assist patients), are much more likely to contact paramedic services or seek care in a walk-in clinic rather than receive more definitive care in a hospital due to the fear of catching the virus. Additionally, participants recognize that CPs could better address community needs by providing personalized care in the form of remote patient monitoring and home visits for patients who are fearful of accessing health services due to COVID-19.

While COVID-19 has complicated the process of accessing health services and exacerbated fear surrounding providing and receiving care (Czeisler et al., 2020), the response from CPs has demonstrated their ability to address community needs and view the pandemic as an opportunity rather than a challenge. As CPs continue providing care to vulnerable older adults during the pandemic, some participants expressed that they could do more to alleviate social isolation among this demographic, since many older adults are currently experiencing distress as a result of isolation due to the pandemic. Some participants discussed how routine telephone check-ups, remote patient monitoring strategies, and weekly or bi-weekly wellness visits could mitigate isolation-related declines in health status. Recently in Middlesex-London, CPs have expanded their scope of practice to provide COVID-19 clinics where they routinely conduct COVID-19 tests, screen patients, address questions and concerns and redirect patients to appropriate health services. The COVID-19 situation continues to evolve as does the role of CPs and other health care professionals who have rapidly adapted to the needs of the population. Ultimately, the pandemic has shown the resiliency and strengths of community paramedicine programming in

providing care to vulnerable patients and addressing the needs of the community through COVID-19 clinics in addition to remote patient monitoring strategies.

5.4 Methodological Considerations

The purpose of this study was to identify the role of community paramedicine programming in providing lift assists in Southwestern Ontario. This study utilized a focused ethnography methodology and a sample of 12 CP participants, each with years of experience as front-line paramedics. Semi-structured interviews were conducted with each of the 12 participants, lasting approximately 30-45 minutes. Additionally, data session groups and document analysis were strategies utilized to confirm themes and inform the existing documents, policies and reports in place that are relevant to lift assists and/or community paramedicine in Southwestern Ontario.

5.4.1 Study Strengths

This focused ethnography study examining the role of community paramedicine programming in providing lift assists has three main strengths. First, the research team has had the privilege to work with and be in frequent communication with a key contact with 13 years of experience as a front-line paramedic, and 6 years of experience as a CP. This key contact is currently the Superintendent of Community Paramedicine in MLPS and has been an asset in participant recruitment, addressing concerns and questions, data session groups, and providing guidance on research and topics of interest. Being able to contact an expert in the field of study has been incredibly beneficial in developing a deeper understanding of the nuances of lift assist and the daily operations of both front-line paramedics and CPs in Southwestern Ontario.

COVID-19 has had both short and long-term impacts on health services research, forcing researchers to adapt to new research protocols and virtual data collection methods (Weiner, Balasubramaniam, & Shah, 2020; Sarría-Santamera et al., 2021). Another strength of this study is its utilization of focused ethnography in response to the current COVID-19 pandemic. Given the difficulties associated with conducting research during a pandemic, focused ethnography has allowed the research team to understand how paramedics and CPs in Middlesex-London perceive lift assists and community paramedicine programming. Due to the restrictions in place as a result of COVID-19, focused ethnography was perfectly suited to examine lift assists without relying on field visits (Wall, 2015).

While conducting the literature review that informed this thesis in chapter two, there was a clear gap in literature regarding the potentiality for an expanded scope of practice for CPs to provide lift assists. The literature described lift assists as a burden on paramedics and health systems, and in some cases, discussed the potential utility for community-based services to provide these lift assists. Despite recognizing this need for alternative, community-based services to provide lift assists, the literature did not explore the possibility of CPs providing lift assists by collecting data directly from trained paramedics. For this reason, a strength of this study is its specificity in scope and incorporation of the opinion of health professionals on a poorly understood research topic.

5.4.2 Study Limitations

This section discusses major limitations to this study that were identified by the research team. First, this study was conducted as a master's thesis and as such operated under a timeline much shorter than that of conventional ethnographic studies. While we identified focused ethnography to be the most appropriate methodology to study this phenomenon under the given circumstances, our study may have benefitted from attending a ride-along to observe a lift assist response first-hand. Although this would have been beneficial to describe the social and cultural aspects that paramedics operate within (Holloway & Todres, 2003), it was not possible due to restrictions associated with COVID-19.

The current COVID-19 pandemic has placed some limitations on our study, as it changed the healthcare landscape in which front-line paramedics and CPs operate. Many older adults who activate 9-1-1 for lift assists are repeat callers who are often isolated and prone to loneliness and other adverse health outcomes (Leyva, Taber, & Trivedi, 2020). As previously discussed in our study, these patients often experience elevated risk of infection due to COVID-19 as well as increased fear of accessing health services. Given that some participants described how vulnerable and disenfranchised older adults are likely to access CP services solely for social support and someone to communicate with, it is likely that the participants of this study may have responded differently in a non-pandemic context when discussing the types of support older adult patients in the community require.

Social distancing restrictions and changes to paramedic standard of practice made it impossible to travel to the MLPS station and interact with paramedics. Virtual participation with front-line paramedics was not possible due to the added strain of COVID-19 on their already busy schedules, in addition to research fatigue. For these reasons, we were not in a position to engage with front-line paramedics in our research. Additionally, restricting our participant group to CPs in Middlesex-London was a limitation, as it is possible that perceptions on lift assists vary by region.

The participant group was a limitation of this study to some degree, as it may have led to confirmation bias. Confirmation bias describes “the seeking or interpreting of evidence in ways that are partial to existing beliefs, expectations, or a hypothesis in hand.” (Nickerson, 1998, p. 175). By reviewing literature and speaking with our key informant, the research team had preconceptions towards how lift assists impact older adults as well as front-line paramedics. Although these preconceptions were catalogued in a reflexive journal for transparency, bias can occur during every phase of research including identifying participant groups and data collection (Pannucci & Wilkins, 2010). Since the research team already had an understanding of how lift assists impact older adults and paramedics, conducting semi-structured interviews with individuals who have experience in both the front-line medic and CP role would likely reinforce existing attitudes and preconceptions. Confirmation bias in our participant group may have been mitigated if we also interviewed staff at long-term care homes, as they likely would have felt differently about No Lift Policies and Safe Lifting Practices, perceiving them to be beneficial. While this approach may have reduced confirmation bias, we feel that expanding our participant group beyond individuals who are CPs and front-line paramedics would have failed to answer our research question and describe the role of community paramedicine programming in providing lift assists in Southwestern Ontario.

An additional limitation of this research was the terminology surrounding lift assists and community paramedicine in general. In conducting the literature review to inform this study, research was sparse specific to the terminology of ‘lift assists’ and ‘community paramedicine’. While the search terms were described in depth in chapter two, this limitation prevented the research team from accessing potentially relevant sources due to differences in terminology. For example, some articles may have discussed lift assist in relation to community-based health care

professional services, which in practice, may entail community paramedicine programming, but is not stated explicitly.

5.5 Reflexive Notes

Since starting my MSc in September 2019, my thesis has evolved around the concept of community paramedicine. Working with the Superintendent of Community Paramedicine has been an incredible opportunity and has allowed me to interview paramedics from MLPS to understand various perspectives on the issue of lift assist. While I would have been extremely appreciative of the opportunity to discuss the topic with patients, COVID-19 pandemic protocols prevented this. I was fortunate enough to have access to qualitative research involving interviews with lift assist patients, however, I chose not to use these transcripts to inform my results due to the pre-COVID-19 context in which they were conducted.

Although interviews largely confirmed ideas and attitudes that I had anticipated prior to data collection, data session groups proved to be an incredible opportunity to discuss and challenge controversial opinions that did not necessarily represent the majority of our participants' opinions. These perspectives that differed from the responses of most participants initially challenged my preconceptions, and further reinforced my practice of reflexivity throughout the project as I found that discussion and further research generated solutions and rebuttals to these opinions.

Being placed in a position to provide a lift assist for a stranger during the COVID-19 lockdown gave me a sense of understanding and appreciation for paramedics who respond to these calls daily. Additionally, being in contact with paramedics throughout the research project has shown me firsthand just how often paramedics respond to lift assists and their feelings of frustration over patients refusing transportation to the emergency department. Throughout my time studying this topic, I have become increasingly familiar with the impact that lift assists have on patients and care providers.

Throughout the coding process, I included a 'methods note' within NVivo 12 to support reflexivity and rigour throughout our data analysis. In this methods note, I catalogued my individual questions as I read through transcripts and described changes to theme and category

development throughout the multiple rounds of coding that were conducted. Acknowledging that there is no correct or incorrect way to inductively code, I aimed to code each instance in which I felt that a participant's response informed the role of community paramedicine programming in providing lift assists in Southwestern Ontario.

This project has provided the opportunity to catalogue my thinking about lift assists and community paramedicine in general. Having the expertise of our key contact in addition to speaking with CPs/front-line paramedics has been an incredible experience, as I have been able to learn what responding to a lift assist call is like. This study has given me the opportunity to discuss a topic that is poorly understood in the literature as it relates to a culture of health care professionals and ultimately impacts the health and well-being of many older adults.

5.6 Summary

This chapter provided a discussion of my findings contained in the previous chapter in relation to the body of literature present. This chapter began with expanding upon prominent themes found from semi-structured interviews by describing controversial perspectives and addressed them with findings from data session groups and discussions with the key contact. By integrating information from literature, data session groups, key contact discussions and semi-structured interviews, this chapter developed a more comprehensive understanding of the role of community paramedicine programming in providing lift assists in Southwestern Ontario. This chapter concluded with methodological considerations including the strengths and limitations of this project. The next chapter will present a conclusion of this research as well as the significance and impact of our findings, in addition to recommendations for future directions.

Chapter 6

6 Final Considerations and Conclusions

This study was conducted to identify the potential role of community paramedicine programming in providing lift assists in Southwestern Ontario. This chapter will discuss the implications of our study and provide recommendations for future practice and research, as well as providing a conclusion that summarizes this study's findings.

6.1 Study Implications

This focused ethnography study explored CP/paramedic perceptions of community paramedicine programming in relation to the growing call type of lift assists. While lift assists are generally poorly understood in literature due to inconsistent terminology, CPs from MLPS described how this call type presents a growing problem for front-line paramedics, patients, and primary care services. As described by our CP participants, the increasing prevalence of this call type is continuing to tax front-line paramedics' time and emergency medical services resources, while impacting patient health outcomes through poor or incomplete assessments and frequent long-lies. Additionally, instances where lift assist patients unnecessarily accept transfer to the emergency department following 9-1-1 activation contribute to overcrowding within the emergency department and create delays for patients in need of emergency assessment and care.

This study utilized semi-structured interviewing techniques, data session groups and document analysis to inform the potential role for community-based services, particularly, community paramedicine programming to provide lift assists in Southwestern Ontario. Results of this study have the potential to inform an expanded scope of practice for CPs that would provide lift assists. Our findings suggest that CPs who also operate as paramedics feel that CPs would benefit from additional lift assist-specific training, where they would be able to perform an advanced assessment of the patient and their living environment. Participants in our study perceived these advanced assessment as significant opportunities to better address underlying conditions that may have led to the patient experiencing the fall, and overall providing a more appropriate response for patients. There is immense potential in CPs improving the quality of care that lift assist patients receive, by detecting and assessing underlying conditions early, developing

rapport with the patient, and spending significantly more time with the patient than a front-line medic.

6.1.1 Implications for Paramedics, Patients and Practice

By examining the perceptions of CPs and understanding the skills required to provide lift assists safely, this study suggests that an expansion in CP scope of practice in Southwestern Ontario would allow front-line paramedics to prioritize high-acuity calls, alleviate economic burden for paramedic services and primary care, and improve patient care. Without having to respond to the frequent (and growing) lift assist call type, front-line paramedics would be better able to prioritize medical emergencies, utilizing their training effectively to provide rapid care and transport the patient to the emergency department for definitive care (Schierholtz et al., 2019). CP participants in our study often discussed how CPs providing lift assists would significantly reduce health systems expenditure through the use of a community vehicle rather than using a land-ambulance, in addition to the reduction in emergency department presentations and hospital admissions (Chan, Griffith, Costa, Leyenaar, & Agarwal, 2019). While CPs would require a partner, as per Safe Lifting Practices, the cost of operating an ambulance outweighs the cost of an additional CP and a community vehicle.

Lift assist patients are often considered to be missed opportunities with regards to proper, thorough assessment, referrals, and adequate follow-up with relevant care providers. CPs discussed how front-line paramedics may feel eager to sign off lift assist patients without completing an Ambulance Call Report due to paramedic burnout and frustration associated with refusal of transport and inability to provide additional care. Furthermore, incomplete Ambulance Call Reports, particularly those associated with lift assist patients, were more likely to result in adverse health outcomes and hospital admission (Smith, Boyle, & MacPherson, 2004; Leggatt et al. 2017). Participants strongly agreed that CPs would be best equipped to respond to a lift assist due to their comprehensive training in identifying emergencies with their front-line training and conducting advanced assessments with their CP training. Current trends suggest that if CPs do not consider an expanded scope of practice to provide lift assists, emergency medical services will not have the capacity or resources to support the growing aging population, resulting in an increased frequency of long-lies, morbidity, and mortality.

Our findings indicate that if CPs were to provide lift assists within Southwestern Ontario, programs would require increased funding to support increased staffing as per Safe Lifting Practices. As discussed in the previous chapter, community paramedicine funding is dependent to some degree on what municipal governments and stakeholders recognize as prominent issues within the community. Currently, stakeholders have identified various issues that dictate community paramedicine scope of practice, including chronic disease management, vulnerable patient outreach and more recently, COVID-19 testing. Reinforcing our findings, Agarwal et al. (2019) and Zecevic, Carter, & Bauer (2017) found that lift assists negatively impact paramedic services through time and resources as well as their growing impact on emergency department presentations and hospital admissions. The projected increase in lift assist calls in Middlesex-London suggests that if CPs did not provide lift assists in the future, the health system may not be able to provide equitable care to the growing older adult population (Middlesex-London Paramedic Service, 2021). The capacity of Ontario's health system to respond to lift assists may be further hindered by the evolving COVID-19 pandemic.

6.2 Recommendations for Future Research

As the frequency of the lift assist call type increases nationally, understanding of terminology, comorbidities and risk of mortality will necessitate a deeper understanding of what a lift assist entails. Additional research on community-based services and discussion of how community paramedicine programming could best serve the needs of vulnerable and disenfranchised populations through providing support with lift assists should be explored. As discussed by Gallant & Carter (2017), future research should address the strain that lift assists place on emergency medical services in regions comparable to Southwestern Ontario in order to develop evidence-based recommendations for the expansion of CP scope of practice.

Although this study explored barriers preventing CPs from an expanded scope of practice that provides lift assists, continuing to examine alternative funding plans and secure stable, consistent base funding for community paramedicine programming is essential. A commonly discussed barrier were the No Lift Policies and Safe Lifting Practices that were adopted by long-term care homes and facilities for older adults. While health care providers within these facilities could physically provide a safe lift (using lifting devices when available), No Lift Policies prohibit this without the supervision of a front-line paramedic. For a lift assist call type, this represents a

redundancy in services as many participants of this study described responding to a lift assist call, and merely supervised the facility staff in providing the lift and/or operating the lifting device. Contrary to the research conducted by Berge (2017) and Naditz (2005), CP perceptions revealed in this study have indicated that No Lift Policies contribute to paramedic burden, thereby presenting another avenue for further research. While No Lift Policies undoubtedly protect allied health care workers from lifting-related injuries, further research should consider the implications that these policies have on inappropriate emergency medical services utilization. Additionally, future research should examine the perspectives of allied health care workers to more holistically describe community paramedicine programming and the potential benefits and challenges associated with an expanded scope of practice to provide lift assists. The following subsections present additional avenues for further research to acquire a deeper understanding of the phenomenon of lift assists in relation to community paramedicine.

6.2.1 Future Research for Front-Line Paramedics

Further research should examine perceptions of community paramedicine among individuals who are solely front-line paramedics. Although this study utilized semi-structured interviews with health care professionals who have months to years of experience in a front-line paramedic role, participants likely had a degree of bias towards community paramedicine programming. Although their perceptions towards lift assists may not be different from front-line paramedics, given that each participant has responded to lift assists, there is value in understanding their perceptions and attitudes towards CPs in general as well as the potential for CPs to provide lift assists.

While their expertise and knowledge would certainly be valuable in contributing to the general body of knowledge regarding lift assists, it should be reinforced that they are experts in identifying medical emergencies and providing rapid, urgent care for high-acuity patients. As a result, they may not have sufficient medical training in providing care for lift assist patients, who would benefit from advanced assessments and often require care for chronic conditions and care from occupational therapists, physical therapists, and gerontologists. The research team suggests that future researchers build upon Dainty et al. (2018) and the Expanding Paramedicine in the Community program that launched in York Region and Grey County within Southwestern Ontario. While Dainty et al. (2018) demonstrated that community paramedicine programming is

a cost-effective method of providing care to vulnerable individuals while allowing front-line medics to prioritize medical emergencies, this program did not examine the impact of community paramedicine programming on lift assists.

6.2.2 Future Research for Patients

Additional research should capitalize on patient perspectives regarding lift assists in general, as well as community paramedicine programming. Our findings indicate that many older adults rely on CPs for social support and enjoy the rapport developed over time through frequent phone calls and bi-weekly home visits. The existing literature does not adequately describe patient attitudes surrounding a fall within the home and the necessary care that these patients require. While this study intended to supplement paramedic interviews with a retrospective analysis of unpublished qualitative data with patients who experienced a fall within the home, it was conducted in a pre-COVID-19 context that was not applicable to post-COVID-19 results from paramedics. Future research should expand upon the work of Gallant & Carter (2017) by discussing lift assists with patients to develop a better understanding of how COVID-19 has influenced the care they receive or the ways in which patients access care in regard to lift assists or community paramedicine.

6.2.3 Future Research for Practice

Future studies examining lift assists in relation to community paramedicine should seek to develop a greater understanding of stakeholder/funder perceptions regarding community paramedicine programming in general as well as lift assists. The literature suggests that because the terminology for “lift assist” varies, it may not be widely understood by community partners. Compounding this factor, No Lift Policies and Safe Lifting Practices are typically praised by professional agencies, as they prioritize the institution and staff rather than prioritizing the patient’s needs.

As identified in this thesis, community paramedicine programming would require stable, consistent funding in addition to CPs operating as partners in order to expand their scope of practice to safely provide lift assists. Ultimately, further research should compliment the advocacy and support from organizations like The Ontario Community Paramedicine Secretariat

and recognize that developing a consistent vocabulary for lift assists and raising awareness may be required to encourage stakeholders to prioritize this rapidly growing issue.

6.3 Conclusion

Through conducting this focused ethnography study with a constructivist paradigm and discussing CP and front-line paramedic perceptions of community paramedicine programming and lift assists, we offer a deeper understanding of the growing issue of lift assists. Few studies in the existing literature utilize the terminology of a lift assist to describe the growing call type in which patients indicate that they experience a fall in the home, receive no treatment on scene, and refuse transportation to the hospital. While other studies focus on risk factors, as well as morbidity and mortality associated with falls in the home, they do not reflect the burden on emergency medical services providers with respect to their time and resources.

This study utilized semi-structured interviewing techniques, data session groups, discussions with key contacts and document analysis to examine the perceptions of paramedics on community paramedicine programming and describe paramedics' experience of responding to lift assist calls in Middlesex-London. Through interviewing 12 participants from MLPS, each with months/years of experience in a front-line paramedic role and in a CP role, the research team had the opportunity to discuss lift assists and suggest that an expanded scope of practice for CPs to provide lift assists may be beneficial in multiple domains. The findings of this study suggest that according to CP perceptions and attitudes, if CPs were to provide lift assists in Southwestern Ontario, patient care would be improved through increased time spent with patient, opportunity for further assessment and coordination with the patient's care team. Additionally, CP participants agreed that CPs providing lift assists would reduce costs for paramedic services and primary care, even when considering the need for CPs to operate as partners rather than providing care individually. Lastly, according to CPs with experience in a front-line paramedic role, CPs providing lift assists would benefit front-line medics by reducing paramedic burden and allowing them to prioritize high-acuity patients, which they are best trained in providing care for.

While further advocacy for lift assists and the burden they represent on patients, paramedic services and health systems is essential for raising awareness among stakeholders, this study

indicated that an expanded scope of practice for CPs to provide lift assists is strongly favoured among CPs from Middlesex-London. Through leveraging the existing infrastructure of paramedic services, our findings suggest that CPs are well-equipped and eager to expand their scope of practice to provide lift assists, however barriers complicate this expansion. The primary barriers identified include reliable funding for community paramedicine programming, communication with dispatch services and stakeholder/community partner engagement. Despite these barriers, this study examined the operations of CPs as well as relevant documents and policies to understand the role of community paramedicine programming in providing lift assists in Southwestern Ontario.

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Appendices

Appendix A: Working Definitions

Various terms specific to the lift assist and community paramedicine phenomenon have been utilized throughout this proposal. While definitions may vary depending on location and services provided, this appendix provides definitions and information to support each term and its intended use throughout this research proposal.

Older Adults: Older adults are individuals aged 65 and older (Statistics Canada, 2018). Synonymous with “seniors”, this group is primarily affected by lift assists and are the target population of our study. With the exception of one study (Kue, Ramstrom, Weisberg, & Restuccia, 2009), every reference to the older adult population in this thesis is referring to individuals aged 65 and older.

Falls: Although most individuals have an understanding of what a fall entails, it is essential to note that falls often have different meanings for different individuals. Among older adults, falls are often understood in relation to their consequences such as injury, risk of fracture, loss of mobility and independence, as well as quality of life (Zecevic, Salmoni, Speechley, & Vandervoort, 2006). Additionally, chronic illness and various other factors including age-related declines in health status complicate the causes of a fall. This study did not examine the causes of falls within Middlesex-London, however, it may be beneficial to recognize that the many causes of falls among older adults require thorough examination to develop an appropriate healthcare response.

Lift Assist: A call for emergency medical services in which an individual reports that they have fallen and are unable to mobilize to a seated or standing position, however, they receive no treatment on scene, and refuse emergency medical services transport to the emergency department (Cone et al., 2013). For the purposes of this research project, it is also important to

highlight that while the call for emergency medical services assistance does not directly relate to a fall in relation to chronic disease, disability or frailty as these conditions often require further follow up with the patient and their health care providers. In a lift assist call, the patient receives no medical treatment upon front-line paramedic arrival.

Front-line Paramedic: The terms “front-line paramedic”, “paramedic”, and “emergency medical services” are used interchangeably to describe healthcare professionals with expertise in responding to medical emergencies within the community and providing rapid, acute care (Brydges, Denton, & Agarwal, 2016). Traditionally, paramedic scope of practice dictates that the paramedic respond to acute medical emergencies using a fully staffed land ambulance, provide rapid, urgent care on scene and transfer to hospital for definitive care. Within Ontario, paramedic services are governed on the municipal level and receive funding from the Ministry of Health and Long-Term Care, and support from the Ontario Association of Paramedic Chiefs.

Community Paramedic (CP): An emergency medical services provider that provides non-emergency medical care for patients on a community-level (Nolan, Nolan & Sinha, 2018). Community paramedicine programs across Ontario consist of community-based referral services, education programming, wellness visits within the home and remote patient monitoring. These community-based services effectively enable the CP to be an accessible health care provider for patients, providing cost-effective, patient-centered care.

Data Session Groups: Focused ethnography takes advantage of audio recordings while conducting interviews to assist in data session groups during analysis. Data session groups involve the researcher and participants collectively interpreting audio-recordings or transcripts in an attempt to open up the data collected to various interpretations (Cruz & Higginbottom, 2013). Additionally, data session groups act as a member check by allowing (in the case of this

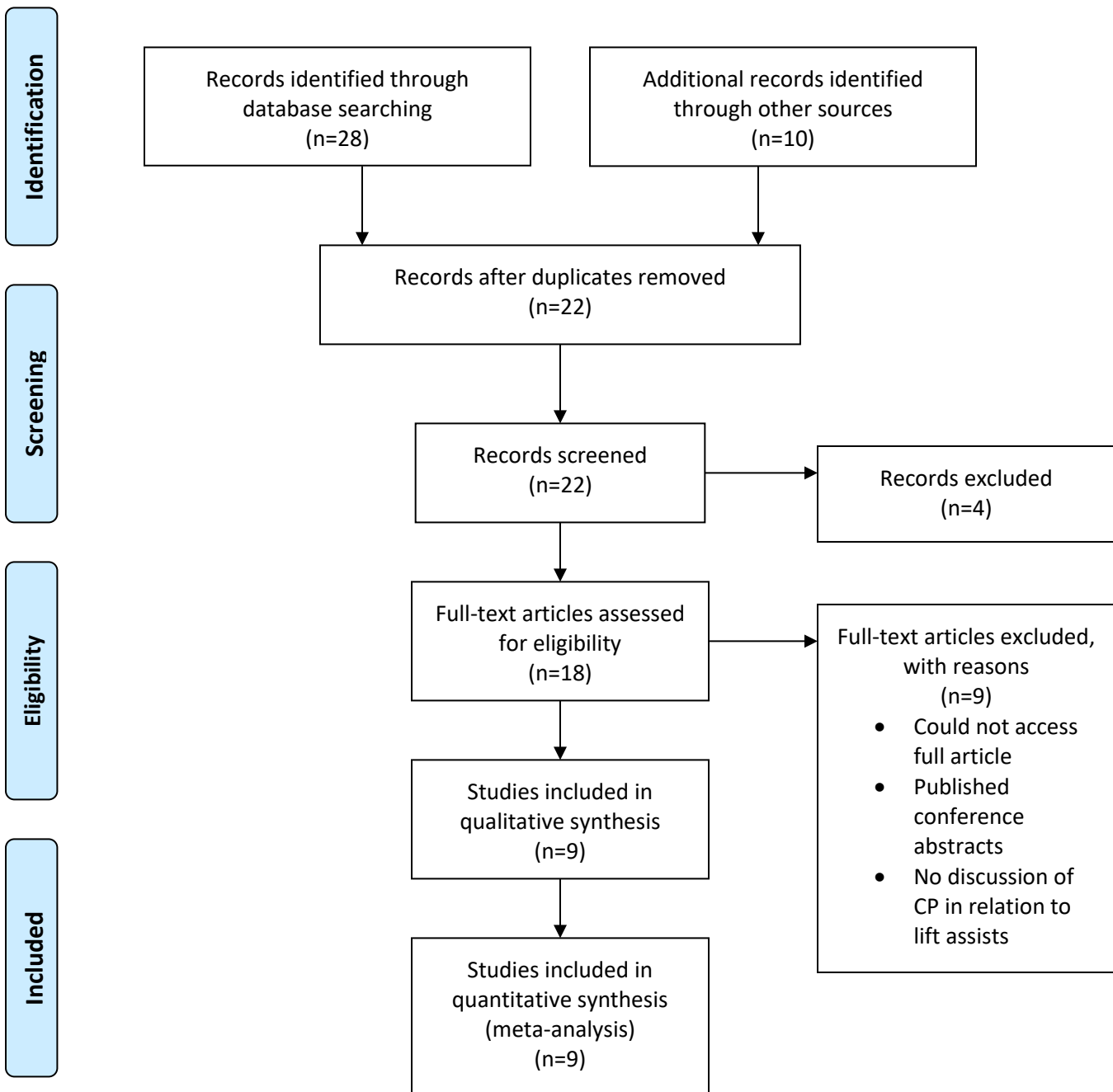
proposal) emergency medical services providers to interpret the data collected, confirm the themes identified and propose additional themes or comments to guide discussion.

No Lift Policies: No Lift Policies are policies in place within care facilities and long-term care homes that prohibit staff from manually lifting or transferring patients in order to avoid risk of injury to the staff member (Canadian Union of Public Employees, 2015). While these policies are largely in place to protect allied health care providers and employees within the care facilities (Zadvinskis & Salsbury, 2009), this study frames No Lift Policies particularly by their impact on front-line paramedics and patients.

Safe Lifting Practices: Safe Lifting Practices are described by the positions, techniques, personnel, and equipment/devices necessary to perform a safe lift while considering patient size, age, degree of injury and location. The Southwest Health Line (2013) outlines some of these practices for caregivers to utilize within the home. Paramedic training also incorporates Safe Lifting Practices in their standard training.

Allied Health Professional: The category “Allied Health Professionals” describes a broad group of health professionals distinct from physicians, nurses, and paramedics, who provide a variety of services to support patients in various settings. This category includes but is not limited to dietary and nutrition services, occupational therapists, physical therapists, respiratory therapists, and speech language pathologists (Association of Schools Advancing Health Professions, 2015). Using evidence-based practices to support health promotion interventions, allied health professionals are well equipped to support the health status and quality of life of patients with chronic illness.

Appendix B: PRISMA Chart



From: 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 Med 6(7): e1000097. doi:10.1371/journal.pmed1000097

Appendix C: Article Charting

Reference	Purpose and Sample	Methods	Results and Conclusions
Zecevic, A., Carter, D., & Bauer, M. A. (2017)	<p>Explore lift assist calls in relation to paramedics to older adults and determine common causes of falls</p> <p>798 instances of older adult (65+) individuals, who refused transport to the emergency department and required lift assist.</p>	<p>Mixed methods study using anonymous data from the Ambulance Call Reports database in 2015. Regression and cluster analysis to interpret the data to inform the research purpose.</p>	<p>The majority of lift assist calls happened during the day within the older adult's condo or home. In 2015, approximately 24 days in emergency medical services responder time was allocated solely towards attending to lift assist calls.</p> <p>Alternative methods of care such as community paramedicine should be used to improve patient health outcomes and reducing lift assist burden on emergency medical services.</p>
Schierholtz et al. (2019)	<p>To describe lift assist calls in older adults (aged 65+) and explore their impact/burden on emergency medical service providers</p> <p>Dataset of 1,121 lift assist calls from Middlesex-London Emergency Medical Services in 2015.</p>	<p>Mixed methods study conducted statistical analysis of lift assist calls to determine source, frequency, expenditure and time spent. Qualitative analysis to develop themes from emergency medical service provider notes.</p>	<p>Paramedics spent 801 hours of service time and land ambulance time responding to lift assists calls for older adults. Most common locations of falls were identified, and 32% older adults were repeat callers.</p> <p>Community-based services (such as CP) are among one of the viable options to reduce lift assist call volume and improve patient health.</p>
Cone et al. (2013)	<p>To determine the frequency of lift assist calls within a community and the frequency of repeat older adult callers</p> <p>Older adult callers within a community from 2004 to 2009.</p>	<p>Retrospective quantitative review of computer-aided dispatch system from 2004-2009. Repeat calls within 30 days of the initial call were examined.</p>	<p>From 2004 to 2009, emergency medical services responded to 1,087 lift assist calls, comprising a total of 4.8% of emergency medical services responded calls. Approximately 85% of older adults in this time period were repeat callers.</p>

			On average, emergency medical service providers spent 21.5 minutes responding to each lift assist call. Lift assist is increasingly becoming a larger burden on emergency medical services in the United States, highlighting the need for cost-effective, alternative methods of care.
Leggatt et al. (2017)	Examine morbidity and mortality associated with lift assist patients post emergency medical services response. Examined lift assist calls from a single emergency medical services agency from January-December 2013.	Retrospective quantitative study determined of 42,055 emergency medical service calls, 1.9% of them were lift assist calls. Further analysis of morbidity and mortality were conducted with the lift assist patients.	Patient age and Ambulance Call Record lacking at least one vital sign was shown to correlate very well with predicted hospital admission in the future. Previous hospital admission was shown to be the greatest indicator of a second hospital admission in the future after emergency medical service-assisted lift assist.
Kue, R., Ramstrom, E., Weisberg, S., & Restuccia, M. (2009)	To examine the experience of emergency medical service providers and patients post lift assist referral. Older adults (Aged 60+) who requested emergency medical services assistance for lift assist and refused transport to emergency department.	Retrospective case series report. Mixed methods study examining emergency medical service referrals post lift assist response.	After responding to emergency medical service calls, front-line paramedics referred 33% of lift assist patients. Physician chart review increased fall referrals by 20%. Paramedic referral was shown to be associated with patient acceptance and adherence to the community-based social services to assist with fall prevention. Emergency medical service providers acted as a critical point of contact and valuable resource in accessing appropriate community-based services.
Agarwal et al. (2019)	To explore differences in health outcomes between	Randomized controlled trial to examine the impact	The implementation of CP programming following lift assists in the home is still

	<p>frequent emergency medical services callers and CP interventions that provide in-home care.</p> <p>261 participants per group who called emergency medical services 3+ times within a 6-month period, called for lift assists within the last month or were directly referred by emergency medical services.</p>	<p>of community paramedicine programs on lift assists and chronic disease management.</p> <p>Intervention group consisting of in-home CP care and control group consisting of emergency medical services providing standard of care.</p>	<p>under study within Hamilton, Ontario. Researchers acknowledge that the CP role has expanded significantly recently and has potential to reduce emergency medical services calls and hospital admissions.</p> <p>In promoting an expanded scope of practice for CPs to alleviate burden experienced by emergency medical services, it is essential to standardize training modules to ensure implementation is conducted appropriately.</p>
<p>Mikolaizak, Simpson, Tiedemann, Lord, & Close (2013)</p>	<p>To evaluate data on older adults who activated emergency medical services requiring lift assists with a focus on non-transportation and alternative models of care.</p> <p>Electronic databases to include studies from December 2011 and onward, specifically older adults who declined transportation to the emergency department following emergency medical service assistance.</p>	<p>Systematic review specific to older adults (65+) requiring lift assist and refusing transportation.</p> <p>Utilized electronic database to study health outcomes in patients that activated emergency medical services for lift assists.</p>	<p>As many as 49% of older adults in Australia who refused emergency medical service transportation to the emergency department required unplanned healthcare within 28 days of the initial fall.</p> <p>Limited evidence suggests that alternative models of care can reduce emergency medical service burden while providing patients with a follow-up post lift assist call.</p>
<p>Leggatt, Davis, Columbus, McGuire, & Spadafora (2016)</p>	<p>To examine emergency medical service call records and find differences in vital signs between lift assist calls and non-lift assist</p>	<p>A total of 42,055 emergency medical service calls were quantitatively assessed, they were further categorized as 808 lift assist</p>	<p>It was found that there were a great proportion of refusals for emergency department transport in patients with abnormal vital signs or discrepancies in vital sign collection. Suggests</p>

	<p>emergency medical service calls.</p> <p>All lift assist calls from a single emergency medical services agency were collected between January to December 2013. 808 lift assist and 784 non-lift assist emergency medical services calls were used.</p>	<p>calls and 784 non-lift assist calls that acted as a control group.</p> <p>Each of these calls were reviewed for vital signs that were taken during the emergency medical services response.</p>	<p>underlying disease processes that resulted in the lift assist call, inferring the need for alternative models of care.</p> <p>Emergency medical services standard of practice to provide emergency department transportation is often denied and given the patient health status may be unwarranted. Other models of care are more likely to assist with lift assists and provide ongoing care.</p>
Snooks et al. (2017)	<p>To determine clinical and financial implications of alternative models of emergency medical services care for lift assist response.</p> <p>4,655 older adults (individuals aged 65+) who received emergency medical services for lift assists between March 2011 and June 2012. Intervention group consisted of 2,391 patients. Control group consisted of 2,264 patients.</p>	<p>A cluster randomized trial of three United Kingdom emergency medical services studied older adults who had required emergency medical services provide lift assists. The intervention group consisted of emergency medical service providers who performed the lift assist and provided referral to a community education service on fall prevention. The control group consisted of emergency medical service providers who responded to lift assist calls with standard of practice.</p> <p>This study assessed 110 paramedics over 11 control stations with 2,841 patients</p>	<p>Expanding CP scope of practice to provide lift assists resulted in a statistically significant decrease in emergency medical services calls after one month and six months of implementation.</p> <p>The difference in cost of CP in comparison to emergency medical services response to lift assists was minor, however, this study showed modest reductions in emergency medical service calls. Patients in the intervention group reported an increased sense of autonomy, confidence and satisfaction with care received.</p>

that satisfied the
inclusion criteria.

Appendix D: Recruitment Script

Subject Line: Invitation to participate in research

You are being invited to participate in a study that:

Dr. Shannon Sibbald, Department of Health Sciences, Western University

Andrew Rosa, Health Promotion, Graduate Student, Western University

are conducting. Briefly, this study is investigating the role of Community Paramedicine Programming in Providing Lift Assists in Southwestern Ontario. For the purposes of this study, the term “lift assist” refers to calls for emergency medical services in which an individual indicates that they have fallen and are unable to mobilize. You are being asked to participate in this study because as paramedics of Middlesex-London Paramedic Services, you possess the skills, knowledge and experience required to inform the role of community-based models of care within Southwestern Ontario. If you agree to participate, you will be asked to participate in a semi-structured interview via Zoom or phone call that will approximately be 30-45 minutes in length. The interview will be audio-recorded. Your participation in the study is voluntary and will not affect your employment. Your responses will be kept confidential and anonymous. Please be aware that while email will be used as the primary method to obtain consent and distribute the letter of information, email is not considered a secure source of communication. If you would like to learn more about this study, please see the attached Letter of Information and contact the Primary Investigator (Shannon Sibbald).

Thank you for your time,

Dr. Shannon Sibbald,

School of Health Studies, Faculty of Health Sciences

Department of Family Medicine, Schulich School of Medicine and Dentistry

The Schulich Interfaculty Program in Public Health, Schulich School of Medicine and Dentistry

Western University, London, Ontario

Appendix E: Letter of Information & Consent Form (LOI/LOC)

Project Title: The Role of Community Paramedicine Programming in Providing Lift Assists in Southwestern Ontario

Principal Investigator:
Dr. Shannon Sibbald, Health Sciences, Western University

Research Team:
Andrew Rosa, Health Promotion, Graduate Student, University of Western Ontario

Letter of Information & Consent

1. Invitation to Participate

You are being invited to participate in this research study because you are a member of Middlesex-London Paramedic Services, and as such, your expertise in the field of paramedicine is highly valued. This qualitative study aims to provide a better understanding of paramedic perceptions of lift assists and their effects on Middlesex-London Paramedic Services as well as community-based paramedicine. The results of this study will be used to inform the graduate student's research-based masters thesis.

2. Purpose of the Letter

The purpose of this letter is to provide you with the information required to make an informed decision regarding participation in this research study. It is important for you to know why the study is being done and what it will involve. Please take the time to read this letter carefully and feel free to ask questions if anything is unclear or if there are words or phrases you do not understand. All individuals participating in the study will be informed of any changes or new information as it may affect your decision to participate.

3. Purpose of this Study

The number of lift assists that Middlesex-London Paramedic Services responds to each year has been steadily increasing and is anticipated to continue to do so. Paramedic perceptions of lift assists could inform and support the use of alternative models of care. Community-based models of care have varied in implementation and scope. Understanding how paramedics view community paramedicine and whether they feel it is feasible for community paramedics to adopt an expanded scope of practice to provide lift assist

4. Inclusion Criteria

Paramedics from Middlesex-London Paramedic Services will be invited to participate. This study seeks to conduct semi-structured interviews via the online platform, Zoom or through phone call. Participants must be fluent English speakers.

5. Exclusion Criteria

Participants will be excluded if they are non-English speaking and/or refuse to sign the letter of information and consent documentation.

6. Study Procedures

If you agree to participate in the study, you will be asked to provide a convenient time for you to participate in an online Zoom interview or phone call. The interview will consist of questions that seek to understand a lift assist call, how they are perceived among paramedics, and discuss community-based models of care, particularly, community paramedicine. Interviews will be conducted by the graduate student of the research team (with training and supervision from Dr. Shannon Sibbald).

This study seeks to conduct interviews with 20-30 paramedics from Middlesex-London Paramedic Services. The interview will take about 30-45 minutes and can take place over Zoom or phone at a time that is convenient for you. By consenting and signing to this LOI document you are indicating that you are choosing to accept to the interview being audio-recorded. If you do not consent to this but still wish to proceed in the interview, written notes may be taken instead. Interview transcripts will be cleaned to remove any personal identifiers, at which point they will be transcribed verbatim and entered into NVivo V10 to support analysis. Verbal consent will be obtained prior to the interview.

During the interview, you will discuss lift assists (specifically instances in which an individual has fallen and is unable to mobilize), community paramedicine and your experiences and perceptions with both. Data from the interviews will be analyzed first independently by the graduate student, and then analyzed again by the research team and a paramedic who can confirm or clarify themes that were established.

The bottom of this document contains the researcher's contact information should you have any questions or follow up comments. After the completion of data analysis, a report will be provided with the findings of the study. If you have any concerns or questions about the findings, you are welcome to contact the Principal Investigator.

This letter of information will be mailed to you to sign and return. Information gathered from your interview will not be used in research until the signed consent form is returned.

7. Possible Risks and Harms

There are no known harms associated with participation in this study. However, for some people, these questions can be distressing, and this distress can occur during or after the completion of the study. Please be aware that consent/agreement to participate in this study does not require that you must answer each question. You may decide to skip a question at any point in the interview. However, we believe that this study is low risk.

8. Possible Benefits

Participants will have the opportunity to reflect on the impact of lift assist on paramedic services within the context of Middlesex-London Paramedic Services. Discussion of community paramedicine and community-based models of care will elucidate the potential of alternative models of care providing lift assist. This discussion may benefit participants in this study, as it may inform an expanded scope of community paramedicine practice that enables them to

provide lift assist. This would allow paramedics to perform their jobs more effectively and respond to high-acuity calls, while simultaneously improving patient care.

9. Compensation

There is no compensation for participation in this study.

10. Voluntary Participation

Participation in the study is completely voluntary. You may at any time withdraw from the study without giving a reason (up until the point of data analysis). Please see Confidentiality Section of this Letter of Information, which deals with the data collected after withdrawal from the study. You do not have to take part in the study if you do not want to. Refusal to participate, consent or withdraw will generate no consequence for your employment. By signing the consent from you do not waive any personal legal rights. You have the right to not answer any questions. You should only agree to take part in this study if you are satisfied that you know the details of the aforementioned voluntary participation that this study entails.

11. Confidentiality

Each participant will write their name and date of birth on the provided form as part of the process of giving informed consent. A signature on the attached document indicates that you are aware of the study procedure and consent to being a participant. After receiving informed consent, you will be assigned a unique participant ID.

Your research results will be stored in the following manner:

- All electronic data will be stored on a secure network behind institutional firewalls at Western University. All electronic files will be password protected. Only the research team directly involved in this study will have access to these data.

You may withdraw participation from the study at any point up until data analysis. At this point, transcripts have been collected for analysis in aggregate. Please note that in any circumstance, all personal identifiers will be removed prior to data analysis. Once the study or follow-up study is completed, all copies of data or personal identification will be deleted from hard drives and flash drives. The audio recordings and transcription of the interviews will be stored on a secure network behind institutional firewalls at Western University. Representatives from University of Western Ontario Health Sciences Research Ethics Board may require access to their study records for quality assurance purposes.

12. Contacts for Further Information

If you require any further information regarding this research project or your participation in the study you may contact the Principle Investigator, Shannon Sibbald.

If you would like to receive a copy of any potential study results, please contact Shannon Sibbald.

If you have any questions about your rights as a research participant or the conduct of this study, you may contact The Office of Research Ethics: (519) 661-3036, email: ethics@uwo.ca

13. Publication.

The results of this study are to be published in peer-reviewed journals as well as graduate student theses. Any identifying information will not be used in any publications.

This letter is yours to keep for future reference.

Participant Consent Form

Project Title: The Role of Community Paramedicine Programming in Providing Lift Assists in Southwestern Ontario

Study Investigator's Name: Dr. Shannon Sibbald

I have read the Letter of Information, understand the nature of the study and I agree to participate. All questions have been answered to my satisfaction.

I do not waive any legal rights by signing this consent form and/or agreeing to participate.

Participant's Name (please print): _____

Participant's Signature: _____

Date: _____

Person Obtaining Informed Consent (please print): _____

Signature: _____

Date: _____

Appendix F: Western Research Ethics Manager (WREM) Approval



Date: 7 August 2020

To: Dr. Shannon Sibbald

Project ID: 115658

Study Title: The Role of Community Paramedicine Programming in Providing Lift Assists in Southwestern Ontario

Application Type: HSREB Initial Application

Review Type: Delegated

Full Board Reporting Date: 18/Aug/2020

Date Approval Issued: 07/Aug/2020

REB Approval Expiry Date: 07/Aug/2021

Dear Dr. Shannon Sibbald

The Western University Health Science Research Ethics Board (HSREB) has reviewed and approved the above mentioned study as described in the WREM application form, as of the HSREB Initial Approval Date noted above. This research study is to be conducted by the investigator noted above. All other required institutional approvals must also be obtained prior to the conduct of the study.

Documents Approved:

Document Name	Document Type	Document Date
Research Protocol July.19 Clean	Protocol	19/Jul/2020
Paramedic LA.CP Interview Guide July.19 Clean	Interview Guide	19/Jul/2020
Recruitment Email July.19 Clean	Email Script	19/Jul/2020
LOI.LOC Form July.19 Clean	Written Consent/Assent	19/Jul/2020

Documents Acknowledged:

Document Name	Document Type	Document Date
TCPS2 Training	Other	11/Oct/2019

No deviations from, or changes to, the protocol or WREM application should be initiated without prior written approval of an appropriate amendment from Western HSREB, except when necessary to eliminate immediate hazard(s) to study participants or when the change(s) involves only administrative or logistical aspects of the trial.

REB members involved in the research project do not participate in the review, discussion or decision.

The Western University HSREB operates in compliance with, and is constituted in accordance with, the requirements of the TriC council Policy Statement: Ethical

Conduct for Research Involving Humans (TCPS 2); the International Conference on Harmonisation Good Clinical Practice Consolidated Guideline (ICH GCP); Part C,

Division 5 of the Food and Drug Regulations; Part 4 of the Natural Health Products Regulations; Part 3 of the Medical Devices Regulations and the provisions of the Ontario Personal Health Information Protection Act (PHIPA 2004) and its applicable regulations. The HSREB is registered with the U.S. Department of Health & Human Services under the IRB registration number IRB 00000940.

Please do not hesitate to contact us if you have any questions.

Sincerely,

Karen Gopaul, Ethics Officer on behalf of Dr. Joseph Gilbert, HSREB Chair

Note: This correspondence includes an electronic signature (validation and approval via an online system that is compliant with all regulations).

Appendix G: Semi-Structured Interview Guide

Project Title: The Role of Community Paramedicine Programming in Providing Lift Assists in Southwestern Ontario

SCRIPT:

Hello, My name is [Graduate Student]. I am a graduate student working with Dr. Shannon Sibbald from Western University. I am hosting Zoom interviews to support my research for my Masters thesis.

Thank you for agreeing to participate in this study. Through signing and returning the letter of information and consent form, you have agreed to participate as well as being audio-recorded during this interview, do you still agree to this?

Do you have any comments or questions about the letter of information and consent form? The purpose of this interview is to discuss the role of community paramedicine programs in providing lift assist calls (specifically when a patient has fallen and is unable to mobilize). Through discussion, we hope to examine the perceptions of paramedics on community paramedics, describe the experience of responding to lift assist calls in Middlesex-London and understand your perspective on patient experience.

I would like to inform you that results are reported in aggregate, nothing will be identified back to you, and we will always give you a chance to review our analysis.

If you have any concerns with this interview or this study, the contact information for the principal investigator, Dr. Shannon Sibbald, or the ethics board at Western University are listed on the last page of the letter of information.

Paramedic Interview Guide

1. Please describe what you know about community paramedicine
 - 1a. What are the current roles and responsibilities of CPs?
 - 1b. Are CPs being utilized to the extent they should be?

2. Have you ever conducted a lift assist call?
 - 2a. Yes: Please walk me through a lift assist call and describe the skills required to respond
 - 2a. No: Please describe your understanding of lift assist calls
 - 2b. How do you define a lift assist?
 - 2b.i. Is that a shared definition?
 - 2c. Do you feel you have adequate training to handle lift assist calls?
 - 2d. How do you feel about being called to respond to a lift assist call?

3. Which other health care professionals do you feel have the training and ability to provide lift assists?
 - 3a. What are your thoughts on community paramedics providing lift assists?

4. What would facilitate community paramedics to provide lift assist in Middlesex-London?
 - 4a. What would hinder community paramedics providing lift assist in Middlesex-London?

5. How would patient care be impacted by community paramedics providing lift assists?
 - 5a. Would the impact be the same if other health care professionals provided the lift assist?

6. How does the current Covid-19 pandemic affect lift assist or community paramedicine in the future?

7. Is there anything else you would like to add?
 - 7a. Would you like to review our interim analysis of this study when available?

Appendix H: Document Analysis List

Category of Document	#	Source	Document
Letter	1	Ontario Community Paramedicine Secretariat (OCPS)	Proposed Changes to the Ambulance Act's Regulation 552: Enabling New Models of Care for Select 9-1-1 Patients.
Paramedic & CP Reports and Committee Findings	2	Ontario Community Paramedicine Secretariat (OCPS)	Guiding Principles for the Planning and Implementation of Community Paramedicine Programs
	3		Report on the Status of Community Paramedicine in Ontario
	4	Middlesex-London Paramedic Service	2019 Middlesex-London Paramedic Service Annual Report
	5	Hamilton Paramedic Service	Hamilton Paramedic Service 2018 Annual Report
	6	Niagara Emergency Medical Service	Niagara Emergency Medical Services Committee of the Whole
Blog/Webpage	7	Middlesex-London Emergency Medical Service	Middlesex-London Paramedic Services Organizational Structure
	8	Canadian Union of Public Employees	Patient lifts and transfers
Law/Policy	9	Government of Ontario	Enabling New Models of Care for Select 9-1-1 Patients. Ontario's Regulatory Registry
	10	Ministry of Health and Long-Term Care	Patient Care Model Standards V. 1.0.a. Emergency Health Regulatory and Accountability Branch of the Ministry of Health
Guide & Workbook	11	Work Safe Alberta	No Unsafe Lift Workbook
	12	SouthWesthealthline	Staying on your feet. A guide to help older adults prevent falls

Appendix I: Thematic Analysis

Theme	Sub-theme	Definition	Exemplar Quote
Expertise with Lift Assists and Community Paramedicine	Definitions of Lift Assist and Community Paramedicine	This theme identifies definitions of a lift assist call and the skills necessary to respond, as well as definitions of community paramedicine programming and their current roles and responsibilities. The purpose of this theme was to ensure consistency in perceptions of community paramedicine programming, and understand the procedures and skills required to respond to a lift assist. Additionally, a definition theme was beneficial in learning about underlying thoughts and attitudes towards these calls and comparing them between participants.	<p><i>On a very generic Lift Assist call, say for an elderly patient, they've fallen out of a chair, out of the bed and they don't have the physical strength to get up off the floor, whether they've had knee replacements or anything like that. So, generally we go in, we assess if there's injuries before we move them, we start getting a better understanding of why they fell, whether they were dizzy and fell, passed out and fell, slipped and fell. We get them up and once they're up and in a position where they're more comfortable we'll get a very good set of vitals and check for any underlying conditions that might have caused this fall that they're not aware of. Ensure that they're safe at home or if they would like to stay home. And then we'll get our age capacity filled out and then we'll have them sign a form and then we leave.</i> (Participant 9)</p> <p><i>[Community Paramedicine is] an adaptable position where we serve the community, those who are vulnerable and those with chronic long-term illnesses. Just kind of a branch of the 9-1-1 system. Looking after patients that require more social supports and being able to go in and kind of deem what they need and get services</i></p>

			<i>activated for them, pretty much. (Participant 7)</i>
	Role and Experience	The Role and Experience theme was identified to describe participants' experience in their CP and front-line role to contextualize responses. Responses that also suggest the manner in which they respond is dependent on their experience as a front-line medic and/or a community paramedic were coded with this theme.	<i>I'll go over and above checking vitals, because I don't have a diagnostic nor am I allowed to make diagnostic decisions. So, I go based on kind of my assessment skills and then how they feel and always offer them a trip later; they can always call. But do I think all paramedics are like that? It took years of experience getting to be comfortable with that. So, I don't really think everybody's adequately trained, but I don't think – I don't know if they can be. It's truly experience and assessment skills and knowledge and comfort level for sure. (Participant 2)</i>
	Paramedic Training and Lift Assists	The theme of Paramedic Training and Lift Assists was used to describe any instance in which participants discussed their level of training as it related to lift assists. While every participant felt adequately trained to perform the lift, this theme also discusses their expertise in assessing medical emergencies from non-emergencies, especially within the context of lift assists.	<i>Not to put PSWs down, I think that the level of training when it comes to healthcare that paramedics have is superior, especially with the ability to recognize if somebody is having a medical emergency. So, sometimes somebody needs lifted off the ground because they tripped. And then sometimes somebody needs lifted off the ground because they went unconscious for a short period of time because they have an electrolyte imbalance or they're having a stroke or they're having a heart attack. And we have that ability to assess emergency from non-emergency. So, there are times where somebody needs lifted off the ground and then they do need an emergency</i>

			<i>department. (Participant 1)</i>
	Paramedic Burden	The Paramedic Burden theme was coded in any instance that participants expressed frustration in their role as a front-line paramedic as a result of lift assist calls. Findings from this study suggest there were a few different factors contributing to paramedic burden that were explored in Chapter 4 and 5. The purpose of this theme was to reinforce the idea that lift assists are increasingly becoming problematic for emergency medical services.	<i>The general attitude is that they are not essential calls. That it's a bit of a frustration by some paramedics and not an essential use of 9-1-1 services. (Participant 10)</i>
	Lifting Devices	The Lifting Devices theme was used to describe any instance of technology that is utilized to assist in performing the lift. While lifting devices were typically referred to in relation to long-term care homes and No Lift Policies, their presence as well as training on how to use them has implications on performing a lift assist.	<i>Part of the problem is they'll have a Hoyer lift on a certain floor or a certain place in the building, but they don't have one in the other part of the building or they don't have the staff trained on the Hoyer lift at the time in the place. ... it's kind of redundant that there could be a lift down the hall, but nobody's trained to use it on that floor. (Participant 8)</i>
	Physical Aspect of Responding to a Lift Assist	The theme Physical Aspect of Responding to a Lift Assist describes the physical aspect of performing the lift and requirements in terms of size and strength. The purpose of this theme was to identify how differences in size and difficulties in the patient's position complicate the procedure of responding to a lift assist. This theme also reinforces claims regarding the need for two paramedics/CPs to provide the lift.	<i>I feel like I'm adequately trained. Like I said, there's not a whole lot of skill involved in the basics, as in how to lift somebody up. But when you start throwing into different things as in injuries, where they're located, the size of the person is where it starts becoming more complicated because you don't know what you're getting into. And we only have our own strength. We don't have any equipment necessarily to help us with the lift assist. (Participant 3)</i>

	Collaboration with Allied Health Care Professionals	This study's findings indicate that many times, front-line paramedics are called to respond to a lift assist call where there are already a variety of allied health care professionals present. This theme was used in any instance where allied health care professionals were discussed in relation to lift assists and whether participants felt that allied health care professionals could and should perform lift assists.	<i>we often get calls by PSWs that go into people's homes and stuff, and it's kind of a shame that they aren't able to help the patient because sometimes it's a very simple thing. But like they're not allowed to help someone up or something like that. So, I don't know if there's anyone that currently has adequate training per se, or at least they worked in at least pairs where they would have enough people to safely lift someone (Participant 4)</i>
Opportunity for Community Paramedicine		The theme of Opportunity for Community Paramedicine was used to identify any instance in which participants described a current gap in care for patients that community paramedics are well equipped to fill.	<i>It may actually be a good thing for community paramedics to take the lift assists, because then they'd be able to get the ball rolling a lot faster for a referral for this person if they actually needed more help, or maybe regular visits with a community paramedic or a PSW to help to kind of prevent falls in the future. (Participant 4)</i>
	Holistic Encounter	The theme of Holistic Encounter was used in each instance where participants described how community paramedics are well-equipped to provide comprehensive, holistic care. This theme was used to describe how community paramedics can spend more time with the patient, conduct an advanced assessment beyond the assessment a front-line medic would conduct, assess the patient's living environment, and provide referral services as necessary.	<i>I think as a community paramedic we want to make sure like does the person have tripping hazards in their house, is there other reasons that they're falling. Are they using their walker? Do they need occupational therapy, physiotherapy? Do we need some other – something else to prevent another fall from happening I think is more our approach than the regular 9-1-1 work. (Participant 1)</i>
	Impact on Patient Care	Any instance in which participants described the potential impact of community paramedics	<i>Based on the fact that community paramedics spend more time in a home, and if we have</i>

		<p>providing lift assists (or lack thereof) was coded with this theme. This theme was expanded upon in Chapter 4 and 5, as there are many factors that influence patient care (ex. Response times, advanced assessments, referral, assessing the living environment, etc.).</p>	<p><i>more time to actually talk, we have the different avenues to look at what's in place in their home to see and do kind more of a home assessment Whereas, right now with 9-1-1, I would go in and here to do a lift assist, OK, I'll help you up. You refuse transport to the hospital, let us know if you want us to come back. Like, there's no follow up. There's no care to keep them in the house. Whereas, the community paramedic, that's the whole goal is to keep people home, but people are struggle navigating the healthcare system to get different things in place. (Participant 3)</i></p>
Challenges Associated with CPs Providing Lift Assists	Funding	<p>The theme of Funding was created to describe the largest barrier/challenge to an expanded scope of practice for community paramedics. Discussion regarding the costs associated with community paramedicine, as well as funding plans required for this shift in services were described with this theme.</p>	<p><i>There's been no secure, sustainable funding since its inception in 2012. Initially first working under a provincial grant for 2 years and then after that the transition to the local health authority or LHIN at that time, there's been a high degree of regulatory oversight turnover ... and to that, not a lot of opportunity to maintain existing programming. (Participant 10)</i></p>
	Communication with Dispatch	<p>The theme of Communication with Dispatch describes how unclear/misinformed discussion between dispatch operators and paramedic services complicates the response of front-line medics.</p>	<p><i>What happens I think the mindset when dispatch says "Lift Assist" over the air- because that's the call will come in as, instead of them saying a fall or whatever sometimes they'll say Lift Assist. Because that's what the patient will say, "I slipped and I just need help up." So, they'll say it on the air to us and then we have it in our head, "oh, this patient just</i></p>

			<p><i>slipped". Then, you get there and you're like "Oh." So, some people I would say with experience ... you realize that, no, that's not what's happening. And I think they've kind of reinforced now more than ever to be careful and to do all your vitals and go over everything, much more so now than it used to be, I would say. (Participant 7)</i></p>
	No Lift Policies and Safe Lifting Practices	<p>This theme was used to describe any instance in which participants described how No Lift Policies and Safe Lifting Practices acted as a barrier to community paramedics providing lift assists and the operations of front-line medics in general. While expanded upon in Chapter 5, this theme was used to describe mentions of policies in long-term care homes that prioritize health care workers over patients and do not consider the impact on emergency medical services.</p>	<p><i>What that means is that there's a policy that's put in place to protect staff from performing manual or mechanical lifts to prevent potential harm. Now as a result, because of these, there is a high degree of instances where these services then activate 9-1-1 to utilize them as an extension of their service, with no financial obligations whatsoever, to perform an actual assessment, physical, biometric or investigation and then help to reposition the patient. (Participant 10)</i></p>
Hesitancy or Doubts Regarding CPs providing Lift Assists		<p>Any instance in which participants expressed hesitancy or did not agree with community paramedics providing lift assists was coded under this theme. While further expanded upon in Chapter 5, this theme was created to capture instances of participant dissatisfaction with this expanded scope of practice.</p>	<p><i>I just think it could backfire in the sense that, again, you'd get in this routine with that's what you're doing to go do and help with. And if there is something else medically wrong then, I don't know, it's kind of a waste of a resource, I think. I don't think it's a good idea. I think a lot of them require more than just the two crew members on scene. Then you'd have to do a full assessment as a medic would. So, you'd be doing the exact same thing they would, without the power to take them to</i></p>

			<i>the hospital if they need to go. (Participant 7)</i>
Impact of COVID-19		Given the impact that the current COVID-19 pandemic has had on health services, accessing appropriate healthcare and patient quality of life, it was essential to interpret participant understandings of this impact in relation to community paramedicine and lift assists. This theme described how COVID-19 has impacted 9-1-1 activation and emergency department admission among lift assist patients. Additionally, this theme describes how the operations of front-line medics and community paramedics have shifted in order to respond to the pandemic and community needs.	<i>public health is never going to go back to what it was. I see community paramedics as a good fit in that regard because we do have all of the protective equipment. We have all of the training on, like on properly screening somebody, when to wear certain protective equipment. We have the experience seeing COVID-positive patients on the road and being able to tell sick from not sick. So, I think that our regular experience makes us a good fit to continue forward as an important part of the COVID response. (Participant 1)</i>
Positive Attitudes Towards CPs Providing Lift Assists		Any instance in which participants expressed favourable perceptions towards community paramedics providing lift assists was coded under this theme. This theme was intended to capture more subtle, nuanced attitudes of participants who expressed the benefits of this expanded scope of practice.	<i>I think [CPs providing Lift Assists] would take away a lot of the call volume for the frontline paramedics that have – not to say that a lift assist is not an emergency, but so that they can respond to high-acuity calls that need transported to the emergency department. And the community paramedics could spend more time on seeing with these people that need other supports in place, because you don't just fall for no reason. (Participant 1)</i>
Referral Services		The Referral Services theme describes instances in which referrals were discussed in interviews. Often, they were described as beneficial as they provide CPs with the opportunity to refer the patient to relevant care providers to receive more definitive care.	<i>Recognizing if someone needs more help with a lift-assist call. So it's one thing going in and lifting someone up, but if this person's calling a few times a day because they keep falling, I feel like ... It's gotten better, but like there were a lot of issues with not recognizing that this person could need a</i>

			<i>referral for more help, or it could be a sign of something more serious going on.. (Participant 4)</i>
Refusal of Transport		As one of the defining features of a lift assist, the Refusal of Transport theme was used to describe this specific aspect of a lift assist. The Refusal of Transport theme describes how participants perceive patients who refuse transport to the emergency department, effectively preventing the paramedic from completing their call, despite the potential need for the patient to receive definitive care.	<i>There's frustration in that there's some people that you want to go to the hospital that you – they don't want to go. They simply, you know, they needed helped up off the floor, and even if they think there's something a little bit wrong they think they can wait a bit to see if anything will get better. And they absolutely have zero desire to go to the hospital. So, it is frustrating in the fact that you're trying to often convince people who don't want to go and they'll tell you that from the minute that you walk in, "I'm not going to hospital. I just want to get up." And you can do your assessment on them and you can tell them "I think you should go" and they still don't want to. I find that frustrating. Participant 7</i>

Curriculum Vitae

Andrew Rosa

EDUCATION

- 2021-2025** **University of Limerick** Limerick, Ireland
Accepted into Bachelor of Medicine, Bachelor of Surgery (BM BS) Program
- 2019 – Present** **University of Western Ontario** London, ON
MSc. Health and Rehabilitation Sciences, Health Promotion
- Researching *The Role of Community Paramedicine Programming in Providing Lift Assists in Southwestern Ontario*
- 2014 – 2018** **University of Western Ontario** London, ON
BHSc. Bachelor of Health Sciences, Honours Specialization in Health Sciences
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WORK EXPERIENCE

- January 2021 – April 2021** **Teaching Assistant** London, ON
University of Western Ontario
- Teaching assistant for Integrative Health, a third-year undergraduate course in the department of Health Studies
 - Met with students regularly to support them in e-learning and advocated for their mental health needs throughout the semester
 - Supported the professor in grading assignments
 - Supported the professor in creating the course's final examination
- January 2021 – April 2021** **Teaching Assistant** London, ON
University of Western Ontario
- Teaching assistant for Mental Health: Well-Being and Recovery, a fourth-year undergraduate course in the department of Health Studies
 - Conducted a guest lecture on Mindfulness as it relates to well-being, substance use, quality of life, and health outcomes
- January 2020 – April 2020** **Teaching Assistant** London, ON
University of Western Ontario
- Teaching assistant for Health Ethics, a second-year undergraduate course
 - Role involved meeting with students to discuss essay writing, navigating controversial health issues and supporting students
 - Proctored exams and graded undergraduate essays as per course guidelines
- June 2019 – Present** **Research Assistant** London, ON

Hypoglycemia requiring-EMS Assistance

- Worked collaboratively with a research team composed of Health Sciences researchers, paramedics, and endocrinologists from St. Joseph's Health Care to support diabetes education strategies for patients with hypoglycemia requiring-EMS assistance
- Conducted semi-structured interviews with patients to understand barriers and facilitating factors for diabetes education
- Coded interview transcripts to develop themes and constructs to guide future health education strategies for the target population
- Supported grant applications, research publications and conference presentations

September – Nov. 2016 University of Western Ontario London, ON
Campus Tour Guide (Short-Term)

- Provided campus tours to prospective students at Western University. Required a great deal of campus knowledge and the ability to answer questions rapidly and effectively, pertaining to a variety of programs, residences and services offered at Western University

RESEARCH EXPERIENCE

March 22, 2020 Dr. Louis Charland, PhD., Professor London, ON
 University of Western Ontario, School of Health Studies

- Presented a lecture to undergraduate students on Mindfulness and the impact on Mindfulness on various domains of health for Mental Health: Well-Being and Recovery

2018 – 2019 Dr. Tara Mantler, Ph.D., Assistant Professor London, ON
 University of Western Ontario, School of Health Studies

- Miscellaneous administrative assistance as well as support in grant writing

2017 – Present Research Assistant Team Meetings London, ON
 University of Western Ontario, School of Health Studies

- Working with Dr. Sibbald as a Research Assistant, providing monthly updates and collaborating with a team of undergraduate and graduate students

2017 - Present Dr. Shannon L. Sibbald, PhD., Assistant Professor
 London, ON

University of Western Ontario, School of Health Studies

- Conducting research on the topic of community paramedicine and the provision of palliative care
- Continuing to learn the importance of evidence-based approaches as well as integrative and coordinated approaches to provide optimal results in a healthcare setting

 PUBLICATIONS

Rosa, A., Dissanayake, M., Carter, D. & Sibbald, S. (2021). Community Paramedicine to Support Palliative Care. *Progress in Palliative Care*. doi:10.1080/09699260.2021.1912690

Liu, S. L., Sibbald, S. L., Rosa, A., Mahon, J. L., Carter, D. R., Peddle, M., & Spaic, T. (2021). Patient and paramedic experiences with a direct electronic referral program for focused hypoglycemia education following paramedic service assist-requiring hypoglycemia in London and Middlesex County, Ontario, Canada. *Diabetic Medicine*, e14569. <https://doi.org/10.1111/dme.14569>

 CONFERENCES ATTENDED

May 2021 London Health Research Day

- Created virtual booth to present on *The Role of Community Paramedicine Programming in Providing Lift Assists in Southwestern Ontario*

February 2021 Health and Rehabilitative Sciences Graduate Research Conference

- As an executive member on the Health and Rehabilitative Sciences Graduate Research Council, I supported the virtual conference through managing the social media, Western web page, and conference email.
- Presented Masters research on the topic of *The Role of Community Paramedicine Programming in Providing Lift Assists in Southwestern Ontario*

October 23, 2020 Trillium Primary Healthcare Research Day

Rosa, A., Dissanayake, M., & Sibbald S. Trillium Primary Health Care Research Day. "Community Paramedicine to Support Palliative Care" (Poster). Toronto, ON, October 2020.

- Awarded \$100 for the Patient's Choice Award (Honorable Mention).

August 18, 2020 Western Law and HELP Lab Research Colloquium

Participated in the online Western Law and Health Ethics, Law & Policy Lab Research Colloquium to present my research on *The Role of Community Paramedicine Programming in Providing Lift Assists in Southwestern Ontario*

August 5, 2020 Western University, Health Ethics, Law, & Policy Lab

Attended the online seminar "Racism, Health Inequity and COVID-19", presented by Dr. Sane Dube, of the Alliance for Healthier Communities

June 23, 2020 Western University, Health Ethics, Law, & Policy Lab

Attended the online seminar "Vaccination Policy in a COVID-19 and Post-COVID World", presented by Dr. Ubaka Ogbogu, of the Faculty of Law, University of Alberta

June 10, 2020 **Western University, Health Ethics, Law, & Policy Lab**
 Attended the online seminar “Key Ethical Controversies in the COVID-19 Pandemic” presented by Dr. Maxwell Smith, of the Faculty of Health Sciences at Western University.

March 16, 2020 **American Diabetes Association Late Breaking Abstract**
 Liu, S., Rosa, A., Sibbald, S.L., and Spaic, T., “Patient and paramedic experiences with a direct electronic referral program for hypoglycemia (HG) education following Emergency Medical Services (EMS) assist-requiring HG: A qualitative study”, American Diabetes Association Late Breaking Abstract, Abstract Submitted, Chicago, Illinois, United States, March 2020.

February 26, 2020 **Western University 3-Minute Thesis Competition**
 Participated in Western University’s Faculty of Health Sciences 3-Minute Thesis Competition. Presented on *The Role of Community Paramedicine Programming in Providing Lift Assists in Southwestern Ontario*.

February 14, 2020 **London Health Research Day 2020**
 Rosa, A., Spaic, T., Liu, S., Carter, D., Peddle, M., Mahon, J., and Sibbald, S.L., “A qualitative study to explore the patient experience with attending diabetes education after an episode of severe hypoglycemia”, London Health Research Day 2020, Abstract Accepted. * Cancelled due to COVID-19

February 4, 2020 **Health and Rehabilitative Sciences Graduate Research Conference**
 Graduate student conference in Western University’s Faculty of Health Sciences. Competed in 5-minute thesis presentation competition, presenting *The Role of Community Paramedicine Programming in Providing Lift Assists in Southwestern Ontario*

March 7, 2018 **Canadian Thoracic Society**
 Canadian Respiratory Health Professionals Webinar: Palliative Care and the Respiratory Educator: Findings from a National Survey

November 24, 2018 **Schulich School of Medicine & Dentistry** London, ON
 Home Monitoring in Health Care Conference

November 21, 2018 **Canadian Frailty Network**
 A National Comparison of Intensity of End of Life Care in Canada: Defining Changing Patterns, Risk Factors and Targets for Intervention

AWARDS & CERTIFICATIONS

March 2020 **Canadian Institutes of Health Research**
 Completion of the online CIHR Institute of Gender and Health Core Competency Module for Sex and Gender in Biomedical Research

January 2020 **Public Health Ontario**

Completion of the online Health Promotion Foundations module

January 2020 **Public Health Ontario**
Completion of the online Health Equity Impact Assessment module

October 2019 **Panel on Research Ethics**
Completion of the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans Course on Research Ethics (TCPS 2: CORE)

October 2019 **LivingWorks**
London, ON
Completion of the safeTALK workshop in suicide alertness and de-escalation strategies

November 2018 **Mental Health Commission of Canada** London, ON
Completion of the Mental Health First Aid course

August 2018 **Safe Campus Community**
Completion of Safe Campus Community training through Western University's online portal

August 2018 **Accessibility for Ontarians with Disabilities Act**
Completion of Standard AODA training through Western University's online portal

March 2018 **The Canadian Red Cross**
Completion of Standard First Aid CPR/AED Level C

Sept. 2016 – April 2018 **Dean's Honours List**
Faculty of Health Sciences
Achieving 80% or higher average, with no failed course over the academic year

VOLUNTEER ACTIVITIES

March 2021 **University of Western Ontario** London, ON
Graduate Student Mentor, Western Undergraduate Research Journal Shadow a Researcher Day: Sibbald Lab Team

- Acted as a mentor to incoming graduate and undergraduate students seeking to conduct research
- Conducted a brief presentation on Mindfulness as it relates to graduate studies and research

June 2020 – May 31, 2021 University of Western Ontario London, ON
Health and Rehabilitative Sciences Graduate Student Society
Vice-President Media Relations

- Regularly attend meetings with the Health and Rehabilitative Sciences Graduate Student Society Council to discuss improving the academic and social environment for MSc. Students
- Responsible for maintenance and updating Western University's Health and Rehabilitative Sciences website
- Responsible for creating and sharing social media posts to engage with students and faculty members in the program

September 2019 – September 2020 University of Western Ontario London, ON
Society of Graduate Students Councilor

- Attended monthly councilor meetings, representing Health and Rehabilitative Sciences graduate students as well as the Graduate Student Society

January 2019 – April 2019 University of Western Ontario London, ON
Community Engaged Learning with the Ingersoll Services for Seniors Activity Centre

- As per a Community Engaged Learning course at Western University (Aging and Community Health), I assisted in providing a strategy for the Ingersoll Seniors Centre to reach out to isolated seniors
- In the process of creating a tangible product for the Ingersoll Seniors Centre to engage with isolated seniors in Ingersoll

January 2019 – April 2019 University of Western Ontario London, ON
Community Engaged Learning with Simply Nic Nutrition

- As per a Community Engaged Learning course at Western University (Social Media and Health), I created content for Simply Nic Nutrition, a holistic nutritionist in London
- Involved with conducting research and creating content for Simply Nic Nutrition's social media to communicate with larger audiences and create educational posts that align with the principles of holistic nutrition and Simply Nic Nutrition

January 2019 University of Western Ontario London, ON
Accessibility Services Offices of Western

- Volunteered as a note taker for Social Psychology, submitted in-depth study and lecture materials for students in need of assistance at Western University

2018 – Present HELP Lab (Health Ethics, Law & Policy Lab) London, ON

- Communications Lead, responsible for development and ongoing maintenance of website and all communications for the HELP Lab
- Supporting the development of Western University's recent initiative to create the Health Ethics, Law and Policy Lab

January 2017 – April 2021 University of Western Ontario London, ON
Western Brazilian Jiu Jitsu Club

- President of the Western Brazilian Jiu Jitsu martial arts club. Involved in instructing new members in the club and demonstrating techniques to assist the instructor
- Acted as the CPR-C certified supervisor to provide care in the event of an emergency
- Worked with the executive team to create a safe, inclusive space for all students interested in participating in the club's activities

October - December 2016 University of Western Ontario London, ON
Volunteer at the Wellness Education Centre

- Worked with a team to create various strategies to reach out to the diverse population of students at Western. Conducted surveys and promotions to identify how to provide better resources to students regarding their personal health and wellness
- Presented these findings to community members to both reflect on the experience and suggest strategies for implementation in the future

September 2015 – May 2016 University of Western Ontario London, ON
Upper Year Mentor

- Lived in residence with first year students, providing them with mentorship and guidance throughout the year
- Worked with a team of Upper Year Mentors throughout the academic semester to support each other in providing students with mentorship and resources to support their physical and mental health in addition to academics

September 2015 University of Western Ontario London, ON
Orientation Week Leader

- Acted as a mentor to ease first year students in their transition from high school to university. Provided students with the resources and guidance to implement strategies that would make them a successful student in university

Sept. 2012 – June 2013 Trillium Health Partners Mississauga, ON
Hospital Volunteer

- Assisted nurses in relocating and feeding patients with chronic respiratory illnesses in addition to miscellaneous clerical work and medical record filing